

**U.S. Chamber of Commerce Artificial Intelligence Commission
On Competitiveness, Inclusion and Innovation Field Hearing
Palo Alto, CA
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INTRODUCTION

ESHOO: Mr. Ferguson, and we just had a nice chat about life after Congress. So, it's really wonderful to see you I miss you in the house. Yeah, I truly, miss, you in the house.

So there's a great deal of energy and effort and learning that's focused on ensuring that America is the global leader in AI and this Commission as a really a large part in this effort.

So bravo to you and you know the importance can't be emphasized enough. I want to kick off today by talking about some trends that I'm watching in the AI space and where I am focusing my efforts with respect to AI policy.

The first trend I would note is that private investment in AI is booming, and this is highly important, and I hope we continue to encourage this investment and couple it with public funding.

Having observed this private investment is concentrated among just a small handful of companies that don't have, a not necessarily have an incentive to publicly discuss the risks that are associated with their own AI systems. But this means that researchers, policymakers, and the public remain in the dark about ethical safety, bias and societal issues related to leading AI systems.

And I find this: I find that there is a amongst the public that there is confusion, and when there's confusion, there are attitudes that can form around those confusions.

This means that researchers, policymakers, and the public, I think, need to remain, you know, addressed, we need to speak to all of that.

The second interesting trend that I would note is that the general idea behind recent AI advancements has been that more data mean better models.

We're beginning to see that this assumption doesn't hold as models grow to astronomical proportions.

For example, researchers have shown that as natural language processing models grow beyond certain thresholds, they can lock in or even exacerbate toxicity and bias.

The third trend that I would note is that we're seeing a growth in AI systems that can function across multiple domains. For the last decade, most AI was focused on narrow use cases like playing a game of chess.

Increasingly, AI systems like chat bots can operate in a wide range of domains, and even in novel environments ...this can lead to unanticipated and harmful outcomes.

The one clear implication of these trends is that policymakers, researchers, and leaders in the private sector need to collaborate to address these issues, to ensure that AI advancement accrues to the benefit of society, not at the cost of it. Now, I'd like to just talk about a few things where I've been focused as incoming co-chair as was noted of the Congressional AI caucus Congressman McNerney has given a terrific leadership and asked if I would take over when he retires from the Congress, and I was really excited about doing so.

As you know, AI R&D has 3 ingredients. It's data, it's computing power and it's people.

While this sounds simple, very simple. few organizations have sufficiently large data sets, powerful enough computing capacity, and people with deep enough expertise to conduct meaningful AI research to deal with this many began discussing the idea of pulling resources for AI R&D but there wasn't agreement on the details.

Such as where the resources should be housed, what role Federal agencies should play, and how privacy and human rights should be protected. After working with Stanford University and the National Security Commission on AI Senator Portman and I drafted and successfully advanced legislation that the

President signed into law, that established a task force of leading AI experts from government, from academia and industry to develop a roadmap for what we call the national AI research resource. then there... So now we have another abbreviation of another effort.

This task force has been set up it's been running for a few months now, and the We expect them to deliver their first report to Congress this summer.

The goal of the task force is to democratize access to the ingredients for AI research data, computing power and expertise.

And by doing this the task force will enable countless American researchers and innovators to develop AI tools to bolster our national security, enhance our economic competitiveness and improve society in countless ways I recently requested House appropriators to allocate at least 50 million dollars for a for an NSF pilot program to research the safety and ethical effects of AI based content, moderation and recommendation algorithms on social media and the unexpected negative effects these algorithms can have.

Our understanding of these issues, I think, is a far too nascent.

So, I think that you know we're I'm anxiously awaiting their report.

I think it will be highly instructive to us. Finally, I worry a great deal about a rising authoritarian version of AI developments in China and Russia.

AI based surveillance systems are a threat to democratic norms and our society that this is why I've been working with federal agencies and experts at Stanford to understand how we can encourage collaboration with AI

researchers in democratically aligned nations. Today there are so many other efforts in the Federal Government across an alphabet soup of agencies active on AI issues, including the NSF NIST OSTP and

the NIAC and I don't have to I don't need to tell you about all of them, because you're the experts, and I know you're act active across all of these efforts

I'll close by reiterating why the work we're all doing is so critical as AI becomes more powerful.

We have to keep refocusing technological development on our values to ensure that technology improves society.

I Can't thank you enough for your hard work and your important leadership on this issue.

Bravo to the Chamber for taking on this work, because you know, you know how critically important this is.

So, I look forward to working with you to ensure that America will leave the world in AI that so importantly reflects our values and really the greatness of our country. So, thank you for inviting me to be with you today.

And as Winston Churchill said. Forward! So, thank you, everyone. And come back. Come back often you're always welcome here

FERGUSON: You're in the part of her district. and really appreciate her leadership on so many things, including a as we heard upcoming on artificial intelligence.

It's I think one of the things that's going to be a really important focus of the Congress and of the Federal Government, and it's great that she is going to be one of the leaders helping us to chart that course so our last hearing on this, for this commission was a little less than 2 weeks ago at the Cleveland Clinic, and it struck me something that we heard that day from the CEO of the Cleveland Clinic and he said he was talking about how am

I helped the clinic during the pandemic, and he said the algorithms we created were the tool that that allowed them to prioritize and allowed us to get to the sickest patients when they need us.

Us that's like that's a great example of the power the positive power of AI.

And I think one of the reasons why I think all of us find this very, very meaningful work that we're doing on this commission, and it was an important reminder to

me about why in this country we need to prioritize AI policy, and about the importance that co-chair Congressman Delaney and I are working on with this commission, and so please that we have such a fabulous membership of experts on this commission and why I think it's really important for us to develop and think through some of these, what I hope will be bipartisan recommendations around artificial intelligence to help to foster the continued innovation of AI while addressing some of the concerns that would potentially inhibit its adoption.

I want to thank Certainly thank all of our presenters today who are going to be sharing their testimony and their thoughts with us.

The Commission really appreciates all of them taking time out of their work.

To come and spend time with the Commission today.

I think our hearing today is going to be a little bit longer than our in our previous ones, but that's not surprising given the Bay area that the concentration of I tech companies and individuals and brains out here.

That that are concentrated in this area so It's great for the Commission to be having a hearing here in in Silicon Valley. looking forward to hearing from folks on the how do we address AI. How do we regulate AI and the impacts that that will have on the workforce and on our global competitiveness.

So. with that I will yield my co-chair. Mr. Delaney.

DELANEY: Well, thank you. Michael

Okay, really appreciate the work, intelligent sections, Alright, the Us (broke up)

Technology community is in the center discussion around our visual intelligence.

But the center of that center is obviously so about and so this is, I appreciate the fact that my co-chair started his remarks with the positive aspects. No. Because when this topic comes up, which is typically and are things that we consider but the opportunity for these technology of human life is extraordinary.

And as much of our work hold it. So, the opportunities presented by the technology extraordinary and if you look back across time, clearly innovation technological innovation in particular, has fundamentally approved condition of human beings it's lifted billions, people out of poverty.

It's extended life, it's taken thesis it used to be almost immediately fatal and made the chronic conditions that could be managed.

Innovation has been an extraordinary blessing for the condition of humanity, and there's no reason to believe that cannot continue.

If you look at some of the huge problems we face. continued huge numbers of individuals of poverty.

The need to de carbonize Our world, diseases like Alzheimer's mentioned that are ravaging our society and our crisis levels.

The answer is told these things and the way we'll have innovation is by harnessing the powerful computing power available to un

Now with machine learning art. So while there's certainly things we have to navigate, and there's challenge around bias, around privacy around the disruptive aspect of innovation, innovation is enormously creative ..creates huge numbers of

jobs, but it's also, disruptive these are huge challenges but it's important for us to remember how we should think about as an enormous opportunity. and that's why I'm so delighted to be part of it

FERUGSON: Why don't we Why, don't we jump into our first panel

And we are already a few minutes behind schedule, and, as our commissioners know, my biggest task at our hearings is just trying to keep the schedule.

So, if we have to be, if we have to be the bad guy, we will be but we're going to try and try and get going here, and delighted that our first panel and I'm just

going to go in order of this piece of paper in front of me. first, we'll hear from Eric Brynjolfsson. I hope I pronounce that close to properly.

Thank you very much. Eric's the Jerry Yang and Akiko Yamasaki, Professor and senior fellow at Stanford.

HAI... Eric, thank you for being here We'll actually go through each of our panelists. first.

We'll hear from them. and then we'll get to questions for all 3, when each of them have a chance to finish there, or is yours.

FIRST PANEL

BRYNJOLFSSON: Thank you Congressman Ferguson and Delaney members of the commission. I believe I've about 10 min. So opening more. Yeah, Okay, Yeah, that's perfect.

Okay. Well, I appreciate this opportunity to share and summarize my some of my research and the implications of AI for the economy.

And I very much agree with the Congressman Eshoo's remarks in your remarks, and I want to build on those a little bit.

Addressing the opportunities pay by AI is one of I think the by far the most important challenges for business government over the coming decade, and I'm gratified that commission's taking me so seriously. I'm going to primarily focus on some of my own research these remarks But I want to note that I'm drawing on some work by a lot of other folks at the Stanford digital economy lab and other researchers there's an economist I believe the brand challenge for the next decade or so is translating technological progress not only into prosperity and productivity, but *shared prosperity and the success.

And that depends very much on the types of AI that we develop and the policies we put in place.

So let me know. Begin by noting that it's long been a goal of researchers and technologists to create human like AI.

That is AI, that mimics and matches most of the capabilities of humans, and it's an provocative goal that has inspired a tremendous amount of research.

But not all types of AI are human life t and this makes a surprisingly big difference in the economic outcomes.

And that's, what, I'm going to focus by remarked on economists have along made a distinction between economic substitute and economic complement, or, loosely speaking, automation versus augmentation.

But only recently have we been able to build machines that are actually very close.

substitute the humans that wasn't technologically or economically feasible before, and that raises some big economic challenges and opportunities.

So when I look more closely at the economic implications of these substituting types of AI, 3 things become clear:

First, while AI can create tremendous benefits to focus on human-like AI is really quite limiting in terms of the potential for raising living standards, overall economic growth.

Second- human like AI, is primarily a substitute, not a compliment for humans and substitutes tend to *worsen economic inequality and increase concentration of economic and political power.

And finally, we can't rely on the market alone to get this right ...on there currently excess incentives for using AI as substitute rather than as a complement among 3 different groups of

People: technologists, business executives from business leaders, and policymakers.

Let me just flush out that argument in a little bit more detail.

I've worked first I've worked with a lot of billions, entrepreneurs, and technologies who've made it very explicit goal automate most are all human labor by addressing each of the tasks that humans are currently doing and replacing them with AI.

But as a thought experiment, let's imagine that we had some succeeded with this thousands of years ago.

There's a mythological person named Daedalus, who made supposedly robots that that humans.. of course that was a myth.

But suppose that they had succeeded in in exactly the mission that many people are aiming for right now.

And so you know, making taking all the tasks that we're doing and automating those so making clay pottery completely automated, weaving tunic, automated preparing for strong cart, automated burning insects to help ill people automated.

You go through the tasks here? Why, you could eliminate the need for human labor?

Living standards actually wouldn't be raised all that much if we had files for free plots and phoenix etc.

Most of the progress over time has come not from automating things that we're already doing

But from doing new things, even though the good news is that labor input would have gone technically.

Have gone to 0, and labor productivity would have been as measured that wouldn't have led to infinity high living standards.

So Dedalus's robots would not have created 20 first century living standards.

The second key point is that using AI to substitute rather than complement increases concentration of economic and political power.

In particular, when technology substitutes for human labor, it drives down wages and shifts more incomes to the owners of capital.

When a laborer can be replaced by a cheaper machine, he or she has less bargaining power.

In contrast, when technology *complements humans, that is, when it increases the capabilities of what a human can do, combining with the machine, then it increases wages, and at least more widely shared prosperity ... interesting If you look at it most of tech progress has been

in the second category that is implementing him and that's one reason that's the main reason over time most of the past few 100 years wages have risen.

They haven't fallen. the value of an hour of human labor has gone up and up all of that's changed the past about 20 years or so. Recently

It's been less true, especially for groups that have not only seen falling wages, but also increase.

But some people call deaths from despair in case, and drive rising suicide, alcoholism, profession, drug abuse, especially among Americans, with only high school education.

In contrast, when technologies *complement humans, they create a bigger economic but also one that's more widely shared.

Finally, my third point is that 3 separate groups: technologists business leaders and policymakers currently have excess incentives to develop and use AI to substitute rather than the complement.

Many but not all technologies that talk to are quite focused on specific human benchmarks for their work.

And they that that target has a lot of power and inspirational power.

But it's really much very much focused on matching human capabilities.

Now as a professor, I know that it's often hard to think of good research problems for grad students to work on

It's hard to imagine a totally new challenge but it's far easier to look at something that's already being done by a person and say, Hey, let's automate that- there's an existence proof that it's

it's important and it's feasible and so that's sort of like that easy, I say almost lazy way to assign types of research to work on... and we see that quite a bit secondly, business leaders

have an incentive to replace labor with machines, because that increases their profits

They make money in 2 ways. First off it increases output increases productivity, and that's a good thing.

It makes the pie bigger. but secondly, it shifts around the rent.

The value from labor to capital. so that's kind of a 0-sum game

That's not something that that thanks that net gives them excess incentives, because they get some of the benefits just by shifting a value from one party in the economy to another party and finally, policymakers have put in

place a variety of policies that systematically favor capital over labor,

Including favorable tax treatment for capital. So currently the United States, a business model that employs a lot of workers will pay systematically higher overall taxes in a business model that creates the same amount of output, same amount of value but

with no workers or with very few work, and since you tend to get less of whatever you tax, our tax system is putting its thumb on the scale or developing and implementing substitutes rather than compliment... it's not a level playing

field kind of spewing the decision. In some technologists, business leaders and policymakers all have excess incentives to develop and use AI as a substitute rather than as a complement.

Now fleshed up my analysis and a lot more detail in this paper called The During Trap.

I brought to office of it. I'm happy to share it with you but it goes into a more detail research.

That's behind this. Unfortunately, the future is not all preordained, in fact, as our tools become more powerful we

have more opportunity to change the world that requires to speak more deeply about our values and the kinds of AI.

we want to have developed kind of policies want to have put in place, and the future of AI over the next decade in the future of work depends very much on these choices.

Now I can stop there. I have some specific policy recommendations you'd like to go into it, or we could do it.

FERGUSON: if it's okay let's do that during the Q&A

BRYNJOLFSSON: sure, I'd be happy to do that in the Q&A.

FERGUSON: as my wife always reminds me it's always the more interesting part than your remarks. absolutely no I'm very happy to...

FERGUSON: Well, next we'd like to hear from Kathy Baxter, Kathy is the principal architect of Ethical AI. practice at Salesforce. Salesforce of course, is well represented here on our commission

and Kathy we're delighted you're here, the floor is yours.

BAXTER: Thank you so much. Good morning, everyone. I am the principal architect of ethical AI practice at Salesforce.

My team lives within our office of ethical and humane use, of which Rachel is also a member of

Our office was created in 2018, and it was founded in the belief that we need to ensure that all of the technology that we are creating- AI or otherwise- needs to be something that is in line with all of our values ...of trust, customer

success, inclusion or equality, and innovation. and now, sustainability.

In 2019 we published our Trusted AI Principles.

So these are built upon our larger company values. But these are specific to our AI technology.

So, we believe that our AI needs to be responsible,

It needs to protect human rights, as well as the data that we are entrusted with.

I think one thing that's important to remember is that we are a platform.

We don't own our customers data we don't touch our customers data.

But one of our other values is empowerment. We believe that it is important that we empower our customers to know how to use our AI responsibly.

Our other values are: transparency - being clear about how our AI makes the recommendations and predictions that it does, as well as being transparent about how we make our AI.

So we publish model cards. I'm sure many of the members here are familiar with these.

These are like nutrition labels that tell you how the model was trained,

the training data, any bias assessments that we had done intended uses, unintended uses for the model.

We also believe in the importance of accountability, so being accountable to regulations as well as to our customers.

So, when they ask us for information about our model, then we are able to work with them and help them understand.

when is the most appropriate use, or what is the most appropriate use for our model?

And then finally, inclusion: ensuring that when we build our products we are doing it with *everyone in mind that we are not creating AI that benefits some at the detriment of others.

So early on we made the decision that we would not go into facial recognition.

Once we had a product called “Einstein vision,” we distinctly decided that we would *never train our model on humans or on faces.

We have an acceptable use policy that is public, and it states our red lines, or the ways that we will allow or not allow our customers to use our product.

And so that was the first element that we codified in our acceptable use policy.

For how we allow or don't allow Einstein our AI platform to be used, and we have reached out to our customers to help them understand why it is that we have made that decision. So throughout my role and my

team's role is to work with our product teams to help ensure that when they are building the models that they understand-

How do they do this responsibly? They understand how to assess the training data that they are using is representative, how do we build tools to empower our customers again, to look at and assess their own data,

Their own models and make informed uses or informed decisions of how to use our products.

We also work directly with our customers, because not all of our customers are lucky enough to have an entire team,

an entire office of faces and policymakers and data scientists.

So we will work directly with them to help ensure that they know how to put ethical processes in place.

And then, finally, we work with academics like Stanford HAI,

nonprofits and other members of government to share our best practices and our learnings over time, and then learn from the best practices of our peers as well at other companies.

So by taking all of these things in, we are very active in publishing what we have learned and helping to ensure that we continue to give back to the community.

FERGUSON: Super. Thank you very much. third on this panel, I believe.

Is Katya Klinova...she is going to join us virtually got you.
(technical difficulties)

You know we're going to do Q&A with the folks in the room while we sort out our speaker issue here.

Got to you, so appreciate your patience and stand by John, if you want to begin the questioning on this round, or if any of us, unless you want to yield to any other commissioners who want to ask questions of those who we have in the

room here. Great, who wants to kick us off Brent?

ORELL: Yeah, I a friend of our enterprise, curious about the effect on taxpayer
(unintelligible)

And I've heard that. and I'm curious is whether or other this, and have different, have policies are all fine , brother , , sure there are Well, the United States was one country.(unintelligible)

BRYNJOLFSSON well, in the US did this in 1986 taxes were aligned to the same, for on capital labor top partial tax rates for a brief time they were matching, and then they got out of alignment again...

and over time. Many countries include the United States at State and Federal level, have made big investments in in human capital, and then lesser investments.

At one point the United States was far away, the leading country, first in primary to K school education way ahead of the rest of the world.

Then high school then college much less so now... countries like Germany have made big investments in vocational and other kinds of training that that, you know, that the US hasn't made.

There's a whole set of things that we did once, and we are doing to some degree that we could be doing more now.

I would lay out actually 5 broad policies. I just list them, and we can go in detail if you want.

I mean, we could do a lot more to support entrepreneurship.

If occupational licensing is a lot harder for people to create new jobs and new businesses.

New ways of doing things is actually leading to we can invest a lot more in in education and really reinvent it

So that it's more focused on the kinds of skills that complement machines. we could as you were, I think, focusing on rebalanced attack systems

So it treats different kinds of investments on a more even-handed basis, and let's entrepreneurs decide which ways they want to do it rather than they were having the government.

Favor one versus another approach. We can invest more in in technological leadership best.

Around R&D again. The U.S. used to invest a lot more in public.

R. and D. Then it does it's a shared pdp, and that was one of the reasons we had a lot of technological advancement, and finally, we could do a lot more to welcome high school immigrants.

Something again that we've long been a technology magnet and That's one of the Silicon Valley and other parts of the United States have been able to have a lot of technological leadership.

The best in the brightest have been coming here but we've been closing or shrinking that door compared to what you ..

ORELL: just a quick follow up. so, my part of my question are

the best practices tax policies that are doing better principally.

How (unintelligible)

BRYNJOLFSSON: Yeah, So I think that that some of what I've touched on briefly in Germany.

another place that it's done some interesting things is Denmark, where they have a flex security approach where they have a fairly generous safety net, but they also make it very easy for businesses to hire and fire people and

that's led to more entrepreneurship because people feel you know they don't lose their health benefits or other benefits when they try to start a new business or if they hire somebody it doesn't work

out they're not stuck with those costs but that's an effort to get some of the benefits of flexibility, while also being generous on the tape
DELANEY: quick follow up to that I just to

maybe fill in a little deeper accelerated depreciation clearly makes capital investment cheaper.

BRYNJOLFSSON :That's right.

DELANEY: have you seen other countries that way they basically say if you train your workforce, you'll get a 150%deduction on the dollar.

And I think that's true. yeah that kind of stuff yeah that's that's a great point. I have to look into that more carefully.

If I'm not David. Yeah, I think my colleague. my former Mit colleague, John Gruber, and Simon Johnson have written a fair amount about that in my instinct would be going take a closer

look at what They've written. They have a nice a book actually called Jump Starting America that that fleshes out a set of policies.

FERGUSON: Another question. Sorry, Rachel. Yeah, I had another question for Eric.

GILLUM: You mentioned that your findings note that when AI augmenting labor that we see wages increase.

I was wondering if your data show how those increases look across different subsets of communities, namely, you know different educational levels, or even a racial groups. and you know for what is the indicator for when we see wages that's

BRYNJOLFSSON: That's evolved a fair amount over time, or in the nineties and early 2000.

It tended to be a lot of the technology disproportionately.

What counts still bias, technical change, and more educated workers benefited disproportionately.

And one of the reasons that high school people with high school education are less in their wage stagnant.

All is that the technology is not complement them as much recently that that's changing, and some of the more recent technologies are much more beneficial to to low skill workers.

I'm just finishing up a study of a of a set of tools being rolled out

that complement all center workers. other high school educated workers a company called cresta do(?) AI as a tool that that helps people who don't have as much experience skills and what we found is it's like the

disproportionately helping less experience, less skilled workers. There are is the potential for doing it either way. and I think, in particular, there's some promising evidence that more recent technologies and help less skill workers and not

only make AI bigger, but also close some of the inequality.

That's growing a lot over the past 20 or 30 years.

FERGUSON: Yes, wonderful, the floor is yours.

KLINOVA: Thank you very much for inviting me to join today, for enabling my remote participation.

I apologize for not being there in person it's a wonderful gathering, and I'll use my time to make 3 points that are largely going to build on some of the points that Eric already made, which probably

is no surprise to anyone who knows that a lot of my work is inspired by his scholarship, and the first point I wanted to make is to emphasize that the conversation commonly held today about preparing the workforce for

the era of artificial intelligence is dangerously one-sided.

This conversation is overwhelmingly focused on how workers should prepare for the age of AI, and how governments and education institutions can help them to prepare.

And these questions are very important, of course, and are rightfully raised by the ... but they represent only one side of the coin that we should be looking at by putting all the burden of adjustment on the workers.

And the government, we are forgetting that the technology to can and should adjust to the needs and realities faced by communities in the workforce.

It is very important that we do not frame and do not think of a passive technology as some unalterable given one possible pass is where technology administers the skills and productivity of only select narrow group a different path is where

it's augments and complements the skills of the much broader group of workers, making them more valuable for the labor market: boosting their wages, improving economic inclusion and ultimately creating more competitive economy this

This brings me to my second point: this recommendation to invest in innovation that that means human labor for broad set of workers and boost their productivity instead of replacing them.

It remains difficult to act on for AI practitioners.

We need to make this recommendation more legible in the context of AI development.

The issue with it is that in practice it is often quite difficult to tell apart.

worker, augmenting technologies from worker replacing technologies, and especially do that ... for one... The same technology can be augmenting labor of one group while displacing the labor of another group

secondly, technology that augment somebody's labor today might be just a stepping stone for perfectly automating them work tomorrow. For example, software that learns from customer support agents by observing their every click every word every action that they

take might be used today to give them very helpful tips and genuinely event,

but tomorrow, trained with all this data stripped from these workers, this technology can be used to do more of their jobs, and the workers might be let go without being compensated for all that training data that they help to generate. And because

of this practical ambiguity between labor, augmenting and labor, displacing technology

any company today that wants to claim that there technology augments workers can just do it.

It's a free for all claim that is not necessarily substantiated by anything.

There is no precedent, no established framework for concertizing and quantifying just how labor augmenting and for whom a given technology is.

And there are no metrics that companies could report on to credibly differentiate themselves as companies committed to genuinely building technology.

that complements a broad group of workers and supports shared prosperity.

So to help close this gap, 2 years ago I found it the AI Prosperity initiative at the partnership on AI To develop just framework like that to measure the impact of AI.

System on labor demand we're working with Zanton Koranic and multi-disciplinary steering committee.

we've been making a lot of progress which we get you can track on our website, but it's an initiative alone.

It's definitely not enough to enable a turn towards more work augmenting technology across the board.

We also need to invest in alternative benchmarks which Eric already mentioned, and also in building institutions that allow for empowered participation of workers in the development and deployment of AI.

Those such institutions are really important, because workers are really ultimately the best people to tell apart which technologies help them and make their day better, and which ones look good on paper or in marketing materials

but in practice enabled exploitation or over surveillance in the in the workplace.

And finally, my third point is that labor, mobility, restrictions hamper us.

Competitiveness and innovation in more ways that is even commonly acknowledged.

And of course there is this very rightfully-made recommendation to make it easier for people with advanced stem degrees to come and work in the Us.

And that would improve competitiveness. But I would argue that it would serve US competitiveness.

Very well if we expanded labor mobility programs not only for people with at once STEM degrees, but for people representing a very broad spectrum of skills and educational things, levels. Why is that relevant in the context of AI/Because that

would create an environment with more socially aligned incentives for innovation.

and it would correct those massive, incentive distortions list to some extent that existed present, which Eric was always also already mentioning.

Let me just dive into this a little bit more today.

A lot of technological innovation is driven or motivated directly or indirectly, of shortage of labor labor, either ready actively felt or projected.

And I'm not even talking about the great resignation or the newly, you know, appearing labor shortages following the pandemic.

There are sectors where labor shortages were being projected or felt even before the pandemic truck driving...

Driving is one of those. And if you talk to any self-driving car startup and ask why you should invest in automate autonomous driving technologies, the first thing you're going to hear?

You're going to hear about the that. us is running short of truck drivers and the shortage would only get worse pandemic or no pandemic.

But this shortage, at least in the case of the US.

Is artificial, because while there are not enough drivers in the country, there is no shortage of people who would want to come and work in the US.

So we could help close some of the shortage, but by issuing more visas, or we can pour tens of billions of dollars, and very scarce US , AI researchers time to try to maintain driving and

eliminate some of those jobs, not only for people who could have come, but also for domestic drivers.

as well. Instead, we could use that technology, that talent, that money to address real scarcity, some real needs which the society has plenty of.

Just look at climate issues, look at how many people do not have access to quality, health care, education, and the list goes on and on.

So next time, when you have to use an automated checkout you ask or speak to a robotized customer support agent, you're feeling a little bit annoyed.

you can also remember of this opportunity cost, This is a technology that's resulted from choosing to economize on somewhat artificially created scarcity.

All, while the very real ones abound in society. So to some let me just reiterate these points.

First, we should not put all the burdens of adjustment to AI on workers.

We can and should work to get the technology to adjust to meet the needs of the workforce

That we have across all skill groups to make a call to create labor, augmenting technologies, actionable for development, for developers and for policy makers.

We need to invest in developing measurement frameworks, alternative benchmarks as well as ways that empower worker participation in the AI development and deployment process.

And finally, when thinking through how policies shape economic incentives for innovation, we should aim to channel talent and money to create innovation

That solve real scarcities, and not artificial ones i'll end with that, as I know, we are running behind.

FERGUSON: Thank you. got you. Thank you very much. I realized I never actually finished my introduction of you when we were having our tech issues at Katya is the head of AI labor, and the economy division for the partnership on AI and

I'm going to give our panel one opportunity to ask one quick question of Katya. I for one I'm looking forward to a better AI, as you talk about those customer service representatives up being up further optimized...

those of us have been stuck with with the customer service.

rep that's not fully optimized to I think we share my frustration on that.

But we've all been there. does anyone have one question a quick question for Katya before we close this first panel?

DELANEY: If I may, co-chair, I do want to make one comment about Salesforce people in the room.

I loved your super bowl commercial... focusing on the earth is but anyway, Katya and I think everyone touched on this. we we think about. and I think, Professor, to use your language AI that replaces versus complements humans and

you touched on this as well. How do?

How should we think about that? When you, when you take an industry, say like automobile manufacturing, you take an industry like now warehouse automation, and you think about how robotic an AI coming together has replaced a lot of

Jobs... Now, some of those jobs were actually dangerous and jobs that people didn't want to.

I mean, How do we think about this? Like Whats the framework or thinking about

Where it good job to be replaced first where it's not a good job to be required.

I mean Is there a simple lens prospect?

KLINOVA: Yeah, I don't think there is a rule of thumb. we really need to think about both direct and indirect effects,

But I definitely like - Thank you for asking this question, because you know, the whole conversation about encouraging more labor-

Complementing innovation is not a pushback against any and all automation.

There are definitely plenty of tasks that are dangerous that are health hazard presenting or safety hazard

presenting that are good for us to automate The question is, are we automating way more than we are complementing?

And also where.. so is it that you know some skill groups just get a lot. get hit a lot more with automation and others with complementary innovation.

The boost their wages there how much they're valuable to the labor market? and that would be inequality creating.

So it is more about the *balance of getting the balance right and making sure that we are complement. We are really thinking about the workers that are likely to get behind unless we are thinking deliberately about how they're going to

fare at the end of this giant technological transformation we're embarking on on

Sure Eric might actually have things to add to this.

BRYNJOLFSSON: Yeah, if I could just say a little bit.

Add to that. Well, first up I agree very much with with Katya has been saying, and we've learned a lot from each other over the years, and and to answer your question comes from Delaney about how we think about

it. My initial temptation was to go through item by item

This to complement that's the wrong way I'm not smart enough.

I don't think anybody is smart enough to to to do that.

I think a better way is to set a level playing field.

have the taxes set up which right now our security towards steering technologists, entrepreneurs, others in one direction, and set it up at a level playing field.

Or even if you want, Maybe I think you make an argument that you'd want to even favor human capital development.

but at least at least get back to the level, and then let entrepreneurs.

They will find out tens and thousands. of different ways of implementing technology, some of which augment labor more, some of which automate more and then as both you and Katya, said, There's nothing wrong with automating a lot of past a

lot very dangerous deltas we should do that the issue I have is that when I look at the data we have excess incentives and we are pushing way over that way, There's no rational basis for doing that It it concentrates wealth

and power in a way that I think most of us don't want it leads to less total output.

So: set the rules of the game and then let technologists and entrepreneurs respond to those incentives, and they'll figure out thousands of ways of doing what we want to.

achieve.

BAXTER: If I could add to that for just one moment.

I want to double down on the remark about creating and even playing field.

I think the regulations are incredibly important for us to establish because we've seen many good actors who want to do the right thing, and they're feeling, perhaps the competitive pinch where for the actors that are not willing to

perhaps play by that higher bar. One of the things that I would really like for the committee to explore is something along the lines of like a safe harbor.

So I mentioned earlier about model cards.. I've spoken with my peers at other tech companies where their legal teams will not allow them to publish model cards, because although we may all know logically, there's no such thing

as a 100% bought bias-free data set or model.

Still putting in writing: here's the bias that we know our model has ..

It Feels like the it puts them at too much risk and they're not willing to create those documents in some cases people in roles like mine have even been told by their legal teams

they are not allowed to conduct bias assessments, because then they know longer have possible deniability.

They now know that there is bias in their models but they don't know how to resolve it, and so I think in the beginning, take a look at existing regulations, like OSHA, where companies are strongly encouraged

to state not only accidents, but also near misses, and the consequences,

the penalties are much less when they are self-reported rather than if they try to hide them and then are discovered later.

So we need to have a way that we can encourage companies- especially in the beginning, while we're trying to figure out the exact details of regulations- have a way to encourage companies to be as transparent as possible.. *demonstrate the

processes that they are doing, that are good and not bring the hammer down and and create force.

People to try and hide behind plausible deniability because they're worried.

If they acknowledge any bias or flaw that they will be penalized for it.
FERGUSON: So to protect them from the sort of litigiousness of folks that may want to instead of feel like they have a big target on

their back to be able to try to do the right thing, and and then be held accountable for doing the right thing.

But safe haven as you describe. I want to thank each of our panelists on our first panel.

Thank you very, very much for your testimony. We hope you will be willing to continue to talk to us if we follow up, and other conversations.

we need to have I'm going to I've been instructed to go straight into the second panel.

SECOND PANEL

I know nathanie Bill is on the line and We'll, i'll go to naived first.

Now, Dave, is the engineering lead for responsible AI.

And my colleague and co-chair. Mr.

Delaney is going to lead us through the second panel but I'm.

An instructed to go straight into Navdeep and if you were there you have the floor.

GILL: Alright, Thank you. Everyone for having me today. you guys can hear me right?

Yes, we can thank you. perfect perfect. Yes, So today. what I wanted to discuss was sort of a general topic that I've been working on for the past I guess 5 years or so with my colleagues and I also want

to jump into a a second topic that's closely related. So the first topic I wanted to mention is Responsible AI.

So. this is something like I mentioned I've been working on for quite some years from a technical standpoint.

So I'm engineering lead. So a lot of the times when I approach these type of topics, I always look to make a tool or a piece of software that can, you know, enable the people in their day to day work for... So when it comes to in

responsible to AI. it's sort of like the best practices you know, in applying AI that affect people mainly people in frost, different industries, and they're this field that's kind of broken up into 6

components. So you have the ethical AI, which is about fairness.

And in the you know, AI applications, there is also the idea of having transparent models.

So, instead of deploying black box models, you try to keep them interpretable as much as possible.

So people are able to understand what certain predictions are made.

Certain technical groups, I understand. you know the the processes behind the system.

And then there's another component called explaining way I which has to do with sort of explaining the output of a model to someone and a lot of times.

The tools try to do this in a way that's sort of like the English explanation.

So, instead of, you know numbers and parameters it's better to give a straightforward you know English specific or language, specific type of explanation to someone.

So they really understand what's going on with the model There's a There's another component of compliance, you know, sticking to certain laws that are being made now around AI for example, GDPR in Europe and there's other

ones that are going to continue coming up for the next year or so, as AI just is going to become more trouble across different fields.

And then there's the human-centered component which sort of has to do with a user centric design experience just to support human interactions with AI and machine learning systems.

And then the last one is this field that's sort of becoming popular. A lot of people are talking about is sort of the security behind machine learning or artificial intelligence.

So when a model is deployed, you know, certain information is being passed around, and if information is being passed around, bad actors can sort of access that information if they wanted to.

So this is something certain AI teams have to account for when they put a model out there in the world to sort of make predictions or recommend things.

So this is just one important field. i'd like to stress. So responsible behind in general, you know it's A. it's a pretty big concept with many components. So the next topic I wanted to mention is this idea of AI

governance. So you know, AI, governments can take these components and kind of put them into action.

So you know this kind of framework instills, you know.

responsibility consistency, accountability, and transparency across AI applications.

So now my colleagues and I have sort of tried to put this together in a kind of a workflow.

that I and I like to go over some of the steps that we feel are important.

So first thing is with the with AI governance. The main idea is to have sort of a governing body of experts in your organization, or people that are heavily involved in the compliance matter of things that are

applied to AI. We believe that, you know, having this type of governing body, of course, increases transparency, but also protects the organization from from issues they may face.

You know, protect people that are sort of being the consumer of these applications, and when they're put down into the real world ..so it's mainly about accountability, and just making sure everything is taken care of to avoid

issues down the road. So this, you know, first thing is obviously you have to keep track of laws and regulations that are being applied to your field when it comes to deploying artificial intelligence.

This is just to me this is like a pretty straightforward thing, and you know It's usually involved probably getting legal involved in your organization.

But even if you're not in legal side you still should have some understanding of what these regulations are when it comes to building your AI applications. The the next point is sort of you know it's very much on the

business side. But you kind of want to understand Why, you're doing this?

What's the business case behind it? Now, you know from the business side is sort of, you know.

It has to do with money, and things like that but from the you know from a government standpoint. You know it's it also has to do with money, but it's the money that you're you know you're probably using

tax dollars or something like that. You want to make sure that that money's spent well, that The AI.

Application is actually useful. a lot of times people just want to go straight into this artificial intelligence. But they don't really understand why or they don't realize they sort of there's a very simple solution. to their problem.

So that's just one thing we wanted to stress is that's you know what benefit are you getting from this type of application? so like. I mentioned before. there's sort of the human standard part So this

is sort of the you know, user profile. Who is the end user of this?

You, want to you know you want to make sure you really have a good understanding.

There's also the decision making part so how is the user going to receive some prediction from this from this model, and there's transparency-

Should the user know that AI was involved in this decision making

and if so, how should it be doing to them? and Then there's the idea of the issue reporting -- the main idea here is that the ability to audit decisions made by a system.

So the problem with that is you know if you can't audit a decision that really really affects you.

Then it becomes a problem, because then you can never figure out what you need to do to be in the right position for or you you just can't figure out in general

why you're being you know treated a certain way. There's also explainability.

So you know. Why was this decision made... and then there's the privacy concern?

So really, you have to do with user data, and then they maybe try to let you know.

Communicate some some type of privacy that's being put in place the and then you have to also consider fairness in this framework.

So there's concepts of like you know disparate impact with this sort of unintentional bias towards different groups.

There's also the worst kind which is disparate treatment, which is sort of intentional. Hopefully, that's not the case in most places.

But you know, with this fairness concept you want to understand

what are the data sources? So you know, there could be bias in data.

You really want to understand what the biases are, and what can be done...

Then you want to understand sort of how is the model treating different groups-

-

Is their disparate impact? If so, how can I remediate this disparate impact?

You want to understand sort of the public aspect. Maybe you know

how is this model affecting the public as the whole, and you know, Is the Is it sort of unsafe visit? Is it really disproportionate?

And You need a plan to sort of handle that. And this is sort of the probably one of the biggest points of all.

this is sort of the fairness aspect, this is probably the biggest state of this whole thing, because you can imagine there's certain AI applications that really have a profound impact on someone's life.

so you could imagine. If you're applying for a mortgage, you get denied you know the model underlying.

Usually most of the time people are using models under this should be vetted.

You know to the nth degree because like I said this type of application is very important to a lot of different citizens, and you want to make sure that you're not biased

putting these models out there into the real world. Another part of the AI governance to store security.

So the idea here is to make sure that you know privacy is considered the model itself is sort of secure when it's deployed, meaning that it can't really be hacked or anything like that that's sort of

the main idea with this idea of secure AI. The big part of the government is sort of the documentation.

So earlier. It was a mentioning of model cards sort of along the same lines...

You want to make sure you document everything that's done in your model building process, or in your AI application.

This is everything from collecting data all the way through the deploying model, and in between

it has to do with.. What was the data manipulation who worked on this project?

Who was the governing body, because you know to say I governance. So they asked me a governing body per these applications, you know things like that have to be documented.

And what we found is in a lot of different organization.

This process is sort of broken. By broken we mean is it's not streamlined. documentation of models are spread across different entities, different emails, things like that.

You want to make sure that this is actually a very streamlined process, so you can sort of avoid issues down the road

But also there is accountability for everyone involved

And then you know, the last few steps that I wanted to mention are sort of we ..

...

DELANEY: want to ask you.. cause we got 3 other panelists.

If you could maybe wrap up your last part here in the in the next 2 min, if you wouldn't mind.

GILL: Yeah, sure. So I guess , Yeah. So I guess the last part about the

AI about AI Governments is usually, you know you have to decide how the decision making is done.

Is it autonomous? or is there a human in the loop involved?

This is a very important component, and it depends upon sort of the.

the application involved. And then so I guess I just want to so just end it with sort of what we what we think are the you know the pillars of AI governance:

It's about knowledge and context, thoughtfulness, people, process and you also want to think about the platform in this case, because we're trying to make this whole thing into a tool

that people can use ..that's yeah that that's What I really wanted to go over today is sort of the importance of of AI governance, and the importance of organizations deploying AI model should have a

governing body. It should not be split up into different teams.

that don't talk to each other there has to be a collection of the entire organization with a huge amount of transparency to avoid potentially detrimental issues down the road

when these AI applications are used and that's okay, all I have to say.

DELANEY: Great, Thank you Navdeep and what we're going to do is we're going to go through the other panelists first before we open up for q and a so if you don't mind hanging with us and then we'll be back for

questions which some of them maybe pointed your way or or most of them.

You'll have something to add to them so if you wouldn't mind hanging with us that'd be great The next up we have Benjamin Larson, who is at the AI and Machine Learning Project who is the lead

of the AI governance at the World Economic Forward forum, Benjamin.

If give us 7 or 8 min of opening remark. and

If there are other 2 panelists and have Q. and A.

LARSON: Thank you. Thank you very much. So my name is Benjamin Larson, I'm.

AI project lead at the World Economic Forum, which (unintelligible) public private corporation, and then my day to day life.

It takes place in the for the last 5 years of work, Steve Bill (?) business school with AI governance,

Olympic from the US at China Tech.(choppy feed)

In this testimony i'd like that breed on fever research conducted in collaboration with Arianna from, you know. Well, President of the Congress endowment as East young Lee this is the technology economy and over

the first time, and Mike Webb former PHD fellow.

Hello! and this research it outlines, think, approaches for a governance station, and it studies potential implications for firms and managers in adopting AI.

Now, before commenting on some of I would like to buy a brief overview o.

this thing approaches by our regulation. These they include existing laws.

And the here we can see that AI technologies are already implicitly regulated.

By Common law, contract law employment law, which already affect the AI use and adoption, including liability, risk, and the nature of a private party.

We also have horizontal regulation and that's the AI accountability act that passed the US House of Representatives.

in 2019.

Horizontal regulation. It also includes the European Union's AI Act, which is like going effect next year, and it also includes new regulation coming out in China specifically aimed at rack (?) vendor engine

which already, if they this, we also have domain-specific regulations implemented by the If see among us, and then you have data related regulation.

GDPR, the California privacy, and note here is that

Some of these mentioned regulations by you and China. They currently make these countries and regions front runners setting the rules for algorithmic conduct and clients.

And you could say that the EU and China they're engaging in more holistic approaches to AI relation, whereas initiatives in U.S.A.

Fragment at the national level. Now in the research that we've been conducting,

We looked at some of the regulations applications for firm behavior in particular.

What we did is that we conducted a randomized online.

Survey experiment where we exposed 1,245 managers in the United States, one of the following tweets, one. the Algorithmic Accountability Act 2)industry, specific regulations at the fba for

Healthcare, needs that for transportation they have t for retail, And then we had a common law treatment and a privacy regulation based on (?) What we did is that we started how each of these regular regulatory treatments they

affect managers' this decision, making it How manages they're likely to revise their business strategies when reminded of

this regulatory approach. Our results indicate that exposure to information about AI regulation, iwincreases the importance that manages the assigned to various issues.

When adopting AI But if there's rate of and increases, and manager, when is of the issue, is generally offset by a decrease and manager intent to adopt the AI technologies this was for all 4 regulatory

treatments, but more significant for the horizontal AI.

Next we find that There's also a trail between AI Ethics adoption which will pronounced smaller firms that are generally more supposed.(?)

When ompared the healthcare automotive and retail industries.

We also find , you know, a result which indicates that regulation information is likely to result in a varying standard differently due to industry-specific characteristics.

Or, all we signed that the findings in 5 that yeah regulation.

It may indeed, slow innovation or reduce competition temporarily, but may improve consumer welfare when increased safety and high attention.

.(?)a base of these findings i'd like to briefly provide you policy recommendation.

First of all, although AI regulation, it could slow innovation or reduce competition by lowering adoption, instituting regulation at the early stages of AI diffusion.

may improve consumer welfare through increased safety and business, and by better addressing varying ethical issues.

Second: horizontal regulations, such as the proposed Algorithmic Accountability Act may have complex effects and make it hard to take important sector specific characteristics into account, giving our findings across industries and firm size.

we advise policymakers to take a meticulous approach to AI regulation that all it is sector based.(#)

,3)specific issues, such as auditing requirements for algorithms on screens of sharing data rules governing explainability, and so on, must be special, efficiently addressed and clarified

New regulatory.. Fourth adopters of AI technologies.

They may not always be fully aware of how the algorithms they function at a detailed technique level and therefore liability

it needs. Yes, this made more salient ..an intermediate step on the road to better regulations that could be pilot studies of the applications in different sectors which put in both public/private partnerships, and examine how

liability would be shared among developers, jurists, the government, and (?)... the World Economic Forum has engaged multiple of these kinds of pilot studies.

For example, in based facial recognition technologies of course we're more happy together. In closing, the Eu and China that currently emerging as front runners on AI regulation by US companies in Eu market and particular have become rooted.

And in the US there's the hatching of city and State level regulations. but along with education and post elsewhere, provide unnecessarily high economic cost for firms and to employee (?) Due to these considerations, a greater harmonization of national regulatory

efforts wrong the period. This could be in the form of a central line already, but should include a strong sect.(unintelligible)

DELANEY: Thank you, Ben. next up, Miles Brundage who's head of policy research at OpenAI. Miles thank you for the invitation to speak here.

BRUNDAGE: I think it's critical that all stakeholders involved in building, using, analyzing, or governing AI systems work together to grapple with the related risks and opportunities so I'm honored to be able

to share my perspective and support the work of the Commission. Open

AI, where I lead the policy research team is an AI research and develop a deployment company.

Our mission is to ensure that artificial general intelligence is developed and used in a way that benefits all of humanity.

In support of that mission. We have several dedicated policy and safety teams, such as my own, that work to ensure that we're developing and deploying our technology in a responsible way. As a company We take a controlled and

iterative approach to deploying our technology in the real world.

We've made some substantial investments in policy formulation, risk assessment and infrastructure in in order to ensure that the users of our technologies abide by our use case policies.

We continually update the underlying AI systems themselves, and the surrounding infrastructure in order to ensure that we're ramping up the safety of our deployments, at least as fast as the technology itself

Develops. Over the past couple of years we've been announced a number of advances in the field of artificial intelligence.

In May. 2020, we announced. Gpt. 3, where Gpt.

Stands for generative, pre-trained transformer.

This is an AI system with linguistic outputs that are sometimes indistinguishable from humans.

The system was not designed to carry out any specific task, but rather to perform a wide variety of natural language tasks.

We've seen it used for tasks ranging from writing to customer service to helping train suicide prevention workers.

We regularly share what we've learned regarding deployment of such systems in order to support wider effort.

In August, 2021, we applied the same underlying technologies behind Gpt.

3 to the generation of code in multiple programming languages we've seen that the resulting system now writes about 30% of the code of its users and we're embarking on an ambitious research agenda to

understand the economic implications of this technology which i'll say more about in a moment.

Most recently, last month we announced our newest, the newest version of a system called Dall-E, which can now create original realistic images and art from a short text.

description alone system can also make realistic and context aware edits, including inserting, removing, or retouching specific portions of an image from a natural language description.

Or it can take an image and make creative variations of it inspired by the original.

We're only beginning to understand how the system will be used. Ben Koh,

A panelist from your hearing in Cleveland, mentioned that one potential benefit for natural language based tools like Dall-E

Which are usable without the need for technical training, is to empower more people to create an event by lowering the level of fluency required.

This is very much in line with our hope as well. We're cognizant with the fact that simplicity of use presents incredible opportunities, but also a number of risks. I could go into detail about safety mitigations We put in

place for any of the technologies mentioned. so far but i'll use DOLIE specifically as a case study as it's the most recent to name just a few examples first before the system was ever even trained

We curated, curated the underlying data set in order to reduce exposure to violent, hateful or adult content, making it easier to limit related-use cases downstream.

We also used advanced technologies to prevent photo realistic generation of real individual spaces, including those of public figures.

We developed both automated and manual monitoring systems to guard against malicious uses, including human review of generated images and filters for preventing the use of malicious keywords, and we conducted extensive internal testing

and invited 2 dozen external experts in various areas to help us identify risks and limitations of the model. Based on what we learned with a small number of users.

Will build additional guardrails to allow us to brought an access further with the goal of eventually allowing wide access to this system in a way consistent with our policies part of why we take a cautious approach to our

deployments is that other companies that launch similar tools might mirror some of what we do. And indeed we have seen some evidence of this in the case of Gpt

3. we're currently working to crystallize and promulgate a set of best practices in this area.

But I also want to be clear that we are now, seeing that we are not saying we figured out the perfect way to mitigate all of these risks, and even if we had, it would not be reasonable to expect every lab or company

entering the AI space to adopt a similar approach.

Furthermore, the AI systems that are available open source for anyone to use in arbitrary ways are growing more and more capable every day.

All of these factors suggest that Federal action will be critical.

to building and maintaining public trust in AI and we look forward to helping the Commission's efforts on that front. One area in particular that would benefit from attention from this group is identifying practices for third party auditing of AI

systems and platforms. This needs to be done in a way that is nimble enough to reflect the evolving technical landscape, and which strikes the right balance between protecting IP and ensuring accountability to the public for

the impacts of these increasingly pervasive technology.

Since this Commission has a particular interest in workforce implications of AI.

I'll make some final comments on that issue. There are more than 300 companies building products and services on top of our language.

Model Gpd 3. This is still fairly small in terms of economic impact

so far, and evidence from recent economic literature suggests that there is little immediate risk of widespread technological unemployment from AI.

However, we do regularly see significant evidence, including from the systems that we build and deploy that many, if not most, jobs, will be altered by

AI. such that processes will change the composition of job tasks will change, the skills

demanding to perform different jobs will change, and demand for new skills and jobs will evolve over time.

There is a risk that AI will amplify many of the problems we're facing today in terms of inequality of income, wealth and opportunity.

Addressing these issues aggressively now can help improve outcomes today, while also reducing the downside risk of harmful

AI-related economic impacts in the future. Unfortunately, there's currently very little measurement of the labor market impacts of specific AI systems.

We recently published a research Agenda, aimed at understanding these issues in the context of code generation and identifying external partners to explore further.

We're eager to work across organizations and sectors to advance. Understanding of this and other topics really to AI and a social implication.

To sum up, AI capabilities are advancing very rapidly and vigorous

private and public efforts are needed to ensure that the full benefits are realized, and that the risks are made mitigated.

Thank you for your attention, and I'm happy to answer any questions you have. DELANEY: Great thank you, Miles.

We'll be back with questions as soon as Dmytro Filatov...how did I do?

Who's the founder and head of AI at DeepX who's we'll finish up our panelists opening statements, and then we'll open up for questions.

FILATOV (*much was unintelligible): Thanks so much for the

opportunity. I will be presenting for 2 different perspectives.

I am an immigrant from Ukraine in the post education in the United States right now.

And yeah, thank you for watching. And my company is which what we do. We provide the machine learning and , provisionally research development consulting services for... science industry companies inthe United States we have approximately .

24,000 of businesses, 1,000 or more ... us yeah, I've talked to a couple of 100 these companies and majority of them and majority of the leaders of these companies are surprised by the level of development and the

Accuracy of AI. and machine learning solutions.

They see a lot of failure in machine learning or just inside of the account, but because the technology requires an upfront investment of the time and significant effort be indicated into there.

They exist in applications. they prefer to wait for leader in the industry to emerge,

They prefer to ever develop solution, to emerge in the industry.

First we just find, if such product will emerge inside of modern democratic country.. But in the global and connected world such product may came from outside and from the country which do not weigh by , and such product could potentially became a reach for the

industry, and potentially, became an aggregator of the whole industry.

I'll give you one example, so so what happens in Asia and Eastern Europe.

The Yamdux Company from Russia who have

better down to engineers, but unfortunately they are under influence of the Asian State Government.

What happens in the Country's right to Moldova Lithuania Kazakhstan and many other Eastern European

Countries. (?)taxi became a major aggregator of taxi and for delivery services.

So I mentioned that Uber or Lyft have been state-sponsored by their foreign country which do not play by the rules.

The amount of the data, and especially private data and influence which could be transparent

Transferred out... Sorry emails sent him and I certainly believe that's not a situation which we want to...have here in the United States. Two,

there, are colleges. we need to to make sure that they have a

Penvironment to innovate, we need to provide them The opportunity to, however, reduced a monetary list.

For example, we are 7 research and development as created as it being done in the United Kingdom, and we need to educate them on theirpotential tools and took it.

Okay to develop which can be used for the existing problems.

And there, Second part. what I wanted to talk today about is some

I I want also to talk a little bit on that talent which comes from their vote.

I came here in the United States because many of you, because of the same idea on a dream on a American dream.

And as many people who came here before,opportunity and of freedom.

But to be able to get here we need to understand what particular types of the visas are available.

We need to understand what our opportunities are here in the country, and we need to be educated about this particular opportunities and to us.

And when we are working to the existing regulations and is this existing websites and information presented on existing it's confusing to understand what's what's what's,

what's the particular scenario was magical steps you need before?

Because the regulations are a little What? Why? why do we? so?

If we would have a point based system that would help or point down to better understand.

How how to get to United States. And another topic on the talent and communication the United States have a long time have been there ways to be, if you want to meet the most innovative people and be presented and have

access to the world world, change in any world to most challenging opportunities.

But after the Covid 19 time, we not just a significant achievement, and most of the meetings, most of the new businesses are happening on virtual space on Meta spaces.

And what is we have to here? What is like the core of the essence of the American dream?

What what we still have here in in terms of geographical location?

I think, it's an opportunity opportunity to help Tens of thousands of existing mid-sized.

American businesses to overcome the technological gap and to overcome technological gap and the issues they have based in industry.

transformation. So these

So these companies had the culture from logistics from multiple other industries, as they are using number of formational issues.

And they are basically sitting on tons of problems and opportunities which would be solved by the modern and machine learning technologies

but there needs to be properl educated and about existing solutions and existing AI, for example, such as providing the open AI team which would be our head wide to the existing business situations.

So to Hmm. So I had to to focus on 2 main things.

One of them. we need to do a little bit more to inspire the local talent, to use the existing solutions.

Is this an AI existing technologies to the industry problems, or which companies in the United States already have?

And we need to have more presence upload to educate potential talent about the easy ways to come to the United States and be involved in the opportunities and hope to solve the problems which will transform their easy to understand Thank you.

DELANEY: Thank you, Dmytro, and we hope your family in the Ukraine is doing okay.

Okay, we'll open it up for questions for Miles for Ben and for Navdeep

who's patiently hung in there with us during this during the testimony.

Thank you Navdeep but I think you're still with us there I see you on the screen.

. Yeah. Great thanks for staying with us i'll i'll ask my Co-chair you have any questions? Sorry not.

We'll turn over to the panel who wants to start I didn't I?

I. my inclination was to look left here. I apologize.

KATURI: So I have one question for

Is the question around questions around Yes, what's the nature of if you can go into it models.

(unintelligible)And second, what's privately so. Oh, bye bye, I guess out of the whole point.

Thanks. fine. exactly Okay, I think there's a alright.

GILL: I didn't catch the the the question there I think you'd be breaking up for some reason.

KATURI: Yes, okay, the the 2 parts of the question first of all Can you go into a brief discussion of what do you mean by ML Security?

What's the nature of the problem? and 2)how our prevalent

ML security attack.

GILL: Yeah, sure. So yeah, when it comes to machine learning security.

It it's it's sort of there there's there's many components to it

but the main idea here is There is a possibility for machine learning models that are deployed to be hacked in such a way that, for example, a bad actor can recreate a data set that was used to train that

model. These that this is a specific type of attack that can be done.

And this is something to be accounted for. There are actually papers where there

there was a group I forget i'll try to look up the paper and post it onto the chat here-

But basically what they did is they, they attack different prediction systems mainly basically systems that give out predictions, and they were able to attack it in such a way that they recreated the data set that was used to a

certainty. and so that's a problem because now you're getting into data privacy.

So you know that's just one example of sort of an attack, and it also unfortunately happened internally.

So the attack there is usually called data poisoning so that's the idea

there is When a model is being trained, someone or some entity can sort of manipulate the data in such a way that it favors them

once the model's out in the real world. and then they have a way to trigger something, because they understand how they poison the data.

There's also goes into things like you know watermarking attacks, which is the same concept, you understand some characteristic of the input to get the output that you want.

This is the idea behind sort of ml security it's it's broken up between these different types of attacks that are sort of borrowed from a borrowed from a cybersecurity. So you're taking cyber security attacks

And kind of applying each to a machine learning model in terms of explaining what could be done, and what kind of attack can potentially be done.

Now, how prevalent is it? I mean, there are papers where, like I mentioned, where people are able to do it.

I am, I am not 100% sure How prevalent it is.

I can probably look up a few publications where they talk about sort of, you know certain incidents where this happens.

You know the main one being it always comes down to sort of data privacy.

This is sort of a big, important step that people need to consider.

And data privacy is not just about, you know, data being leaked with the ML security.

It can be recreated if someone really, really tried to do it.

The The main thing with this type of security is typical

practices should guard some problems in the future, but not all.

And this thing has to be the this topic has to be considered when you're getting ready to deploy a model and, like I mentioned this part.

This falls into the AI governance sort of workflow.

So this means that involves many different people.. we're talking you have IT

People, You have sort of the sort of the data scientists that were involved in making the model,

You have the you know the machine learning engineers who are involved in putting the pipeline that actually go out in public go out into the real world and be used to make predictions.

And then you have, You know, the queues going. You have legal, and you have other parts of the organization.

This is why I stressed the governing body of everything.

KATURI: So yeah, I think I I get thank you for for that answer I don't know how else do you have Miles?

Oh, no, no, that's the that that was mainly it yeah

BRUNDAGE: Sure i'll just briefly add 2 points.

One is that, I think memorization is definitely something that comes up as something we have to worry about, though it doesn't always look the way it does in sort of academic research.

So, for example, with the system, Dall-E, we, it seemed like exact memorization of an individual image, was not so much a problem.

But we did have to take special precautions to prevent memorizing the general appearance of a face

for example, such as a a public figure which could be used for disinformation purposes.

So I I think that that's one thing I would say.. the other is that there's another kind of ml security issue, which doesn't perhaps doesn't exactly map onto the the categories that were just discussed which

is misuse of AI systems that we're developing.. so say exploiting language models that we're deploying to use for generating spam.

For example. So we have detected and stopped hundreds of cases of those kinds of attacks which again don't exactly map on to the academic literature

But in practice that kind of misuse does happen great
KATURI: Oh, just just one that's perfect.

Are you comfortable as a creator of a foundational model responsible for?

BRUNDAGE: I mean it's it's certainly a lot of responsibility to have to sort of draw those lines of what what constitutes misuse, and and you know it's tricky.

But I I'm you know, proud of the the progress we made in defending.

DELANEY: I think we have Adam and Chris ..Adam. Yeah.

THERRIER: Benjamin raised some different regulatory approaches merging you, or here the AI Act and over the AI Accountability Act here and then Miles, you mentioned.

As Well, I'm interested in hearing concretely about how frameworks, typically the Eu framework, would affect something like acknowledge that it open

AI is developing with platform DALL-E or other things. And then, you should have that in technology should be developed in the when that app or if they're more likely to be developed here ?)

BRUNDAGE: Yeah, I I would just say briefly, you know, not not an Eu expert or a lawyer, but, roughly, what I think is going to happen for, those deploying general purpose systems like language models is that There will be more

scrutiny on the precise policies of which use cases are supported.

For example, as I understand in the EU they're making distinctions among different types of applications based on risk level.

And you know just this involved sensitive data, and so forth. currently Open AI and several other companies in the space have very precise policies. And I think you know efforts like the EU will probably lead to more for harmonization of what is

supported what kinds of mitigations are required for different kinds of use cases; whereas right now it's really just left up to the companies how they do those things.

LARSEN: I just briefly add to that that the the forms of a compliance can be expected on your internal, that they will, they most like, be figgled down different.

, and that goes back to comment themselves. Looking at. how can how can a harmonize different rules sets in order to increase the economic cost on company at corporate, so I would say, definitely increase the corporation

looking at what are a kinds of rules and valuations we're looking

here versus what already exists out there, and how burdensome is it for acompanies to comply with it?

if harmonization at some level

FILATOV:Thank you for your question. So basically, we right now have an issue of deploying a computer vision system in the Italy.

And one of the client is one of the major Fitness Technology company in the Italy.

And by your european union regulations, we need to ensure that all data is being stored inside of the E Union, and all data processing is being done inside of the european

Union. Basically, that increases our cost by at least 20%.

Because there is not enough access, and there's like limited access to Gpu headway and schedule for your opinion union.

So basically just like additional additional small issue in it was off.

And that does not help in the earliest teach of innovation.

But just that's good thank you

MESEROLE: My question just kind of builds off prior one. This is a really great panel.

And I think the the question I struggled with across all of the different comments. What level of abstract through regular...if if we want third party audit, is it the case that we just want the government regulate that kind of big a third party audit

not companies like in the case of governance body, a lot of the functions that were described, there could be done in a cell phone.

So one thing I'm curious for anyone on the panel it.

How do you think about ... at what point is the specificity rate what point?
(unintelligible)

Sorry,

LARSEN: Yeah. So I think in terms of the specificity is very clear at this point that some kind of assessment needs to be done.

I think that right now a self assessment in Berlin companies already best practice, and it's most certainly a requirement on the new and incoming new AI legislation.

So in the case of the Us. the big question is, what would assessment look like?

And who should be the And I think that there's several ways of going about this one could certainly be have a different kind of investment bodies that are able to act as third parties that they verify different kinds of

algorithmic conduct are part of establishing. yeah new phone stuff.

Currency zoom stuff. Yeah, Quinn, And when not, is (?)

BRUNDAGE: So I'm not sure that there's a single best level of abstraction for regulation, and I think it partly depends what you're trying to achieve.

So I could just mention 3 levels. You know that that seems salient to me.

One is the model itself. So, Dall-E, 2 P. 3 kodak, some kind of AI system that that you know can be used for various downstream purposes.

And you might want to say audit you know the the completeness and accuracy of the documentation of a model, and make sure that you know certain kind of red teaming has been done and so forth.

Then there's the platform, which includes the model and various surrounding infrastructure like filters, rate limits, quotas, policies, etc., and make sure that a company is effectively mitigating risks of that

general purpose system. And then, finally, there's individual use cases, for which you you know, may, in in the case of OPEN AI, instead of talking to us, talk to someone who is using some various downstream use case, that we you know that is within the terms, of

our policies,

KATURI (?)Miles. This quick question on that's fine I see very powerful, everybody fine.

But sometimes I wonder if the capabilities you're creating is more easier for you to use for countries like China.

That not enough regulation essentially creating powerful capability the more likely to be used with people that don't have any regulation.

I just wonder if there's an include to that you said the 300 companies using it.

So I was wondering if more outside us are using your capabilities inside.

What is your take on that?

BRUNDAGE: Yeah. So I would look at it I kind of 2 levels.

There's the the actual models that open the eyes building and deploying, and for that you know I I would, you know, encourage you to take into account that we're not currently deploying in all countries like China and Russia

for example, so that's one factor in terms of you know what who is most affected and and who benefits from the technologies.

The second is the the general class of technologies, which is, you know, not just being developed by open AI.

And I think you know there there's certainly a you know heightening of competition among various countries, and there are sort of models similar to the those that we're developing that are happening in in China and other countries so I think you know depending

on your level of analysis you might come to different conclusions.

KATURI: Yeah, this is slightly off page, like, I know. But we do have to answer questions from workforce.

I serious it thoughts on besides how best How can we think about So that will, hey? (breaking up)

Mes,

FILATOV: So in my practice. it's in many cases about it's Biden people, and there is a misconception that we need ever stem degree that you need to have a mitochondria no you need (unintelligible)

to education and the automation and interesting opportunity and inspiring people in Ukraine.

And in spite in a young young town to aren't here in the United States, or for me, it was like the same situation in many cases.

We just need to showcase that Okay, you need to take these educational courses.

They have open source. Just go to prosper go to Academia.

There's multiple what forms available here in the United States and in one year, just one year, you will be able to start actually working on small machine

learning, purchase wonderful Api by open AI, wonderful open information and literature uncertain deploying AI

and she is doing a what often just Oh, there's spoken to them, and surely I could join what Yes, it's possible to do now to specific, (?)

The other questions, for I

BRUNDAGE: just briefly, you know, strong strongly underlying the the point about, you know, immigration being important to AI competitiveness, and and you know just anecdotally at opening I You know

several of our, you know. most most high-performing researchers don't have them.

Phds and you also didn't even graduate call up. So if there's a way to tap into that, that, you know, pool more globally that would be excellent.

DELANEY: Yeah, Alright, thank you, Nadeep. Thank you for hanging in there with us, and I want to thank our panelists who are here for the perfect session

THIRD PANEL

FERGUSON: So with that the floor is yours. Thank you, Great. Thank you for having me.

JABLOKOV:

Well, Steve Jobs talked about computers being the bicycles of the mind.

AI is more kind to a race car and quantum AI will be a rocket ship. In honor of Mother's day

I thought the Commission would appreciate the story of the birth of one such AI that way you could witness the multitudes of steps and stakeholders that were involved with its genesis, and where policy has and will

intersect with such ventures in the future. Looking at my own journey as example, I was born in Greece, so you can check off every stereotype that you know about the immigrant experience attending a public high

school outside of Philadelphia, followed by attending a public research university in Penn State University, where one could work on project sponsored by the navy.

Nasa, etc. Then I was afforded a co-op program by the college of engineering to gain exposure to the real world.

Then joined big Tech. In my case Ibm records microelectronics as a research engineer which acted as a finishing school.

And then, after all that I departed to found my first company.

Then came angel investments that leverage. tax credits that were eventually removed by our State, then venture capital until multiple big tech companies made offers to acquire us.

Now let's connect these dots further like the bbc science.

Historian, James Burke, would: When I was leading the multimodal research team at Ibm's pervasive computing unit, we invented the first speech enabled Web browsers since we knew that would broaden accessibility

to end users that visual-only browsers like netscape at the time couldn't service.

We believe in open standards to make this universally available.

So we worked with access systems in Japan and opera software in Norway, and I also became chairman of the voice Xml form.

We then had an epiphany for how to get in everyone's phones.

We thought about adding microphones to the playstation, as that was a joint project between us.

Sony and Toshiba, but that was quickly dismissed.

Internally as many laughed, that no one in their right minds would allow that at home. the following year we wanted the same application, but to move speech, recognition to the cloud, to allow more of the processing and memory to be freed for developer

apps, the broader teams retorted. Nobody would allow their data outside of the device to some unknown void.

Then, the year after we wanted to answer any question any human would about anything, and that was deemed impossible in the last straw.

So I departed. since they were not ready to build what would eventually become Watson. I didn't know where to turn first, so we pitched at a business plan competition at Wake forest university, and lost... it was a big vision for answering

why the sky was blue in 1 second, and anything else You'd care to know a professor chase us down who worked at Nokia and told us to keep going.

But focus it from an AI assistant to just messaging.

We then presented at University of North Carolina, at Charlotte, and lost to a genetically modified soybean.

But we crossed pass with the former Amazon executive, who told us, your first investor, first Board member, and never publicly talk about this as well.

That allowed us to get legal representation. that gave way to our chairman, who was connected to the Telco industry.

And so we intersected then with the Spddc, which is the local center that helps immature companies gain some management acumen where we further met some folks from Bank of America.

We were one of the first if not the first AI Cloud Company.

We showed a prototype at the first ever tech crunch disrupt conference while working in secret with apple before siri existed. since some of my engineers worked on the ipod in the past. We

worked on searches, messaging phone calls, sprint and Microsoft or customers.

There was no hope of selling this to government agencies due to the labyrinth of procurement processes.

Sbir's and similar grants would never support the amount of pace, amount, and pace of investment the market demanded.

We started seeing people's private messages. hitting our platform and had to manually police ourselves where I, as a CEO did not have access to a God mode, as many tech companies later got caught with. After our exit.

I realized that starting such a venture in a second tier market was harder than it should have been.

So I received an Eisenhower fellowship which was then chaired by late Secretary Colin Powell to research the linkage of the Israeli and Jordanian link between public and private sectors, including strategic

technologies. I wanted to bring that back to North Carolina to inform the State treasurer, so we can build a similar venture

Capital multiplier fund. While Silicon Valley in the early comments

is here, today is considered an innovation capital, I did bond with Steve Case and the Revolution team's.

Efforts on "rise of the rest." this pandemic highlighted that we can't solve national and international issues without engaging every asset of every community under our dominion.

Folks are amazed that things like Alexa could be born in North Carolina, but they shouldn't be.. Because I reuse the word Pryon, my current company's name

that was the previously the code name of what became the Alexa Speech engine.

We were Amazon's first AI related acquisition, we leveraged every manner of academic public and private support

we could muster to birth it. And so our mission now is to democratize access to AI and to reduce the distance between people and knowledge to meet international competition.

We should have no patience for have nots, AI needs to leave our homes and weave itself into our marketplaces. and that's when I'm here to talk with the rest of my compatriots.

Thank you.

FERGUSON: Thank you very much. and appreciate you sticking to time as well.

Kudos, do you? You get a gold star? so

We are going to keep going with our panel now.

Alka Roy has joined us, Alka thank you for being here.

We're inviting each of our panelists to opening Give their comments for maybe 8 min, or so, and that'll leave enough time at the end of the panel for questions from our commissioners Alka Roy

is the founder of the Responsible Innovation Project and RI Labs. Alka

Thanks very much, and it just a reminder to our panelists who are here in person.

You just have to hold down the button on your microphone as you're speaking.

If the green light is on the the mic is not there is not catching your voice, though, as you're as you're speaking, just keep a finger on the on the button.

Alka The floor is yours.

.

ROY: Well, I think I have a lot of information, as you know.

Somebody who the engineers in the room would realize to what I would want to make sure is I use your time very wisely today, and I would like you to just give me if you don't mind, Michael you know just give me a 1 min

warning, and I could just quickly speed up. So the plan today was to share some of the findings from our responsible AI roundtable.

We have created surveys and trust in AI, and really kind of share things with with you as to people who are inside the system, who are kind of understanding the challenges and are really frustrated with the combination of wanting to

make better products from where they're sitting and be successful and innovative?

What are they seeing? You know the the changes/challenges.

So before we get started, I I wanted to thank you for having me here today.

And who am I? and why should you listen to me?

This is something I ask all leaders, you know they always talk about trust.

But first we have to earn it. So for the last 2 decades.

I've had the opportunity to be at the forefront of technology and product evolution.

I work with I've worked with executives engineering and design teams

Which have you been inside of those are very different teams.

They think and look at things, problems very differently; and I've worked on wireless and mobile tech technology.

Evolution seen 3 to 4 G to 5G.. all the acronyms that come with it.

Helped launch the iphone if you don't like it, sorry. The cloud evolution/mixed reality which we act like It's something new,

But if we've lived in our minds we know what mixed reality is always been, so

It's not something new in the digital space it's something that we're borrowing the blueprint from things from a long time ago, and that lineage and legacy is important to remember and finally I let a

team working on conversational machine learning and AI and learn from making a lot of mistakes in that process which we can talk about when I'm not pushing the button. In this journey.

I've helped launch hundreds of products and services. for Fortune 500 companies worked on early stages of innovation centers, as well as advising, evaluated hundreds of startups.

So I understand this ecosystem from different perspectives from what people want, and when their goals compete, and our in conflict of interest with sometimes desires.

So for this commission, for example, you would hear lots of things but you'll hear it based on your goals,

Your incentives, and That's again. something we can talk about outside of here as well. Today I'm in front of you as a founder of Ri labs.

responsible innovation Project. This is an independent business and entity, working on customized and collaborative, responsible innovation playbooks for AI and other emerging tech that AI is embedded in-- we must remember that when

we talk about AI, I'm sure that's product and brought up before. we recently launched a future of leadership program and started laying the groundwork for any independent Hub multi-disciplinary idea and knowledge

exchange, because we understand that we don't understand a lot of things, and we we think the only way we will solve this problem is if we organize correctly around it and are transparent about what we know and what we

don't know and what our organizations allow us to do and not do.

So We're trying to create this place outside and during the last 2 years have seen a growing need for both AI and tech legacy that is accessible and experience based. not just your theoretical.

And I I believe the gentleman was just speaking about that so I've authored online courses on ethics and AI and data science and AI or Linux foundation that were that are publicly available for anyone and they've been

accessed globally now in 83 countries and regions that I know of.

I've also lectured at University of Berkeley on responsible innovation for entrepreneurs, tech makers and business leaders.

I hold patents for policy and security frameworks, and have it by startup industry groups as well as serve on board and committees for nonprofits and human rights organizations.

In addition to computer science, electrical engineering degrees, I'm.

deeply interested in social innovation, have an Mfa.

In creative writing and literature, and enjoy rock climbing. Why do I say that?

Because 2 questions preoccupy me. it's not that learn about me.

It's just how are we designing our world and how is that design designing us?

People who are from places of privilege to understand where we're leading, and how we're organizing as people as community at work in our homes with our families.

And when we are alone. I started our RI labs because I know leaders inside this ecosystem who are deeply concerned about the imbalance they feel at work,

The disconnect and the gap between what is publicly announced and spoken, and and the incentives in the ground reality of

What they can do in those spaces. what is really being done?

This is the gap that we call the Trust Gap,

The opportunity gap between having best practices, audits, and governance, and how and where they are used.

Some reports, you might have seen site that even companies that have AI principles and ethics only 9 to 20% of them publicly admit of having operationalizing these principles.

The gap... this gap, the trust gap, the opportunity gap, can lead us down into breakdown of trust and cooperation and make progress, decision-making, innovation and adoption of new technologies and ideas

bumpy, difficult, and at times highly charged and unnecessarily polarized.

This gap reads malcontent about people's works and workplaces, and in my opinion wastes our energy.

So, though I'm a tech enthusiast in many ways, I'm now focusing on leadership, because and everybody in this room are a leader, you know, is a leader is the kind of leadership that we need for the future and

a hub --This cooperation, this commission is talking to each other, and understanding from different ecosystems, seeing examples of what is working,

and where. and also I will keep emphasizing, this need for independent, place where people can outside

their affiliation have a place to speak their mind. so what we find in these spaces, and when I sit down with leaders, we ask them what their goals are.

We ask them if they're willing to see the reality we call the Ri Lens acknowledge it, and address it.

We gather these unique examples, use cases, case studies based on specific environment, culture, application, industry.

And we work with them to manage the tensions of innovation.

You know this right? what we, when we say open data sets, people have probably talked about that.

How can open data sets be kept safe So when we talk about open?

It sounds good safe sounds good, but their intention with each other, right?

If we make everything open sometimes. people don't be honest safe to be honest, as you know, my hands are hurting, but as you can tell .

FERGUSON: I'm giving you your 1 min requested heads up and that also may give your hand a rest.

Well, thank you for that. So you know I was going to, and I can do this offline.

I was going to share with you some of the things we found as the most common concerns with AI and data

Science. The research has shown that they fall into some key buckets.

Human rights and dignity just consent, an agency, environmental impact, fairness, transparency, and accountability.

We found that the people who are inside the ecosystems technology, they consider transparency accountability, privacy, data, integrity, and surveillance as equally weighted, almost insert when they're outside of their

affiliation in these roundtables. So you know, I have so much data here we would get to.

But what I would kind of, you know, in closing I will just jump to the very last part of it. As we all know.

AI and data. science is being embedded into organizations and technology.

So one thing I think we need to use care and

Caution about is over emphasizing just AI.

So what We're really talking about is how do we build healthy boundaries around our digital and physical spaces? whether it's powered by AI or power powered by mixed reality and little bit of AI what does that technology

matter. Technology is a tool to get us to places, and it's the use that matters.

So this, you know, some reports show, is the multi trillion dollar industry is being created by AI

And data science. How much of that projected multi trillion dollar growth is being earmarked to understand and ensure that we build better and more balanced systems with healthy boundaries? that we integrate the impact on people

in environment into our design? Basically, how much of that 15 or so trillion dollars are going to make sure that we create, serve, and protect the people that we are committed

Or do we say that we're trying to protect or at least don't break stuff too much and negatively impact them so that our social media we can engage in social media with delight and excitement without worrying about the threat to

elections and democratic process. When a digital platform is being accessed by a child for remote learning, we don't have to worry about predators and mal-informed content being shown, and you know, pushed to them.

And then I would say, this is an opportunity. What would our companies institution, leadership, homes, lives, and world look like if we leveraged what we are learning from AI and data science?

What's being reflected back at us the world we're creating to build better systems that we *say we want instead of continuing on our current course and amplify existing imbalances, gaps and disparities, and

that's really where I would end is we need leaders and That's why we're creating a leadership program and hub.

I invite you to use our platform to create our idea labs multi-disciplinary pop-up idea labs to, you know, 2 and a half hours. we're able to come up with recommendations with people who usually don't

agree. and we need these leaders to have the courage to ask the hard questions like people here today, and be willing to organize this innovative ways to navigate through these opportunities and challenges.

That's why RI labs were building a leadership program and I have to hold multi disciplinary discussions, bring examples and resources. because that's what we've heard you know beyond talk like what are people really doing what's

really working, and bring a deeper thinking about the future of technology and leadership, and do it as independently as possible, with little or transparent conflict of interest. because in the end the way we design our world will design us Thank you

Thank you

FERGUSON: thank you

very much a lot of important questions that I hope

We'll drill down into but during our Q and A thank you next we're going to hear from Jonathan Stray.

He's a senior scientist at the Berkeley Center for Human Compatible AI hope you hope you've done your hand exercises to be able to hold down that button for 8 min, or so

STRAY: Thank you very much. good to be here. So I have had a long career in how information and technology intersect.

I was a computer scientist here in the valley for about 10 years.

Then I moved to New York and got into journalism. eventually I taught the double master's degree in computer science journalist.

Columbia, where I used AI to find stories, journalism.

Now I've, moved back here. I've switched to the other end of the pipeline, and now I study recommenders at Berkeley. even if you don't know the word I'm sure you know what a

Recommenders is -- These are the algorithms that select and personalize information across a variety of domains.

They are the largest deployed AI systems currently, serving billions of users.

They store information based on the products we buy, as we see, even so I am here to try to say a few concrete things about the challenge of regulating

Recommend. so first for clarification. although I will be talking about social AI I'm not talking exclusively about socialAI, and I'm not talking about content modern.

So I'm talking about what the ranking of items that that people see as opposed to which items should not be simplified.

And I see 3 major challenges to policy in the area:

First one is there is really no neutral baseline in most cases.

The second is that, we don't have standardized measurements of the outcomes we might be worried about, such as depression or medicalization, or even environmental externality from buying too many carbon

products. And then the third question is, everybody agrees we should have transparency

But that's transparency of what? We'll take these one at a time.

There is a proposed law called the Protecting Americans from Dangerous Algorithms Act, which provides exemptions and immunity from liability

If a platform sorts items by and they have the listener chronologically by average user rating alphabetically, randomly, or by use and downloads, are similar.

The underlying thinking here is that these are somehow unbiased or neutral, and therefore deserve legal protection.

I don't think this makes a lot of sense for a variety of reasons.

First of all, we know that sorting by popularity is not cool.

Just because something is popular doesn't that it's good although popularity can help there's been exploration of the missions under which pop popularity correlates or does not correlate with... I think maybe a little

more surprising is the idea that a chronological. and there's a number of reasons for this So first of all chronological is very subject to whoever posts so spam, or that brand who wants post 50 times a day

when your friend only post once a day and also chronological sorting has no way to reduce the incidence of stuff, which is, you know, not in violation of a policy, but maybe not really which one so called borderline...

there's a variety of evidence that's just that people are always going to post more and engage more with stuff.

that is right up against the line and not over it. So when you start to actually try to make these systems work in practice. you find that these simple baselines actually don't work very well,

They're not things that you could probably and even trickier problem is that chronological kind of works as a baseline

If you're thinking of twitter or Facebook or a product which designed around manually following a full number of sources. But it doesn't make a lot of sense for Youtube or Netflix Spotify Google News Amazon etc.,

where a scrolling list of every new item would just(?) The second difficulty.

I want to talk about is we don't really have a good sense how to measure the outcome though,

Rather than trying to regulate the algorithms that are, you could try to write regulation around.

What the results of these systems are. Doubtless you have seen the coverage of the Facebook files last fall, and you probably heard a third of the young women who add body issues body image issues felt that

these were worse when they were on. So this actually comes from a focus group with 40 or so young women.

And didn't involve any platform data at all.. and so we, as outsiders.

This conversation are left watching the Wall Street Journal and Meta trade tweets about how to correctly interpret.

What a few doesn't come said. This is no way to set policy or adjudicate the question of whether social (?) but interestingly in the Facebook files, there was a much more interesting set of documents which reported on an experiment

with a 100,000 users, in 9 countries. What they did is they surveyed these people, and they were asking, or something called social comparison -- negative and positive social effects.

Negative social comparison is when I look at someone and say my God, I'm never going to be that beautiful; positive social comparison is when I look at someone on I say, Wow, this is really inspiring I'm going to get fit!

And so they asked People, you know, do you experience negative, possible, and positive person?

And the answer is, both people report both of these experiences quite common.

About 10% of users report often are always experiencing a negative social comparison.

But seriously, it depended on which part of the product they were using.

So they controlled for a bunch of variables-

Age, gender, location, frequency, abuse. so on, and tried to figure out what correlate with experience to make social comparison.

And the first answer they got was that people went exposed to celebrities in feed felt worse, which is one part of the product felt worse.

But when exposed to celebrities, in little stories which are these like little video clicks they

Felt better. They reported more positively so it wasn't even a question of, you know.

Is social media, good or bad. it's both in different parts of the products, are predominantly one or the other.

You'll also notice that we're trying to get a causes here.

That's the purpose of rolling for all these variable and in general

This is quite challenging it's difficult to know if people are depressed because they are using social media, more.

Really the only way to disentangle through experiments.

And these files also show an experiment where they try.

Turning off the indicator of the number of lights, and they got about a 2% improvement in negative social comparison.

However, at the same time they found no improvement in overall.

Well being from the pro (?) So where does all of us lead it it's easy to talk about trying to regulate or monitor the outcomes of recommenders?

You could imagine a regime almost like the EPA, where they set allowable levels of certain types of ? but which outcomes What do you do

If the product has both positive and negative outcomes, or different parts or different features of this same product at their account. and should we be looking at a list of more specific indicators or an overall well, being measure? And even if we can detect

change. how do we know that these are caused by the platform?

So especially because there are thousands, literally thousands of different metrics

We might monitor this actually, an I EEE standard all I to release 70 10 well-being metrics in a is which list hundreds. The final challenge.

I want to talk to you about today is transparency one.

Everyone agrees that we should have more transparency around how these are use how they operate. but there's less agreement about what should be transparent.

So let's run through some of the possibilities: Transparency of Code.

Oh, Well, releasing the code behind this platform, aside from being sort of an ill-defined question.

So how big is that scope right does it include the database that it runs on and support? what you're going to end up with is millions of lines code that are really only understandable by specialists and don't tell you what you want

to know, anyway, which is what it's doing to people because all of these effects are interactions between the technology and the user.

People have proposed transparency and what the major features or parameters of an algorithm.

It's an interesting idea, but it sort of runs into the same problem.

Well, we're not talking about the billions of weights in the neural network,

We're not talking about you know just the very broad starts Well, it's based on the number of lights and

You know how often we already know that ..so it's something in between

But so far, at least, in the policy community there hasn't really been a specific different.

The next possibility is to release user data. Now obviously there's an enormous privacy.

What we'd really like to talk about is the outcome, of what happens.

That's very challenging for the reasons I just described.. what we could talk about instead is what we in the recommended community have been calling user trajectory--

So that is what the user saw and what they did their path through the system.

Now, obviously this too is very private. but there are emerging techniques, as we saw with the differential privacy approaches applied to the basic social science.

One data set that might allow us to do this. And really we would like this.

as an ongoing axis. So we want an API that gives us privacy

Protected, aggregated information, on what users are seeing and doing over a long time span right.

Many of these concerns are problems. what we might expect to see emerge over months or years rather than...

FERGUSON: Jonathan

I'm just going to give you your 1 min heads up if you're perfect to wrap up I know you're close

Talk about risk assessment. it's an interesting idea It would have to be extremely domain specific.

The risks of a news recommender are very different than the risks of Amazon, or even Spotify. Another idea which is not emerging in in conversations, but not yet much is

The policy is the idea of a change log: what did you change in this platform for each major chain? What were you trying to accomplish,

What was the data that you had at the time which led you to make this change?

The motivations and the reasoning and the data available at the time are going to be far more interesting than post talk analysis of platform.

But actually the transparency possibility I'm most bullish on,

Not surprisingly, since this is what I'm currently working on :is research collaboration between platform and academics. and I'm talking about more than simply access to data, there is something called the Platform Accountability and

Transparency Act which would allow the FCC

To mandate certain type to data access. this is very interesting, and I think it very interesting, model for who gets tied or who gets access.

However, there is our a lot of limits to what we can learn from observational data, but from data.

Access is not enough. What we need is to be able to do experiments to

If we ever want to figure out what causes what we need to change something.

This is difficult. It requires protection of platform user and public interest.

But I would like to see, and I believe it is possible.

To devise contractual structures that would make these sorts of external researcher.

So in summary, I would say 3 things: Learn to live without neutral choices,

In particular, the word amplification assumes that there is a neutral baseline to which we can compare this.

I would say, specify how harms are to be measured, and who decides how they are to be measured.

And finally ,enable social science Third: cause that's the only way we're ever going to be able to answer the overarching questions which are by nature,
FERGUSON: Jonathan, thank you very much final panelists on this

panel is Doug Bloch, Political director of Teamsters, Joint Council Number 7, Doug.

The next 8 min are yours

BLOCH: fantastic, thank you and I'm very happy to be here.

Representing more than 100,000 teamsters in Northern California.

The central valley and Nevada, and I think my job is to be a little provocative today.

But the truth is, I do want to stay I appreciate all of you and the employers that you represent, because if they're not making money, then there's no money to share with the workers I represent that includes the bus drivers for

salesforce, and for length in who make very good wages and benefit.

So yeah, I also had the honor to serve on Governor Newsom's.

commission on the future of work here, and based on what we saw there.

I became convinced that all of the talk of the robot Apocalypse and robots coming to take workers.

Jobs is a lot of hyperbole. I think that the bigger threat to the workers I represent is that the robots will come and supervise through algorithms and artificial intelligence, and sell it.

So my job and people like me. we have to empower workers to not only question the role of technology in the workplace, but also to use tools such as collective bargaining and government regulation to make sure the workers

also benefit not just employer. Not just so let me I'm kind of a history buff, and I want to start with the Industrial Revolution, which was a time when changes in technology radically redefined our relationship to work as we moved

from an agricultural to an industrial society, and it allowed industry to extract tremendous levels of efficiency from workers and tremendous profit.

You know the we all benefited from that. Obviously some workers suffered horrible wages and working conditions, and we can all read about that.

But in response to that we saw the beginning of grade Union, and we also saw the luddite,

I and all these worker group did everything in their power to fight against new technology.

For example, the lamp lighters Union, who smashed light bulbs, as cities electrified.

The textile workers who do destroyed machines via acts of industrial sabotage. You know this has been referred to by some historians as collective bargaining by riot.

And then, either case, industrial strife combined with massive unemployment.

The depression led to the adoption of the national labor relations act of

1935, and I wouldn't be here without that, because the NLRA is what gave workers the right to organize a union and collectively bargain. And then it wasn't really it was in 1960 that

we saw OSHA get passed under President Nixon. Now so fast forward to today

We have machinery and production standards regulated by Osha,

But the digital tools that we're talking about today are largely unregulated and operating behind theme, and I think it's worth noting.

The intent of the NLRA was, it was the policy of the Us.

Government to protect the free flow of ..The authors believe that the best way to eliminate industrial disputes was by establishing a balanced bargaining power between workers and employers, and I think that relevant

so let me talk a little more history, and then talk about what the teamsters are doing.

We started 1903 driving teams of horses

Delivering milk bread ice beer more and 10 years later we saw motorized trucks going to production, and there were a whole bunch of people in the teamsters union that say "Yeah, that's never going to happen they'll

never replace the horse carriage" But our President at the time saw the technology was radically changing.

The freight moving industry, and we got out in front of it and began organizing truck drivers, and we asked our employers that operated the horses carriages to train our people to drive the trucks.

Point I'm trying to make is we were not afraid of technology then, and we Aren't

Now. but we are going to question about It you know we're going to question, What's the purpose?

Make sure they're regulated and make sure that workers have a voice in the process.

We've actually been guinea pigs for a lot of the stuff

That people are talking about here, and thanks to us and our employers, we all enjoy this technology every time we get our we all benefit from...

So let me talk about our largest employer UPS. who introduced something called the Dyiad in 1,990 the delivery information acquisition vice which the little handheld computer our members get before they

get in the truck. Yeah, it's what collects the signatures,

It scans the bar codes it's got all the tracking information, the routing, it's all in there, and by 2010 ups had added the sensors that we all have in our cars.

Now --tell us where the car where the truck is how fast we're driving, how hard we hit the brakes idling time fuel consumption, how long it takes to make deliveries, even tells them whether we have our seatbelt on.

on the supervisors can call us through the diad tracks our hours.

It collects all this data and sends it back to management.

It integrates with a navigation system called ORION, which is just like the map program we have on our phone, except it's on steroids.

Orion, and it's, fantastic. because you put it all together, and it tells our members how to get you your stuff as quickly and as deeply as possible, And I'll give you an example orion make sure we don't make

left turn, because it takes longer the way in traffic and it uses more gas.

It's really amazing technology. And this is all called telematics in trucking and used right.

The technology is good for workers, for corporations, for customers in the climate.

Certainly good for ups who had their most profitable year last year, and, as I said, you know, a teamster driver in California makes the \$100,000 a year fully paid family health insurance and a pension

Even if you have a high school ed, so that's a win for everybody.

The big question for organized labor right now and worker advocate

And this is proof for ups because we're going into negotiations this year for 325,000 members,

The largest collective bargaining agreement of its kind.

The question is, how does all of this technology relate the production standards hiring, and discipline?

So let me just tell you how it works in our ups contract, and then wrap up. In our union contract

It says no driver can get fired because of surveillance technology unless they engage in dishonest behavior.

A supervisor has to directly observe your behavior -- you can't get fired by an algorithm.

You get a verbal warning after repeat offenses, and you have due process through the grievance procedure.

And finally, the contract says we can meet with ups if we think technologies being used misused for this.

Think about a ups driver making 100 deliveries a day, that's 325,000 drivers

Collecting all of this data, and it's good for ups to build the algorithm

But we have to make sure It's not used against us, and how we deal with Technology is very important

Not just for our members, but for amazon drivers and other workers that don't have the collective bargaining. If the fight I'll stay this and close if the fight of the last entry was for workers to have unions

and have protections like Osha, I honestly believe that the fight of this entry or workers is going to be around data, and that workers should have a say in what happens with it, and to share in the profit with it, and I would encourage

you all to share that...Thus we go forward. Thank you.

FERGUSON: Thank you so much. We've got 16 min for questions which is fabulous.

DELANEY: Yeah. quick. Question personal. Thank you all for the terrific. remark.

So Doug question I I'm so glad you're doing this work.

I mean, it seems to me that every protection. a worker has no matter what their job, no matter whether they're unionized or not, is because the Union normally fought for those protections, so it's important that you're working on this stuff how I

mean? No. I I remember reading few years ago that a big retailer had developed kind of a algorithm where they would look at the first 30 min of the store activity.

How many people coming in the store? what's happening the parking lot?

They'd look at the weather and they'd look at other events going on in the community, and they'd make a determination how busy the store is going to be.

And then they send out text messages people saying you don't have to come in.

It does look like. Yet those people might have arranged childcare whatever the case right, which is, you know I breaks.

Most people is credit up there. So I mean, how should we think about those things?

Well, I think that

BLOCHL: Yes, I can see how that events yeah, well, So here in California, yeah,

Yeah,

Oh, I'm sorry. Yes, I think that's a wonderful example the one that that particularly concerns me is I spent a lot of time for many years at the table with Uber and Lyft, and we were genuinely trying to

figure out if there was some way to accommodate their business model and give workers the ability to make their jobs better

and I think part of the concern is that their wages, the earnings that workers make are based on those sort of dynamic conditions.

What's the Supply and demand at that location, that whether exactly And so I think that that sort of unpredictability about how much money am I going to be able to make today is part of the dangers of the algorithm.

JONES: Sure. so let me take somewhere in your mind you're having dinner with President United States.

The majority leader, the Senate and the Speaker of the House represent what are the recommendations?

Very specific recommendation to make the each of them. If you only had 60 seconds?

STRAY: I have to admit I was just looking up the schedule for day

Can you repeat the question?

JONES: Yeah, yeah I mean you're sitting with President,

The majority leader of the Senate in and you have a minute to make a very specific recommendation.

What would it be?

STRAY: in my case It would be don't try to make detailed regulations on what the algorithms are doing..

Instead figure out how to get researchers in there to answer the questions that you're concerned about.

ROY: I would report Can you hear me? I would repeat.

What I had mentioned before. is first of all don't trust anyone who tries to give you a recommendation within a 60 second framing and question.

That framing. If it's such an important decision, why do I only have a minute?

and I would ask the per people what their goals are

Are they serving the citizens of their country?

Are they trying to create an unnecessary tension between worker and those working for?

Why, isn't there a collective decision making because what's good when you workers are happy, then you make great business.

So what I would say is if we're trying to build this trillion dollar industry,

What investment can you make to direct your resources to build a kind of resources and leadership that you need when you're not totally hijacked by a few companies'

Interests, government, academics, all of that. How can you restructure intelligence and knowledge, and free it up from there?

So I would ask for redirection of the resources to an independent institution that serves the people and well-being of the planet which will be showing up this country as a leader. Not just a competitive force, but a leader

That it's been, you know, a moral leader with a moral compass.. so I think it's an investment that has to be made.

Not one single decision. Does that make sense?

BLOCH: Well, obviously, I would just ask Siri to answer the question for me.

Sorry bad job about our official, intelligent I had the opportunity to meet with Governor Newsom

Speaker Anthony Rendon, and set up proton Leader Tony Atkin, in California.

And my recommendation, and the recommendation of our Union was to establish a future of work commission.

because, as my fellow panelists at 60 seconds are not enough time, but the ability to bring together diverse group of stakeholders, including people that are represented here today to hash out how we deal with these very complicated problems//

think that's the first step

ROY: but that that's what I said, Yeah, I add just one comment: I'm pushing it's like you know, if we look around this group.

I think one thing I would also ask is whatever you establish whatever we're organization mission established

Let's make sure we bring some diversity of voices and experience and skills for that, because unless we've experienced the problem.

We don't know what we don't know and so it's a false representation when we some of us, you know, are very privileged

People try to make decisions for people let's leave room for their voices.

FERGUSON: other questions?

KATURI: Yeah, okay. you made a comment. Not really you said the baby to sign the little designers that's what punchline

The question is anything we do ultimately will affect maybe it So where did you draw a line

If you're thinking from a policy, back, where do you draw a line and say, Yep, to be this affecting us not the right.

You really go about building some structure? on you

ROY: I think you're saying, How do we get past paralysis by analysis- try to make perfect decisions?

Because then we won't do anything and the thing is you know we sit in innovation better.

How do we iterate in the way that's that that we're starting from, and I think our co.

My panelists did a really good job kind of layer that in the recommender area, the way you know, when we sit in rooms with leaders, The way we've thinking about it is fortunately or unfortunately, the bar is so

low that anything you do kind of in that direction works out really well.

So, for example, there's a legislation that I have looked at that I was advising someone, and it was a privacy legislation, and I'm not a regulatory lawyer. you could tell that it was

crafted by a company that bill facial recognition, software...

We were starting there. not crafted by them but maybe highly consulted

I I don't know I don't want to make it assumption, but it fully was starting there. and so what we say is, what's the tension?

What's your goal? How can you start the bill for protection? So first thing we say is what would happen if it's you know. let's start from places.

That aren't that you know and how could you know this privacy or facial recognition software was being used in minors or vulnerable.

What protection could you use? Could they opt out to some design?

Things would be to opt out. Are there alternative? Are they valuable or common?

What does that look like? and they're actually examples so we haven't started making examples of people are doing things right, I think.

Is there so much focus on before now, and we want to recognize them, but also show

That as an example. So in that place it was just that in the opt-out do they have an option?

Can you protect the minor? Can you protect somebody who doesn't understand technology, like, you know, we have to many children went in

They didn't realize that what they were recording on YouTube and putting in there with.

You know their prosperity, Everybody could view it. They were in their living room.

They were in their rooms recording ?. we've got to create better. So we can start there...does that answer

your question?

KATURI: Jonathan, quick comment, you said you're enabled more of social science species.

There's so much happening is What I believe Why do you specifically identify that as an area

Is it because you don't believe enough is being done ? and second thing is port needs to be done to drive that?

STRAY: So there's tons of research on social media in particular and recommender system more broadly.

It's all hampered or almost all of it is hampered by a few fundamental problems..

So what you normally see is, see sort of toy algorithms with real users-

So a researcher will implement their own sort of lab recommender system and test it out.

Or you see, real algorithms with bots. so realizing it toy users. Or you see observational studies from the outside. which you can learn some things about

But not everything. it's for most of the questions we are most concerned about their fundamentally causal questions, for which methodologies other than experiments are not going to us satisfying answers, and I think one of the things that

emerged in the last few years of research is that it's just extremely hard to understand what is happening

even if you have access to the platform data which few people do.

So I would say, access to platform data which many people are talking about, which is a great improvement, is an excellent start.

But even if I had that, there are questions that you could ask me that I would not be able to answer.

The most concise summary I can give of this is the questions we care about are the causal questions,

FERUGSON: Igor, I'm going to give you the last word on this

I your hand up very obediently.

If you want to add a comment here before we close out this panel we'd love to hear from you again.

JABLOKOV: Pretty well and

I appreciate that into the previous gentleman's question I'll say this: put a hammer Jimmy Carter's hand, and he'll build you a habitat for humanity put that same hammer in Ted

Bundy and you'll get a dead body. the turbulence.

You're seeing with these various engines such as facial recognition

Is a normal part of innovation and when something exists, we figure out the boundaries of where it fits or doesn't fit in our communities.

I co-wrote such a piece in the Diplomat with Lieutenant Col Vinman,,needing to be developed in a way that's authentic to our values so this Commission

and the recommendations. If we talk about that 1 min minute moment, and the recommendations of the of Eric Schmidt's National Security Commission on AI are an absolute step in the right direction. We need things like what

Startup New York program is but targeting AI and taking to a national level to reduce the friction of future innovators, such as everybody in this room. Immigration reform is obvious.

A new National Defense Education Act is an imperative, with scientific literacy moving to the forefront.

AI, as as many of you have said today should not be an ivory tower construct, and needs to permeate our society so well done

On convening this and looking forward to our future interactions.

FERGUSON: Thank you so much that's a great way to close this hour's panel.

Thank you to our panelists for your insights and I hope you'll remain available to us as we move forward in our work

on this Commission. I'm just excited I tried to reach the very high bar set by John Delaney from the last panel, and we're going to be kicking it over to him.

We'll take a couple of minute break I guess and Congressman Delaney will be leading us in the next panel.

FOURTH PANEL

Thank you all,

CHATTERJEE: Recommendations shown to her by the ? I mean he receives the invitation to connect from Danieal, and can choose either accept or to climb that in.

If I'm only accepting invitation then daniela and I may become connected to each other, and become part of each other's name. a user's network leads to several important downstream effects on minton for instance, ?

job applicant is 4 times more likely be hired in the company where they have met, and more than 40% of all the connections on LinkedIn are initiated by the P. Amp.

..and hence it's a very important driving factor for how people build their networks and the ramifications of those networks.

....And you am okay, is through multiple different initiatives.

The first one is by looking more closely at the product usage fund.

So in Pimk.? The different steps of this funnel would include, the candidates which are generated by the August.

That would be considered to be shown to a member. the second is the actual impression of candidates that are shown to the member.

So let's see a large I'm picking from the candidate set back forward.

Member. The third is the number, the invitations which are being sent out as a result of those impression.

And finally, the invited, deciding to connect or not.

So these are the 4 steps in the qmk funnel ...when you're trying to understand if how the product is in used by different groups of members, What we look at is the representation number of each group through different stages of the

funnel, and we use the previous final step as a reference distribution to understand how the different groups spared and behave through it.

Analysis helps us to understand which portions of the funnel are working well and not working well for the program.

The second aspect that we look at is logarithmic finance.

For Zoom Macfare, Pennsylvania.(unintelligible)

But one key thing that we wish to achieve is ensure that we have equally opportunity for equally qualified members.

What this translates into in the QmK product is opportunities equivalent to exposure for being pressed on the product, and qualification.

The definition we choose is essentially the outcome of getting invited, and the invitation means, or essentially a connection being formed.

But these 2 definitions of opportunity and qualification beyond various statistical tests.

Boring from the finest literature as well as wrapping it to specific support.

We look at 3 different approaches in our evolving transport.

The first is P training. An example of this would be adjusting the weights of being data points

the general objective is to improve the system, parading in more performance for various groups.

The second bucket of work is in training or interventions in the training process itself.

An example here would be adding appropriate regularization functions.

This can also have been market performance, improvement, as well as passively improving friendship; and the third one is a post painting intervention, which is, after the training is done.

So examples of this would be a score booster or a read anchor.

This is the most direct option to enforce the chosen definition of friends(?), and hence can be a great means to provide needed to leave to potential just frequency in the model being train However, the primary

drawback of the approach is that it may not actually improve model.

And finally going back to the impact part of our intended impact framework, we have continuous monitoring of our systems, especially of all the changes that we are defined.

So we use randomized testing or av desk to understand both the intended, and especially the unintended impact of different of our changes on different users. So in closing it's great to see the awareness and amount

of factory search and thinking, happening both in industry and academia, to make the world in general and our products and platforms in particular.

And we're very excited to do our part.

DELANEY: thank you Shaunak shit that next up is Jacob Snow.

Who's the senior staff Attorney technology and civil liberties at the ACLU

Thank you, Jacob, you've been very patient.

SNOW: (unintelligible at beginning)

So you know, there the title records computers and the rights it's first page quote.

FERUGSON: not sure if your microphone is on Okay, there you go I was pushing but not on the button.

So caution to everyone is an important point. So the report insisted.

SNOW: The report insisted that the challenges raised by computer technology should be examined broadly as important issues of social policy rather than is narrowly conceived.

Questions of record, keeping technique or imaginative system sign.

I think this will pick on special relevance as we start to think about how AI systems algorithmic system should be regulated.

These are not narrow technical questions about how to design a product.

They are social questions about what happens when a product is deployed into a society, and the consequences of that deployment from people's lives that includes safety and equity concerns that are within the boundaries of the product but it cannot

be limited to those equities in the back of the product.

And so I think, asking these questions, we should ask ourselves: Are there certain technology for certain applications of technologies that should not be that should, of certain actors at all?

Are there red lines? And but second question is, that is, how can you tell where the red line are?

And I think that it's important to ask the people who are affected by a system.

Insult them the design process, or building a system, and not have potentially engineers who occupy a certain privilege and often a demographic.

But ask the people who are affected. So, for example, what would the undocumented thing or workers for people whose communities are devastated by mass incarceration?

What would they think about supercharged surveillance, or what would they think about predicting crime with an algorithm?

They say we need narrow specific nuanced rules, or they would say, or they already, they say like hell No, I don't want any part of that being applied to my community or or people that I care about. So i'd like to talk

about 2 particular examples of technologies that I think should really be on the other side the red line.

One of those is face rec.. we've heard that about that today, and I think for a very different reason.

There are applications of visual recognition which I think at least officially seem like.

They might be valuable, missing person, or tracking down a dangerous criminal.

For example, but consider building the infrastructure for that system.

Both in technical terms and also in cultural terms, and how that infrastructure is necessary to build that kind of solution and realize that any tool that can find a missing person and find a political dissident; any tool, that can be criminal of

a crowd, and do the same for an undocumented person.

For a person who has received reproductive health care.. and we're living, you know, in a time when it's not necessary for people like me for civil rights and privacy habits to say just imagine if technology fell wrong hands

it's going right directly into the wrong hands after it's been built ...and so the companies building those tools have responsibility.

But the legal system is definitive. ACLU has been engaged in this work extensively since for a long time, and it 2018.

We released our report focusing on the back of the Amazon end of their on the next panel.

Forward here from that. was a Amazon on the selling facial recognition software too law enforcement and in 2018 as well.

We release the results of the test. where, we took 25,000 publicly available mug shots and compared those in Congress and out of

Every member of Congress got 26 false matches.

This portion color from the United States Congress on and the goal of that was to underscore that the errors in these systems, but also when they're accurate, has implications for people's lives and not just

people who don't occupy our fields...in 2019 San Francisco became the first city in the country and I think in the world to ban facial recognition used by governments, and since then bans have been in place around the country Oregon, Washington, Massachusetts,

Virginia, New Jersey, Pennsylvania,

Wisconsin, Mississippi. There are a lot of local governments leading the way here, putting in place regulations

that are much stronger than at in some cases State level and at the Federal level, and we also brought a lawsuit against the company called Clearview AI for

violation of Illinois by metric information, privacy, and their view is you haven't heard of it. Sells a tool.

It essentially identifies anyone on earth. and they sell that technology on including the Federal Government. and in Illinois there's a law... the Language Recognition Privacy Act

That requires people to be protected (?)

It applies to fingerprints, irises as well, and the ACLU you represented the plaintiffs, suing them for violation of law...and it was settled and it put it place restrictions on using through you Clearview AI

by any private party in United States so Illinois law has.

Implications that protect people everywhere in the United States There's an Illinois law that has an opt out for residents.

Those 2 takeaways from that facial recognition work first.

Sorry to say, but I think a private right of action where people can actually work their own rights

Some block is so I'm not sorry to say it but I know the Chamber of Commerce isn't a fan that perspective.

But I think it's actually really important. state laws protect people outside of the State.

So to preserve the ability for States to move first faster, to be more protective.

And then also regulations that are not specifically about artificial intelligence or algorithm systems

are also AI regulation. And so, you know, this was a

Biometric privacy law, passed in 2007

I think, and it's privacy Law but it has real implications for AI use, I think we can think a little bit more broadly about what constitutes AI renewals.

Realize that worker protections, housing, support, privacy laws...

All those frameworks who place deeper social health related and economic protections that limit the harm about algorithms.

The other example, I'm going to talk about is in the family regulation context. In Allegheny, Pa, there's a system that generates a risk score for when a complaint comes about a potential childhood treatment event and that risk score

is generated using comparisons, past examples. where people have been targeted by family regulation system in Pennsylvania So essentially means the people who've been the subject of investigation and prosecution by family

regulators in Pennsylvania we're more likely to have that happen to them in the future.

So you know that system is pervaded by a lot of the structural and fundamentally racist policies that allow communities in those places to be separated and treated disproportionately

more likely if, for example, they're black, or poor family.. and so the risk is to make ask in that regard how can systems like that you justify (breaking up here)

I really appreciate today the thoughtfulness,

Thinking about transparency. give a larger social impact.

Particular protection, safe harbors, bias assessments, all of that.

Those are important, absolutely vital conversations. The message I'd like to leave you with,

is a big regulatory framework doesn't barely articulate applications, but should be off the table, or diverse, inclusive, democratic... (?)

DELANEY: Thank you, Jacob, for those

insightful comments. Next up is Roy Wang, the General Counsel of Eightfold AI.

WANG Thank you commission for this opportunity.

So today one of the a few topics about AI practical observations that I've seen.

First of all, let me introduce myself. I'm General Counsel of a Eightfold AI...which is a software company that applies AI human resource technologies.

Some more different use cases, different solutions different. I personally, am from an interesting background.

I. I have a PHD. in AI. from University of Illinois.

Many moons ago. I thought that wasn't challenging also went to law.

And then, you know, went through law firms, in house staying in the area, and most recently at Eightfold.

Eightfold as a company has served many private clients and public sector clients.

So we have used AI to help employers those higher, and maintain.. such as internal mobility, succession, planning, and efficiency in hiring, etc.

To support both US customers and European. So I want to offer some practical observations.

I had personally observed in this space Generally speaking, I see that really recently there's been a negative

Perception in the media about Government role in AI, and a lots of headlines you read in the papers are so also States, also

So Government agencies are tracking now, or hindering the adoption of it.

And I think so unfortunate kind of deception in the market. and I want to point out a couple of things that I see that AI can be very good at that.

That People may under appreciate. One is that in the Hr. space

There is the concept of disparate impact . and AI is ideal candidate for disparate treatment.

I think that's kind of a consensus you say I, you have to assume the designers thinking average are not out there to discriminate or

disparage a particular group. Certainly we need to put safeguards around that. Disparate

treatment is a natural area for AI to excel. Just for you.

You can also deal with that active monitoring for careful design through human centric application.

So those are things Once you take it careful. safeguards around it are actually worth AI shot.

Now, why join this company? I personally experienced a lot of friction in

Unemployment why submit my resume to companies.. I don't know why they reject me, or don't look at me.

It could be my name, it could be, you know, certain perceptions around my degree, or certain things. And then those lack of transparency are highlighted by the use of inexperienced

Recruiters at companies or people who just have limited knowledge.

Human nature. you don't know everything about what kind of schools are out there when you come with the name of the school.

You don't know how what kind of graduates came out of this and large a lot of turnovers in you know HR profession.

And so that exacerbates the problem. So AI can actually be very well adapted to solve those issues.

They can suggest. make suggestion. They can highlight the skills You might need for a particular role.. like in our example. we can see and have made AI to have jobs come to you as a candidate.

You don't have to search ..you actually can have jobs recommended So it serves both sides the market, and I agree with the gentleman line.

Love that in thinking about these regulations issue you do need to think about the experiences on the receiving recipient of the use case. right?

So in our case is post employer, and the candidate if you have make it easier for candidates to apply,

Make it easier for employers to look at the candidates. Then there's a synergy could be saw ..and we have observed that AI can have a massive improvement over societal impact.

You want during covid massive on employment for the ... speed, and if you can find efficient way to elevate the hiring efficiency fairness it's, I mean the direct monetary benefit to

the state's treasury it is the it's A.I

it's very, very large scale ...and another thing is

I personally have dealt with a lot of European customers in general.

We, we all know that you European customers, care a lot about privacy as a fundamental fact.

But when it comes to AI, if you resolve the privacy concern, I see a lot of embracing of AI technology, because there's a general sense that hey

Our countries in Europe are behind in technology, development, adoption, unlike US other country.

So there is a general I wouldn't say I can't quantify that.

But there's anecdotal evidence of Europeans have customers who have embraced a lot of that...

Companies, on the other hand, are drawn to this headline news that somehow AI is the killing

Our future ,replacing jobs, and they're not seeing the benefits of it.

So that that's something that I think hopefully we can all pay more attention to in how we regulate how we talk about regulation.

Another thing I want to offer is I've also seen companies are due to historical practices.

They just don't have to systems or skills or personnel to analyze data.

Now with the digitization everywhere, AI can bring data to them as scale and do a lot of analytics.

And there's a fear that what if this analytics show that we in the past have not done things right?

And so how about we just don't look at it date? and so

And that's also perpetuated by lack of safe harbors in regulation generally, you know, loss rarely, or don't also have safe harbors building.

So when thinking about regulations, perhaps we should think how to reward or protect, encourage that kind of behavior where they self audit, itself

examine the data and not be afraid that if there's a

Historical inadequacy through incremental improvement that they are not faulted for their efforts.

And lastly, I Want to say that you know what Covid has has kind of shown us.

Is that our workforce is changing. Lots of people are remote,

And lots of people have different skill sets, and half life of the skills are decreasing.

What that means is aperture of looking at a candidate for any particular job is wider.

Lots of people are applying for a different job, and mobility speed of how society's moving.

So in in that sense AI can do a lot of good here that that humans get help from.

So I I think that goes to my first point is you know let's take the fear out of AI and let's talk about the beneficial use of it.

Last thing I want to mention is the you know, the gentleman on the left mentioned.

There's a law in Illinois banning or requiring consent before use of biometric.

There are other laws like that in different states, even different cities.

I I would say, I'm very glad that the commission is looking at this, it was simply from different stakeholders that my wish is, if we can coordinate all these efforts to come up with a national level or even international cohesivity with

Europeans that'll be that'll be a great outcome, because I think a piecemeal regulation will have chances of conflicts that we just heard you know .. Il law has applications to non-Illinois

Residents,,, were just so interclined today that it's unavoidable that a local issue becomes a national issue.

So we should pay attention

DELANEY: Thank you, Roy. And then, rounding things out is Jonathan Budd, the chief of staff for software at NURO.

BUDD: Alright yeah great, thank you is working right I wouldn't say it works good enough, Alright.

Oh, thanks for having me. yeah, mentioned. I am chief staff for software at NURO for some context.

And NURO is a robotics company based in mountain view, where our mission is to better everyday life or robotic.

Specifically, we are doing today by building an autonomous vehicle.

Custom-built to empower local commerce and goods. We do this with a custom plug vehicle right now.

It's called r2 can come out our r3 on a self-driving technology that you transit goods for some of the day.

The largest companies in country, including our partners, Kroger, Dominos FedEx, as well as the future.

Ideally Anyone who wants to go from point to another. I'd like to talk to you a little bit about how our technology works, and then go through a bit of the use case,

For it. And then how we think about how this technology impacts communities, work, for context, self-driving cars at a high level do a few things:

They start off adapting to the world around them. both, where we are in the world and all of those. At Neuro, we use a variety of senses for this cameras radar.

One thing that you know, we think matters a lot about our approach is, we see the inherent difficulty in any one technology solving this problem.

Modality is, and one thing like what is apart from cameras, all the rest of us don't even see colors, But we feel very confident that any user on the road regardless of what they look like will be seen

by our car. Yeah. So with the self-driving cars, then rely on

Predictions that think about. what are all these other agents in the world

do, and particularly how are they going to react kind of an interact prediction problem based on our once we you know, you know, computed our idea of what the world's both like in the future, and how we want to act in it and then actually execute on the plan,

and do this over and over again, you know, Get the groceries but happy to go into more detail and any questions about the technology...

But with this technological force we then have a few use cases.

As I mentioned earlier, our primary focus on local goods.

And this is because today about 40% or 40% of all car trips in the Us

Are for goods, still it free. Several 1,000 pound car with the human driving pickup, a loaded which we just see is fundamentally in efficient and a waste of time as well as you know, huge safety and possible environmental as well. We

believe our vehicle provide a better alternative that is safer, and more efficient, and generally a lower cost option.

The other big component of this is providing food access to marketing. Today Goods delivery is still a growing market.

in the pandemic we saw it greatly one of the big areas of demand wasn't communities that do not have any access to supermarkets or other sources of

Fresh food, and today a lot of these people are forced to either take public transit or own

Their own car. we believe with our technology. we can offer a service that is low cost enough that almost anyone in the west that's viable deliver... I want to talk a little bit about how we approach this problem

And for us this all starts with safety.

When we built this vehicle, safety was top of line starting with the vehicle.

As I said, we have a custom design vehicle – a Prius.

Think about it as half size of and a few of the key features that we design into it are 1) making sure that it's smaller than a normal car.

This helps both kind of space and mixed up on the road as well as just weight.

So there is a collision you're less likely to cost damage than your average gas car

Apart from vehicle design software design is incredibly important.

As I mentioned earlier, we rely on a variety of sensors.

Make sure we have done with the area types of failures in the environment. and then we follow a very rigorous process, testing and systems engineering to make sure that we deploy our car.

It is as safe or safer than a human. alright perfect.

In addition our particular approach to problem with having no option and vehicle automatically.

makes us a lot safer, because we can always prioritize safety of other road users over our own vehicle, not to mention the backdoor benefit moving humans off the road. Therefore, reducing overall what one

fact, I can bring up here is you study with which you can get They've estimated, you know, just the fact that we've gotten it of occupant alone. accounts for potential. (breaking up)

few other things that we care a lot about the design of our product

is equity, As I mentioned earlier, there are massive food deserts in the United States that do not have access to things that we have here in the Bay area, and you believe that our solution able to close that gap We you believe that there are over 20

1 million American category that can be served by the product.

Hey? On top of that, you know, we believe building a product meet by everything that we've done a lot of time doing is designing both our vehicle and our software interface to be accessible to as many people as possible; this

includes being a lot of studies with members of the yeah disabled community.

And finally, what I'm going to touch on how we think about impacts our technology on the course.

I think there's a common refrain that self-driving cars will we'll take jobs. But I think that it's important....(DELANEY time check)

Alright, sounds good. I just want to call out: We see this as an opportunity to create bold new categories of jobs...on the

local level... You staff. maintain your depos services for this.

To this end, we've basically invested heavily in a ask any facility in Nevada and started up age training program with (?) college in Cupertino to teach people how to act become a technician for this new

class.... and then finally closing out we think that self-driving technology rate good for the environment, particularly because that's that we can move some of these car trips.

But modern gas in cars to the fully electric and efficient.

Good

DELANEY: hank you. Jonathan. So with that got about 18 min left for this panel.

So I don't know. Yeah, first off thanks for the panel.

FERGUSON: Great panel. and I we're this is this is a third hearing.

We've had out of 5 we were planning... it's important that we have folks who don't always agree with each other, so that's helpful.

So thank you for hearing your perspectives and I think it's going to be important for us to kind of hash through some of these things, and if we were hearing only from people who all agreed with each other that not frankly be

very helpful. Roy, I wanted to ask you to drill down on something for me.

We were hearing from Jacob about the important of the private right of action.

And obviously there's going to be a diversity of opinion on things like that as a as a method or a plan to help solve a problem or to prevent a problem or problems. We were hearing from one of our earlier panelists

today about the need for safe haven or companies that are trying to develop technologies that are not intended to be biased or intended to victimize anybody.

But obviously I I'm going to guess as a general counsel of a tech company.

You're going to have a certain point of view on this, but I wanted to ask if you could drill down a little bit on this topic as a sort of a practitioner.

Someone who's as you say, a PhD in this in the technology here... help us think about what does this mean for technology development with the with the flip side of a litigious society?

There's obviously going to be pros and cons to that. But how do you think about this as a as a general counsel of a tech company?

WANG: So thanks for the question. So I think my earlier testimony.

I mentioned that I do support save harbor type of protection for company.

05:04:09.0

That genuinely try to resolve historical inadequacy, and by the hardest to improve.

You know I I don't have a great answer on the private cause of action, whether it's plaintiff or not, I mean, that's more you have to have injury in fact, type of analysis.

But your questions about how I think about it. I would say if we don't have some sort of save harbor regime.

Then we are left with a lot of guesswork work and leave it to the litigation area, and

As you know, to litigation takes a long time, and then, you know, that affects my back law, and it sometimes takes congressional intervention to won't enact something overnight, so it takes a

long time to develop in the courts. I would say

In the meantime. then, the then leaves a lot of companies out wondering what can we do in the meantime?

And that's a lot of time, wasted as a society. I think companies should be there to embrace data to look at them.

Not be afraid to look at them. Unfortunately, I see a lot of companies.

do hesitate to do that because They're afraid they might find something that causes the Plaintiff Bar to act.

So in general, I think just like anything in life, if you encourage dialog, activities, something good will come out of it.

We should encourage activities in this area are not handcuff it. So I think safe is one way to support that.

Jacob just in terms of fairness, and giving other folks a chance to weigh in on this question.

And I don't want to put words in your mouth. But would you get fired for saying you could be supportive of some sort of a safe haven for a company, or a technology developer?

SNOW: Luckily, it's difficult to get fired from the ACLU for public statements.

You may, or about your opinion. so, I'm grateful for that.

So I mean to me the question is, you know, if there's something that might be the basis for safe harbor

Why not require that? but not provide the safe harbor?

And the to explain that a little bit in the context of like looking at these instances, where in the past there may have been a discrimination or bias in in the results of an algorithm.

You know what I think we wouldn't want is to say "Well, as long as you find out that it happened, and then fix it that the people who are harmed by that are just kind of out of luck."

You know, those people could have been derived opportunities. they could have been deprived employment.

You know, in some instances, you know, depending on what the industry is, they could have been subject to a police action.

They might have been important from the United States they could have been separated from their family. You know these are life that decisions that are coming out through bias and data sets.

And so just kind of saying look a safe harbor is going to solve a problem

I I don't think that it does, because you do have you a situation where the people who harm are then left without any recourse.

So that's that's the problem. At the same time

You know there are I think that there's ways to craft regulations that don't necessarily eliminate people's rights to protect themselves, or to enforce their rights.

And so you know this isn't like a black or white thing. I think that's one of the great things about meeting today is that we all have to think through these things in a practical and thoughtful way.

And that's great and I think those are those are important conversations.

But you know, from the perspective of how people people's rights are protected, you know, like what we all think if there is no way to stop the Government from doing something that was unconstitutional?

Like rights, or only rights, when people can enforce them because a lot of times, companies or governments don't have the same priorities as people.

KATURI: Jacob one question. you gave the example... I understand that right now.

Maybe 2018 is what you said it wasn't as good now (breaking up)

But thinking about your AI knowledge, you feed it enough data off

People of color.. What time is it really good at it so isn't it?

Point of view where You stay, at least you should be using facial recognition, there's so many benefits except that use them once a certain threshold is reached.

It's not that right approach or anything?

SNOW: yeah so this sort of the way that that I say is that there's problems when it doesn't work.

And there are also problems when it does work. And you know the question is, do you want to live in a world where every company can identify you wherever you go?

When you receive medical care?

Every you know a company will know about that. The Government will know about that.

You know we've seen that but candidly, immigration enforcement has accessed facial recognition tools, and they can use those tools to find people as they go about their live, and literally.

People can find a Federal agent at their door, take them and deport

Them from the United States, and send them back to a country where they where maybe they've never even been and separate their families.

And so those kinds of harms that come from government surveillance are only elevated when you have technology that works really well for everyone.

And so those surveillance harms don't go away

(Unintelligible)

OSOBE (?) I'd be curious here about culture, and specifically I'm looking for information about the you're going to perspective, perspective and any

CHATTERJEE: information on Oh, great issue, , right? Absolutely. So I think, is our , as talk about control problem

Maybe in some sense a good first be more responsible for us.

(Unintelligible)

now in terms of in terms of how our particular team came about, I can definitely share some insights and also due to some of the challenges that other tech companies face where the companies have been

using. we have in most of their recommended systems and those are very critical, because we're solving matching problems and very large marketplaces

Whether it's or employment whether it's for content for advertising.

Okay, so in such a situation to now, suddenly, this is this: 2017,18, 19 for different companies start thinking about

How can we make systems more fair? What does fairness mean?

Now, how can we operationalize the definition of fairness?

Is a fairly non trivial type. So the way companies are mostly gone about

It is start having a dedicated team think about those problems, come up with recommendations that different teams to start becoming aware of, and start thinking about operationalizing drones (?).

And then there is waiting degrees of centralization or parts of that team.

So in software, for instance, you can build libraries which is built by one team and then used by many other teams I'm.

That provides significant avenues for leverage, as well as as the definitions of fairness, as well as other responsible aspects.

As usage evolves, You can update that one library.

OSOBE: So do you have an suggestions?

CHATTERJEE:

So I actually like the point that it could mean that AI should not be something that's used for any need to be very conscious in making choices about where to use AI, and I think it's not in many cases going to

be a binding thing that we use AI here, or not use the AI, But regulations are going to give it. so, even for surveillance, I think that may be aspect but with the right end of regulations the benefits are going

to significantly outweigh the risks. The regulations are also, I think, going to be helpful for companies to justify, paying the necessary attention to the problems.

So today I think many companies are doing this work out of their sense of responsibility, but also an anticipation of regulations that are up coming.

And I think if there are solid regulations, then the companies of tomorrow as well as the companies today, going into tomorrow, I'm going to be better qualified.

DELANEY: Other question here.

JONES: would I be wrong. Okay, we i'll pick by autonomous great, I mean fundamentally the tech is not all the different. (breaking up)

It's just how its being applied?

BUDD: I can chime in here

They're actually quite different technologies again some ways I'll, just actually I you're in a lot of ways.

But I think about what we're they're training a machine learning model or designing a rules based holistic model to do It's to detect a blast off.. the person, a bicycle tone on the

road there's no concept of personally identifiable features in in our models, and actually no way to extract that.

So it would be basically impossible to apply what we're building to facial recognition.

Now, some of these research scientists *could work on facial recognition, but it's a completely different type of problem or building

ORELL: So imagine that you are all bragging to Federal government will help establish a regulatory framework or AI.

You had one thing that you want out of that or that that ask What rule, either ruling something in or ruling something out, that you would want make sure was in a regulatory framework?

what I'm trying to get at is I've heard this now at several times we got a wide range how detailed AI regulation might be, but the predominant opinion appears me to be try to stay out

of the weeds...the more detailed we get into trying to regulate AI more problems we'll create.

But I'm just curious Where the bright lines... term on at all is got something.

Where's the bright line?

SNOW: I can see my fellow panelists have handed me the easiest question of the day

So, this is this is only partially responsive. but I think that algorithmic systems, just like other systems have to today take into account our disparities that exist in our society and that have existed in our society for

a long time, and has to particularly take into account that harms of those systems will fall on people who are already suffering and who are already vulnerable.

That is true essentially, for the harms of society generally. But I think it's also true for the harms of AI systems and algorithms.

And so I would want a government regulation of artificial intelligence to start by trying to protect people who are most vulnerable, and have them not bear the brunt of the harms of these systems.

CHATTERJEE: Great I'll go next so if we're limited one thing I would say what we're talking about here, and why we talking about regulation AI you're we're afraid of uncontrolled use of

AI. So the origin (?) for that assumption, if a use case is has substantial oversight by humans, and it could be out of so.

Say, saying in other ways, if humans have agency. power over this technology, and that's not something that we are starting.

This is where I start with that we are afraid of the uncontrolled application.

So I I would say somewhere in the regulation, I personally would love to see some discussion of human agency.

WANG: I just add a comment on the comment on better to go into the weeds or not.

So I think, for many applications in AI it's important to get, and it's also a little uncertain as to who was tasked with getting those details right, because maybe the government or the regulatory bodies are not as

students, those teams. Oh, I'm maybe the companies operating in that space are considered to be not unbiased to know, but the clock is sticking that's the part.

You all need to collectively (SP)

FIFTH PANEL

DELANEY: Let's get started because we have a a guest coming Rep Ro Khanna...

We're all excited to hear his remarks and he's arriving a little early, so I want to make sure we get through everyone's remarks in time.

So thank you all for being here. We have 4 panelists. I'd ask you to keep your remarks at 6 min.

If that's okay I'll do my best to give you 1 min the notice for your you know that that targeted time arrives on your remarks and we'll get started so our first speaker

will start with I want to make sure it pronounces right.

Nyung Ho?

HO: Thank you. Yeah.

Ho: Button. Okay. Cool? Oh, I gotta hold it. Okay, .

So again, thank you for having me my name is Nyung Ho, I'm, the vice president of AI at Intuit...if you don't know Intuit, we're a global technology company who services small businesses with the

goal of our own financial prospect for all of our

Our family of products includes triple talks (?), clickbooks, credit karma

And again starting from the individual all the way to small business.

My team specifically works on applied AI, where we build products and services that are embedded across our family and products.

That help our small businesses.

And so we solve a wide variety of problems from processing to translate complex accounting language, a language all the way to building models, such as dashboard forecast models, to help our small businesses, be able to

look ahead 3 to 6 months, and really understand where they are financially, so that they can. (?)

Good. So in addition to doing that

With products and features, there are other things that we do, such as ensuring compliance, minimizing them, and the work that our customers do.

And so one example of that that, I think, everyone can understand is during tax time.

Many of us get you know dozens of documents. and in the Old World. you would have to manually answer that in by check to make sure that it's right, and then finish

It. But what my team built is that We built the optical character recognition system, automatically classify those documents, Pull out that data, and then insert that into your platform so that we can help not only automate the work but feel more

confident that what you're doing fully compliant with rules and regs. so just 2 quick examples of the types of work that we do all our financial very right in terms of what this all means.

There's this we believe it's important to be thoughtful and any approach to share that we're not hindering innovation or inadvertently consolidating the benefits of AI

only to the large, because we do, are anywhere from zoom rooms to small businesses who have at back and employ and especially with recovery from the pandemic,

While businesses have been struggling, and they need access to the power of AI and the tools that it provides to help them survive...

So with that I'd like to offer some policy recommendations, the first one is that Congress should pass a national data privacy law..

Yeah, it doesn't work without. but before policymakers consider AI legislation,

We should start by building foundational protections for the data about how the create innovation

And while 5 States have a the privacy law, we have yet to see uniform action for personal data...the growing patchwork of laws create problems (?)

And it's very especially those that operate interstate or have multiple loop...and unlike an unlike big corporation.

They don't have a staffing and resources navigate multi-state laws. so in order to build trust with consumers and support. Congress should pass a from Federal consumer privacy law.

Next one, considering whether to regulate AI, policy makers should take a thoughtful and risk-based approach that prioritizes, continued.

Innovation, while focusing on preventing specific harm. AI is used in various contexts, meaning there's really no one.

Size fits all...For example, vehicles are going to have a completely different risk

Level than financial service app which will help different risks than government applications, such as criminal sensory(?).

So it's for these reasons that we support the work that is just doing the development of a voluntary AI risk management. And this also avoids the unintended consequences of over broad AI.

Regulation, provides a valuable and flexible tool for companies identify and mitigate risk based on companies-

Specific... and then finally, policymakers should implement help facilitate adoption of AI and digital technologies for small business.

The global economy is much more connected now than ever in that last 2 years.

with a lot of thinking digitally and the pandemic really pushed us multiple years ahead. What we've seen from our business, who we

Service, that they quickly discovered that it just they maybe they're only means to provide. and governments have an essential role to play in ensuring that policies foster this digitally.. system enable small business to live in in the

global plan like, and for SMPs it starts with education.

So one example is that the Government can create AI tool kit to help small business

Better understand what AI product I'll come in and provide easy to understand guidance on regulation and best practices. Additionally, government should also help eliminate any barriers to digital adoption through ensuring that small businesses this have the ability to

leverage this thing Federal versus and our programs to provide access to these digital tools.

At best. Okay, so thank you for your time. Look forward to any questions you may have.

DELANEY: You're up next. Stephanie Druga... Did I pronounce her right?

Stephanie is a PHD Residency in AI Machine learning at Moonshot Factor. Stephanie.

DRUGA: Thank you. Thank you. Hi my name is Stephanie Druga,

I am a PHD candidate at the University of Washington, and also doing a residency with moonshot factory.

Thank you for the invitation. I've been researching how youth and families learn about AI since 2016 until now.

And before we move further I wanted to show you a quick video, so you can hear how young people themselves talk about AI after they learn how it works.
--- VIDEO PLAYING ---

But that was a 6-and-a-half-year-old who learned how to train a customized learning model, then build a game that was using his custom model, Learn how to add more data when his game was not working when he was playing rock, paper,

scissors with his friend, because his friend had a different skin, tone, color.

So not only did you learn what is the inherent bias that could come with some of these machine learning models, but you also learn how to fix it, and why it matters to fix it. so.

If a 6-and-a-half-year-old can do this, I think many more people could have access to the skills and the concepts that are part of the AI literacy which is becoming a fundamental right for people of the 20 first century,

So I was invited here today, because this is a commission for a competitiveness, inclusion, and innovation. and I think competitiveness starts with education.

If we want to have a generation of a of children, that are prepared to not only consume AI applications, but also build and design AI applications. it's correctly. I , I should be included in the Classroom from

K-12, and we are already in US behind. In this effort China, for example, has been using

Its centralized authority to mandate AI education in its high school curricula, and since 2018 the Chinese Government has approved 345 universities to offer an AI.

Major, which is currently the most popular major in the country. Anyways, there are initiatives like AI for K-

12 where educators are *trying to propose a new curriculum for your education.

However, this initiatives are sparse and not institutionally supported.

I believe it is important to think how we prepare the new generation for the jobs of the future.

We know that the only constant is the change, and even the people who are getting jobs as data scientists, machine learning engineers are constantly faced with new technologies that are changing

One of partly9?) basis. So instead of teaching people skills that will eventually be automated,

We should teach young people how to become better at problem solving how to develop creative thinking, and how to interact and collaborate with machines and come up with new creative ideas and applications that cannot be automated.

I've seen in working with kids since 2016 and until

Now how they develop applications with AI for accessibility like voice assistance for people who are hard of hearing how they develop applications for climate change, how to train a robot to help coral beaching.

And I've also seen how in recent time we've had applications where we learn how to program with AI like copilot or replicate.

We have applications how to make art with AI Dali, that was just released 2 weeks ago, has stimulated our collective imagination.

We also have large language models like palm -542 billion tokens of code- that can empower many more applications of AI for young people's generation from learning how to create new forms of crocking

Folding better medical diagnosis, and we've seen what happens when we get access to this type of technologies and tools to young people.

For example, Advocate Year (?) was 18. He came to us from Afghanistan as a baby and as a freshman at Cornell University.

He founded a new medical company that is using AI to improve diagnosis.

of breast cancer. He was 18 when he did this.

So if we want to have people and young people of different backgrounds, different ethnicities, who come from lots of different cultures and speak multiple languages to not only have access to AI education as a right, but also be able to be

at the table be part of the engineering teams that are building these future applications.

This type of curricula and education should be part of the school in K-

12, and it should be designed such that it attracts a variety of people, a variety of learners, and address issues of representation as part of these classrooms.

I also see a unique opportunity to develop countrywide competitions.

We had first Robotics League ..Why won't we have an AI for social impact competition at a national level to inspire young people to imagine better tools and better applications for this technology?

Thank you.

DELANEY: Thank you, and sorry to jump in there, but I just want to make sure everyone gets their comments up or road arrives next up around Karan Kanwar, Chief executive officer of Wing

KANWAR: Good afternoon. My name is Karan Kanwar and I'm.

The CEO of Wing AI. We're a company that does a mix of global talent as well as automating work fast growing American companies, we use AI specifically for sophisticated natural language processing as well as

technologies like robotic process off automation, to drive unprecedented quality and cost savings from this area. Well, about my background, I was born in India, grew up in Hong Kong and was able to do my university studies.

Here in the United States. I learned how to code when I was 8 years old and started to experimenting with AI in my early teens, and I worked on a variety of different companies in the United States,

Hong Kong. are you from startups for large companies as well.

So the reason I bring this background aspect of it up is because my first point is on immigration.

While in college I had a cool idea involving a I was an 18 year old kid, and I tried to build a company out of it. I'm just in just a year and a half my company Wing a I went from 0

to raising Vc. funding, as well as employing over a 1,000 people worldwide and having nearly 6 million dollars in annualized revenue.

My biggest problem on this journey was not money, but I could use more of it.

It wasn't my It was an esoteric AI legislation, but it was a visa to stay here.

Eventually I was able to find a path to save.. All it took was top lawyers, \$15,000 in legal fees, retaining a Pr. firm to write articles in the press, a 500 page petition, and 6 years of carefully planned

activity. Now that's a ridiculously high bar for a student with an idea.

If the stars in a line perfect for me I wouldn't be here today, and my companies are probably in base where I grew up in Hong Kong.

So the US really needs a way to get entrepreneurs.

A shot that one who want to start a company or they need to give them a shot to start here and not the ones we're actually able to create jobs.

Stay; and secondly, we've also had plenty of talented pick people from undergrad masters in PHD-

Level town come work for us. but they've either all been forced to leave the United States or work at a company with the resources to provide those green card application fees.

So the Compete act earlier this year was past the house. see, I saw to remove green card caps for stem PhDs and create a category

W. Visa. but after the Senate it was aggressively watered down, and so, as far as I was able to gather, these provisions, did not make it.

America has a vested interest in doing these things, not just the potential benefit, but a very clear economic benefit.

Instead of sending highly educated, motivated people who love the United States back, give them a shot at creating jobs.

Heck, incentivize them, create jobs in the areas and districts that need them.

There's a gentleman in the Austin hearing that mentioned that the harsh reality of AI is that more investment leads to better AI, and he's right. A bunch of that investment goes into talent and without foreign talent

America just does not have the numbers be able to win the AI race against its

Adversaries. The available talent pool today is too small, and that just makes innovation for everybody difficult... Which leads to my second point, which is that the impacts of AI will have on labor and the new skill, I run an AI company in

this space where we're focused on mainly helping existing labor become more productive.

But I know several companies working on technologies that are geared towards replacing labor, and many look at AI and think well it's years away from taking the job of a higher skilled worker for example, frontline call staff or

salespeople that have to deal with the nuances of human language and social queues that isn't a job that's easily displaced by AI today.

However, companies working on, for example, accent-neutralization, signage and say there are 2 examples just here in the Bay area.

They enable companies with us sales and support staff that move their operations overseas. And while AI isn't directly displacing job jobs in this example, it is accelerating the advent of American job loss. I raised this example to show that

AI stealing all the jobs isn't entirely a fictional narrative from far in the future is something that's happening in small and more powerful ways

Today. AI Isn't just replacing jobs, but enabling companies to do more with lower cost human capital.

So solving the problem for today. Governments can obviously play critical role in providing funds or organizations to help reactive and proactive upskilling as well as helping the people who are affected by job

displacement using, for example, self pace online credentials and that's probably the fastest way to enable people return to the workforce after training as well as for tomorrow the current state of educational funding of course does not

yield high quality outcomes, and so, funding aside, there are plenty of ways Government can help.

For example, mandating curriculum changes, offering exposure to high tech fields as well as high tech curriculum, such as the

AP and IB programs. My final point on regulating AI and the government's role in it:

Privacy and data rights, of course, are a key concern that many hypothesize on AI regulation today.

So, for example, models that foster aggressive innovation like China's that don't have a regard for privacy or models that stifle innovation by not taking chances of privacy like the EU neither model feels

like an American fit to the cultural value of privacy nor the entrepreneurial dynamism that America is known for.

Well, I don't really have any policy experience my 2 cents on what in America a regulatory framework might look like

Probably looks like a hard red line for the solutions you're legally allowed to work on without some sort of government

Permit, as well as the ability for the State to prosecute actors that cause malice to individuals, and businesses.

Probably a legal set of bases that may be useful for companies in building these solutions and building these solutions, and best practices by a technical, able body as well as an especially, a framework on how to prevent

bias and building models. And basically AI is likely a David and Goliath field, and go on that field where small companies cannot compete against the handful of the larger players due to ever occurring data modes that helps no one but the

aggregator themselves. for example, Google and Microsoft before us control the search engine market.

Any new player is going to struggle, one can struggle to compete in a fundamental level, much like the government as a body that rewards businesses for innovation by providing a 20 year legally protected exclusive license

the US. Patent Office and the patents themselves, there could be potential.

Similar incentive systems and afforded to open sourcing of data enabling smaller companies like mine access to more structured data sets- be able to build more and more and more capable models Thank you So much

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DELANEY intro of Peter Hallinan, Amazon

HALLINAN: Alright, thanks everyone, and thank you for inviting Amazon.

So I lead a team at AWS AI that's dedicated to addressing issues of responsible AI.

And today I'll share with you our commitment and our approach to responsible AI and to the crucial role we think government can and should play.

So first, by AI software we mean software that solves tasks that normally require human level intelligence.

Some AI software is traditional, like expert systems, but some is based on machine learning, and is statistical and requires its own tech stack that we offer customers consists of a range of users from experts to business operators.

So for ML experts, for example, we have chips.

We have software frameworks, for scientists We have both to help build models for builders

We have pre-built models that can be used as computers of a of an ML.

Application, and at the business level we have turnkey solutions.

So, for example, for call center optimization. In 2021, we released over 200 new features into this stack. And currently we have over 100,000 customers using this stack.

These customers are diverse, they're global and their end users are diverse and global. and so it should not be really a surprise that for us, building an operating ml solutions responsibly is an imperative it's not an

option. Now, before I get into responsible AI, I want to explain a key reason or a key way of being successful in AI in general.

Today's technology is very exciting but it's at a very early state.

Frankly. it's quite brittle and what that means is that the narrower the use case, the higher the chance of success.

So, for example, we've talked about face recognition today we've also talked about speech recognition.

These are not use cases, these are sets of technologies.

An example of a use case might be identifying a child from a database of missing children,

Finding celebrities in a movie library, or granting access to a building. Use.

Cases vary by their possible benefits and their possible risks.

They vary in the kinds of inputs that you put into them,

The types of imagery might be different or if we're talking about speech use cases

The types of speech might be different. And they differ in the relative impacts of different kinds of error.

If, for example, you were trying to match a child you found with a in a library of missing children, you would err on the side of finding more matches. Okay, but if you're trying to Grant access to somebody to get into a

Building, You don't want to air on the side of more matches for the safety of those in the building.

You want to be very, very precise. So each use case typically requires its own training and evaluation data sets.

And really its own application, Okay, And this specificity is key to success.

So given this, what do we mean by responsible AI?

Well, there is much debate out there about what constitutes being responsible, but I think common to most descriptions are several core virtues to which all of us designers, developers, operators, and users to aspire --those are

privacy, security, fairness, explainability, robustness, and transparency.

Now the thing about things like privacy and explainability and fairness...

These are very hard problems to discuss productively, if you tackle them at a high level, but if you tackle them at the level of the use case, they can be much more tractable, and you can make progress.

, So even given specific use cases, though, building and operating responsibly can be challenging in 3 particular ways:

One is the scale of the use cases. When you get specific you got a lot of different situations to consider, and if you want to be careful and have a good outcome, That's exactly what you should be making that investment.

Secondly, there is technical, difficulty, and thirdly there's The AI landscape itself is rapidly changing, and I don't mean just the science or just the number of companies getting involved.

I also mean user behaviors, user expectations and societal considerations are evolving.

So we tackle each of these 3 areas... or use case dependency for use, case, specificity,

We try and provide tools that help people simplify defining and measuring success.

For example, we have for a number of years made something called “sage maker ground truth” available, which is a tool for building data sets.

And then, just last year, at Reinvent, in November, we released the turn key version, which makes it even easier.

Why is this critical? Because we think that for specific use cases the customers who are building applications for those use cases

Should, you know, have an easy way to test it and make sure it's doing what they think it should on their content, right?

And so we try and sort of abstract out all the complicated details and make it easy.

Similarly, when it comes to the technical difficulties, we try and invent solutions all up and down the life cycle of an ML

Application, the divine design stage, the development stage appointment stage operation stage.

(DELANEY wrap up reminder) ...We deploy people to help customers. We have solution architects.

Okay, , certainly. alright. So, as I said, we work.

We provide solutions up and down the life cycle. For the third component.

The dynamism. we invest a lot internally. We have thousands of scientists, our internal conferences as large as any external conference.

We make strategic partnerships, including, for example, investing 20 million with the NSF

For their fairness in AI Grant program, and we invest considerably in diversifying

The stem workforce. So in closing I'd like to say that it's our belief that government should act to ensure the appropriate use of AI you're very much in favor of risk-based approaches

risk-based frameworks that go use case by use case... music recommendations, right aren't the same as anonymous vehicles...and to help develop these regulations.

We work with standard bodies, like Iso, the OECD working groups and jurisdictions

when asked. So let me end there and say thank you very much, and look forward to questions.

THERRIER: hi great panel we're finally getting into the discussion about how we would about risk-based approaches to AI policy and regulation, and this framework mentioned.

And of course the Eu has the AI Act its considering now, with a low risk AI bucket.. So I just wanted to ask the whole panel for your thoughts

On - Who and how do we go about this. Use-Case driven is certainly an interesting way, because you avoid the trap of regulating too comprehensively in the abstract,

But when you get into a use case study use space driven risk framework

There needs to be some sort of list of remote (?) practices, I guess.

And who is the one assigning what those in those categories?

How does that process work? This framework is considered open, voluntary right now?

Would that be imposed by law, legislation, should there be an agency?

Just any general thoughts on a risk-based frame, or what it means practiced, and how it would work?

HALLINAN: By default...well, I will say that we have a number of examples where we have opened with this issue previously.

Right. We have an drug ideas pop up.

Device ideas pop up. they We have processes for assessing what do there..

And we have kind of a standard process, right, for assessing what the risk is.

So perhaps something similar. for certain application domains.. would be one way to think about this.

DRUGA: Yeah, I would agree with that. I I will say that you know, for use cases that we know about.

Yes, definitely did all the risk framework and providing recommendations, and how to think about it.

But because this field evolves so quickly, we also need to be able to accompany

And determine a process for one, a new use case of okay.

We can address that, so that we don't that you're on responsible and enable to get a pivot while also enjoying by this (broke up)

ORELL: I want to follow up on Karan's point about that they're. So we have this line, and on one side of the line, you don't have to get permission the other side of the line...

What are you thinking of when they think like that?

KANWAR: For sure...so

I guess this kind of relates to my own experience. Once upon a time I was trying to apply for a job at Northrup Grumman.

But of course, as a person who's originally not from the United States

You're not allowed to do that. And so they're There's a whole list of protected categories along what you are on not allowed to work on as somebody does not have US citizenship for example. And so as a

result of that that that's kind of where that that template of thinking came from which is that you know the United States already does maintain a list like this of things that are allowed to be worked on are not allowed

we worked on, namely, by foreign actors at the moment.

But to the point that that Peter just made, that is also possible with the within.

The rooms, for example, the FDA regulates What an and not be done by medical service field in a very similar manner.

Whether that's a new agency. or done by an existing regulatory body is that a department of defense concern or concern of some other body?

That is, I supposed to be determined. But we do already grapple with these problems.

ORELL: So yeah, I mean the FDA example comes up frequently

As a model for regulation I think probably just push back as whether it's good model not and I I think the other thing is the FDA has been around since the early 1900s and its

taken that as long as up today it kind of developed capacity be able even think about and look at emerging drugs and we don't have a or a similar process in artificial intelligence.

So I I invite any reflection anyone might have on

What do we do in the meantime?

HALLINAN: So those are excellent points. One of the challenges with the FDA right is, we actually are still learning quite a lot about the human body, and how it works.

But music recommendation's quite clear. So I think there are a number of potential use cases and applications that could be sort of green lighted very easily.

And then others. for example, face recognition might consider careful thought.

KATURI: That's definitely you talked about. you know in terms of how we should be able to mandate pay for their high schools, or drive it more since.

And I don't know if you think you talked about very fascinating.

What would you say are one or 2 things that is a policy perspective

That we should act on as possible to get our kids in line...(?)

DRUGA: thank you for the question.

Yeah. in terms of AI education. The biggest need right now is to develop this curriculum.

So there's a lot of work to be done in terms of future training.

But also, how do we actually build those bridges of collaboration with experts?

Like I'm currently working with people who build the largest language model for programming.

How do I connect them to teacher? that would go and explain how this works in high school, and maybe uses the application uses this model.

So I think it would be great if there were initiatives and support to have more collaboration between expert matters and educators institutions that are actually building and deploying this curriculum.

We recently did the review there. only 50 educational resources for AI in US, and we review every single one of them to see how much they cost,

if they're free, how easy it is to use them, what sort of technical requirements they would have and it doesn't look great. They're actually very few resources that take into account developmental needs for young people like what they could

learn at what age, and also to take into account like connectivity issues,

Technology, access issues. So I think the first step in that direction is to require to have AI education lessons as part of the curriculum as part of the computer science

But not only classes, but also give funding in order to develop this curriculum and develop this collaborations that are needed.

And I had a quick, early point to the earlier question about the risk based framework:

I think What I've seen in the world of families, kids in AI is that we start to have this risk based framework when things are really problematic.

For example, FTC fined Google 10 million for YouTube for kids, for not respecting privacy of children that are using with for kids and for the targeted advertising that was happening on this platform.

Parents around US had to come together and write sign a petition for

The echo privacy problems like with the Amazon Alexa.. So FTC

Is now looking into that. But usually this framework of risk based and trying to see, like how much of a risk a certain technology poses for use case that we haven't anticipated is being deployed or considered when things are already

extremely problematic when we have externalities of scale.

So I think it is useful to take a more proactive approach and think like: How could we have more informed people that could signal issues earlier on like, for example, parents signaling to Amazon like

I don't actually know what data Alexa collecting from about me and my child and I don't have any sort of interface on my phone to control what data is being collected, and where and how.

DELANEY: Sorry about that So Ro you came into our last panel,

so thank you for being here. So I'm really delighted to have my former colleague and friend

Congressman Ro Khanna, who represents Silicon Valley... we're just asking him if this is actually his district, and he's planned It starts very closely.

What's your district, Ro?

KHANNA: the 17th

DELANEY: Its the 17th district that principally represents Silicon Valley, which means he is at the center of the center of all these issues..

Prior to coming to Congress. Roe was an economist, a world class economist.

He worked in the Obama Administration in a couple of capacities.

But then he came to Congress in 2016...and what was interesting when I first met Ro was that when you first come to Congress and what I found very interesting

he had just finished a trip to West Virginia. I think it was West Virginia when somewhere.. Kentucky.

Yeah, somewhere other than your district. And because one of the things Ro's done that, I think is really important is everyone goes to Congress to the House of Representatives to represent their district and to make sure issues that are important to their district are on the radar

and get the attention they deserve, and Ro does that to a very high standard.

But he is also taking the abundance of kind of technological innovation and insights and understanding of where the world is going.

That you in many ways you uniquely resides in his district... and he's bringing it to the country., and that's actually a very important thing to be doing at this moment in time.

And so a lot of rose work is centered on those issues and it's also centered again

I think very importantly on this notion of building a new social compact around education and health care, and many other things that allows individuals succeed in this new world.

It is being fundamentally changed by all the things we're talking about, particularly communities that have been left behind economically, which we've seen a draining of economic opportunity in this country and in many ways with covid which is

accelerated in the opportunity to bring jobs back to a lot of places.

The issues that Ro is talking about are some of the most important things for us to be engaging in as a country around domestic economic policy.

So I'm really happy that Ro is getting a lot more attention. because I think what he has to say is very important, and I think he's a terrific spokesperson for these issues.

So thank you, Ro, for agreeing to close our session.

KHANNA: Thank you... I'm honored by the invitation and the very flattering introduction that I could title with up to said that John is not just a friend but

is was when he was there one of the apps for the most rated numbers, quite that Kelly (unintelligible)

They've often they actually understand the depths of the policy always have a interesting perspective on how to move forward.

His book is and this really I think It's great to do.

And Michael.. service to our country, and I'm looking forward to what you all will recommend, because, as you know, John, the Congress does a lot of things right but one of the things we don't do that

well is having before we're looking policy on technology.

So I think that this is a role where you and the Commission can really play significant role.

Let me frame the problem as, I see it from in terms of technology

Gap.. talking about my recent problem when I return home our district in the surrounding area

The net worth in this district in the surrounding area is \$11 billion; the most wealth

I argue that never been generated in one place ever before.

So someone , that that if it that title.. oh, before here I was in Galesburg, Illinois, and

those of you may remember, Galesburg noise very big staff, 3, his refrigerator, and you got tip all store town... (unintelligible)..

(Break up..)That's the code 1,000 great and President Obama spoke about it and I was there.

I was meeting with several of the I was down there because I was speaking in Monmouth College, a small liberal arts college, up in someone there said, Why don't you come and meet with some of the Maytag factory workers?

And I met with you know, about 15 of these men and women.

They still, you know they experience that free with so broad still for them, they said, How you know, plant uncles, grandparents work that plant.

Celebrate Christmas together, Thanksgiving together and plant exposure was not just about jobs but of unity.

Here's one thing that they said that's .

They said, Presidents have come and gone it's about 20 years since we were mentioned in the came out state(?) and our community has less jobs.

Nothing has been delivered party for President and our kids.

We still tell our kids.. the American dream, is much less accessible to us.

Then it was 20 years ago. Yeah, I hope you the polling in my district

Young people are very optimistic... (unintelligible)

Now I was at the Robotics World Championship, Texas, because one of my constituents ones had invited me there just 2-3 days ago.

Literally they had the ride. 30 kid practice robotics.

Then I was in Chicago

Out campaigning for a friend of mine, and he said Why, don't you go meet this skill work? about 7 African American field workers

Who were all doing fine. But they said something... they said

We've thought our life was better in the 1980 s and 1990s, when you could get a \$30 job, could have benefits,

And we can produce things...And now, since US field staff works have shut down, and Gary Indiana has steel that's gone from 30,000 workforce to 2,000 workforce.. we don't think that our kids are going to have the same economic

opportunity. but when you look, in my view it a lot of the resentment, anger, when there are many, many factors...but one of the most obvious factors in my view, is half the country thinks that technology, all of the

benefits of technology, All the benefits of globalization are going to create exploring opportunities.

Aboth in terms of the advances, society in terms of medicine, patients, the advances in terms of the organization of information, but also in terms of the opportunities to create wealth, build wealth, create value.

The other half of the country looks at it and says, What do you mean?

Our jobs have been shipped offshore, our communities have been destroyed, we don't see these new jobs in our community.

This challenge I think, is the central challenge for the country.

How do we both create economic opportunity in places that have been totally left out?

How do we build and revitalize a new middle class?

And how do we have the benefits of technology be more

Why do you care? Let me suggest two avenues with AI that offer some.. One, and I'm sure you may have heard this from people of on, or as a technologist

There's a new mantra in Silicon Valley.

Well, "no code low code," meaning you don't have to really know a lot about coding anymore to do a lot of these jobs.

We have this in my view, artificial sense that "Oh, It's going to take a ton of math, and it's been taken out of science."

And maybe that was the case in the 1990s, you know, or 2000.

It may have been very hard that then they have "technology jobs" distributed all over the country because a lot of them did require a lot of math and science.

But the reality is many of those jobs today don't require that.. They actually are as technology has advanced

the technology has also become much more accessible...This is, most famously, Paul Krugman rights about sort of the power load/

How initially in the Industrial Revolution, the people who knew how to use the power load has a huge premium.

But then, as everyone figured out how to use the power load, the (premium?) declined...regardless of what you think of Paul Krugman that's just an economic analysis, there's nothing to do with this sort of political...and something I think similar is

happening in technology. They're going to be 25 million of these digital jobs, by 20 million. 20 million. 25 million.

And there's going to be an every field from manufacturing, to farming,

To retail, to entertainment... And the question is, how do we make sure that they are possibilities for people in every community?

By the way, don't they don't require a 4 year degree of they don't even require in some cases a 2 year degree.

One of the very small things I'm doing with Galesburg. I came back

I have a friend at Google and I said we've got to do this ..something that Carl Sandburg community help at Google and I We've been working together...

It's not a big thing in terms of scale but we create, we partner with these community colleges,

Google pays them a \$5,000 stipend

Get an 18 month course and they end up with a guaranteed job. if they meet all the qualifications, at a tech company but not necessarily.

So many will work at all for \$65,000.

(?) job paid to get these 10 h of training, and they end up with a \$65,000 possibility.

And those are you. Many of you have gone and places money jobs from young people with hope in the future change in higher aspiration of a community.

Now, what we have to do is figure out

Is how do we scale it? How do we scale that so that the 25 million jobs that they're going to be digital jobs or available to the black community,

The Latino community. to rural America. People who can participate in the modern economy. And I think this requires getting past actually just the traditional right-left division, because we're going to need business is part of this, we're going to need education as part

of this, we're going to need government as part of this. You can't just have business because who's going to be paying for people to get these credentials?

Who's going to be paying for the proper training to be able to do this?

You cannot have business, because I've seen too, many programs for you don't have a credential that then, leads to a job, and you need obviously the educational step to be able to do.

Oh, we can. we can do this ..and many of these jobs, by the way, in manufacturing that's what the feedback is all about.

It's going to create an incentive for billions of dollars, great semiconductor manufacturing jobs.

Some of those jobs are going to be manufacturing, requiring technology that will require credential, not even

A college degree. We also be passing that bill to test it.

6 months ago. Not that we have to pass it the next day.

I mean the tip stack, and then whisper, here is one of the biggest investments we can make in our future.

Let me end with 2 things, and then open it up to your ideas. I'm inspired

By, you know, I'm inspired by Bobby Kennedy many reasons, but I recently came across one of his speeches where he had done in Bedford-Stuyvesant.

He had really focused on economic and he said.. the business sector, the public sector and the community that in Bedford-Stuyvesant in

Brooklyn, New York start economic revitalization.

You're telling me if the chamber partnered with the President, with some of the labor unions with education that we couldn't revitalize 50 factory jobs across America? Of course we could. You don't even need time if you can't

. Congress can. It takes a long time. Oh, you, we can do this. We can act.

We just start to revitalizes these communities.. We have not been *intentional about it...and the actual abundance of technology jobs with their ease of accessibility, makes it something possible.

It was not possible, 10 or 20, and the fact that a lot of these jobs now can be remote, cause the forced experiment of remote work, worked.

Alright any problem, but a lot of people realize don't all have to be sitting in Palo Alto to do to do the job.

Final point. One of the things that has struck me is we realize how important it is have production.....that you can't just fall through (broke up)

You need to have innovation and production. It seems to me that acknowledging intersected with production.

That's good opportunity, because now we're talking about production that has to be innovative, whether that's in batteries, in

vehicles. whether that's in it gives us a new opportunity to say, "We want to do production in the United States."

Again, in conjunction with business, government, education. That's what this is all about.

I'm doing a bill... it's not details are still being worked out with Senator Rubio. he understands that we've got to build industrial base/industrial capacity in the United States.

This. These are the issues, I think, and the work you're doing to in part create more economic opportunity with AI is post (?)

disruption. These are the issues that I think they can bring this country together. and so I'm excited about your work...and I'm.

Looking forward to happy to engage if we have time and need questions.

DELANEY: Comments?

JONES:

Unintelligible -----

(unintelligible)

What it So I have a question. You can respond to anything ...

KHANNA: Well Jerry, I appreciate it and thank you for reading my book.

Will is a good friend. We pass Bills together in Congress he's like Delaney a thinker and pragmatist.

We actually time in his sister, was both our publishers.

We did a half hour forum with the.. a time and interest for about some of the theme.

Let me try to answer it. It handled because you know there's no secret.

I'm. a progressive democrat. we probably there probably are areas where I am to your left.

I mean we may disagree for example, I'm for Medicare for all some here aren't for that, I've called on the President forgive student loan debt for people who are middle income and working class,

people in this room may disagree. But here's the point we're never going to get to a place in this country where we're all agreeing ideologically given how divided we are but that shouldn't prevent us from

figuring out What is the agenda where we can and one of the places, I think we can agree is the economic revitalization of this country,

the creation of good paying jobs and high paying jobs in this country,

The revitalization of advanced manufacturing in this country, and the fact that we want America to be the preeminent economy of the world, not China.

That to me is a large ground, and then ought to be, in my view, one of the first principles that can rally all Americans.

They have economic preeminence and to have economic opportunity for everyone, and that doesn't mean that we have to go compromise our convictions.

We can still have our convictions, and yet look for the places where we can form that common agenda.

I think the problem right now in our politics is that there is not sufficient attention to forming.

Marco Rubio and I can agree even if we may disagree on 80% things, and there is too much of a tendency to question people's motives.

The question that they're where they're coming from in terms of denigrating their entire motive, and then, if you're denigrating someone's motive once you call someone they're corrupt well, how I mean

Marco wouldn't work with me if I send an on Tv and said, Well, Marco Rubio is a corrupt. So you know, keep most of the fights ideological.

Have vigorous debates Marco and I can on whether Medicare for all is good or bad, but don't personalize it to the level that we have in our country.

If we lower the temperature, and if we also focus on the common agenda while keeping our conviction, well, that's what American democracy is supposed to be, and then the marketplace of ideas install resolve press...so that would be

my hope...and there are people in Congress committed to them and hopefully they're numbers grow.

Cool,

COMMISSION MEMBER: You talk about how we may not meet this much high-level math or science in order to do the digital future, and I'm curious for the given it thought, to what which of course ...to access jobs?

KHANNA: Well first as a country, I think more math and science education is a good thing, because there are a lot of jobs that will require that.

And I want to make sure that we are producing that. But we don't need them for the 25 million digital jobs.

A lot of these jobs are things like figuring out how to design a website that meets a business 'customer, how to market something online, how to best organize data.

And the fact of the matter is here's where I think we need the private sectors help.

How I don't think the Congress certainly is capable of designing the curriculum, and I don't think even our best institutions as much of respect as I have for our community colleges and land grand institutions should be

designing the curriculum without the intervention and

cooperation the private sector. I tell my progressive friends all the time they cite.

FDR. FDR. I said FDR believed in right to a job, including the right to a private sector Job read to speak, and he talks about the Bill of rights and new job.

85% of jobs in this country are private sector jobs.

So we have to figure out how are we going to have that credential

That's actually going to lead to employment? and I think one of the reasons that workforce development programs are so they've gotten such a bad rap is because a lot of times people do it

and then they don't have a job.. so my view is involve the private sector.. involve them in the local industry, in the local community. Involve them.

Of course, if they're these tech companies and tech jobs and all of them in that and many times I think when you have that collaboration, that's where you're going to get a credential that will be able to, to the lead to

employment and I and I think that that's a place people can come the common ground

Quaadman: Tom Quaadman with the US Chamber...first off Congressman

thank you very much for back a meeting for your comments today, and you certainly covered a lot of ground and just a couple of points that I just wanted to raise, you know.

You know. First off, we agree with you, right there are a lot of pockets within the country that you know I've been left behind for a variety of different reasons, and I can I could tell you I've been in plenty

of meetings with our former CEO. Tom Donahue

And continues to be a priority of our current CEO Suzanne Clark

Of how do we get the business community to help those communities?

And, furthermore, how do we also leverage our community colleges to help with that?

I know that is something that we have actively looked at actively worked on.

And there are other business parts of the business community that are trying to do that.

As an example. JP Morgan Chase, with revitalized in Detroit.

As an important example of that.. and just, you know, agree with you as well regarding you know, COMPETES, or USICA, whichever version we want to talk about

but you know we have supported the CHIPS Act we have supported increased public and private R&D

Funding have been lobbying on that as well.

Lastly, with this commission we wanted to make sure that we brought all sectors of America, of the economy

The business community, academia, thought leaders policymakers together really to start to think through these issues.

And in fact, even though this is a chamber commission, you've been here an hour ago, you would have seen you know a witness from the ACLU, and a witness from the team's position, because we want to make sure that we're getting those variety of

viewpoints. I would just say this, and we will be happy to share our results from this mission with you and talk about it, and see if we can work together

when we come out those recommendations, but part of what is so important here is not only that the United States remains competitive and remains the hot bed of innovation which has benefited many throughout the world

But that we're also working with others. who share the same values, make sure that we could put the structures in place to allow for AI to develop and benefit those well.

So we look forward to continuing this dialogue with you.

KHANNA: I appreciate that, and I appreciate the inclusive way that you've helped structure the commission and appreciate the support on the CHIPS Act, that and on Endless Frontiers.

I agree with you on the need for AI research to be in the United States, and I was finding to.

A professor at MIT, who does research on AI.

One of the reasons people say, well, why are you calling for an increase in government funding on AI research

When the private sector in the country is you know probably 8 to 1 out spends China on AI? I said, because you know, the look at the work at MIT, where what they're trying to do is figure out how do you have

AI which doesn't require extraordinary data you know when there's a young kid who learns word at you don't show him a 1,000 pictures of the cat.. and if we can do that kind of research that's going to make

us much less dependent or vulnerable to society like China that has huge, huge, huge amounts of data. So that's something that's in the public interest

to fund, and I think that this Commission can help create the recommendations and guidelines of what it's going to take for us to lead the world in AI.

I certainly think our values, despite the challenges of our democracy, are much better than the values of China

When they comes to who we want to be leading the platforms of technology.

And I much rather than we'd be leading that technology and setting the values.

And I you know I the Europeans don't like this when I say this

but I said, you can't you can't innovate in policy and not innovate this doesn't work. The tech companies are in my district

They run circles around the regulators because they don't understand the technology enough to enforce it.

America still matters the most in the world... you know we need to make sure that we're leading

when it comes to both the technology and the enforcement and the regulations.

And I think your commission can really help us in that deliberation.

DELANEY: Oh, on that I think we've all agree that the United States is every we have a set of values...

But we don't have a strategy to wrest(?) these issues, and get the broad support that is needed...

(breaking up)... you and Mr. Rubio have a bill... which is clearly a super smart thing to do...

How do you get the kind of broad-based support around a notion of a national strategy around.. like infrared really low for a long time Now they're going to be higher.

You've been talking about investing in the country for a long time.

It would have been better to do it. You know. you see, the missed opportunities of not having a strategy.. somehow get articulated into a national strategy.

But well, not everyone for you. but most what do you think about that?

KHANNA: that's a huge question...

They? well, I think. Look, I think the work you're doing is starting to create a sense of national urgency..

But I think it's we at when we feel a sense of urgency and question is, what is going to make us feel a sense of urgency on economic and on having a real economic strategy you know because I'm a

Political junkie. and I I was reading about the debates in 1992, between Paul Tsongas, Bill Clinton and Bob Kerry, and it was all about economic patriotism.

We won the cold war but we don't want to lose out the Japan and Korea, and I said, where is the concern on the economic development that we don't lose up to China and we Don't lose our

middle class? This, to me, ought to be the central issue in our modern political debate.

John you ran for President an I don't think this was the central issue in any of the debates, and it's odd to me why that's not the case.

Seems to me almost cliché to say that we ought to be focused on an economic vision of revitalization and an economic vision of making forever(?) preeminent.

And by the way, they cut across biography race, and in in in gender I mean the same, the same de industrialization that heard black Americans in Gary Indiana for white Americans in Galesburg

Illinois. Both need economic revitalization, both need middle class jobs.

And, by the way, we don't have a person to waste it compete with 1.2

billion people in China. So, I think the more of the voices that we can have that say, this is the urgent point in the more we can find this to be a cause that rallies business, labor as they're doing here

Democrats, progressive Democrats like myself, the better chance we have than that...

but yeah, that the country responds to ...and finally to the point that Tom made-- is, you know, business can do this with in partnership and other things without even government.

And I think the great thing about this is this can be a collective mission of the country, for everyone is in.

It has sort of spent in our economic base and you're thinking about AI to be part of it.

DELANEY: Lets hear it for Ro (applause).

END