The Citi Institute Podcast

Agentic AI - the Autonomous Edge
Host:
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Guests:

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Greg Ulrich	Chief AI and Data Officer, Mastercard

Title – Agentic AI - the Autonomous Edge

Alex: Hi, I'm Alex Miller. And this is the Citi Institute podcast, where we explore the forces shaping finance, the global economy, and the way we live and work. [00:34:30] In each episode, we bring you insights from thought leaders and innovators driving change, helping you stay informed, navigate challenges, and seize opportunities in a rapidly evolving world.

Wrap up Quote 1 - Sophia Bantanidis, Analyst, Future of Finance, Citi Global Insights
'We have a new kid on the block and we [00:37:30] have Agentic AI. So this is moving beyond 'analyze it for me' and 'search and retrieve and summarize information for me' to actually taking action for me, 'do it, execute something'.

Wrap up Quote 2 - Greg Ulrich, Chief AI and Data Officer, Mastercard

'*I do think the quality of the technology and what it's able to do is meaningful. And so we're working to figure out how we can use that to drive value to our ecosystem value to our customers value to our employees. And we're very confident in the sustainable and transformative impact of AI on commerce and society at large'.*

Alex: So the question is, what is agentic AI? How does it differ from the tools and systems we use today? And what might it mean for industries, creativity, and even society as a whole? [00:35:00] We'll dive into these questions and others as we consider the possibilities and challenges that come with creating AI systems that are capable of acting with autonomous agency.
My guests today are Greg Ulrich, who is Chief AI and Data Officer at Mastercard, and Sophia Bantanidis from the Future of Finance team here at Citi. Welcome to you both.
Sophia, set the scene for us. Your team published a report recently on agentic AI. What exactly is it? And how's it different to other types of AI, like machine learning or indeed even generative AI?

Sophia pick up (at the end of her file)
Sophia: Yeah, so that's a great question. I mean, all of these things, be it machine learning, Gen AI, Agentic AI, they all fall under the general banner of artificial intelligence. So, if you think about machine learning, an easy way to describe that is, sort of 'analyze it for me', technology, or 'figure it out for me', technology, where you use NLP, natural language processing, too, for example, extract terms, find terms, or summarize them, or analysing patterns.
[00:36:00] It could be patterns of a client. It's past behavior or payment patterns. So you know, we've seen many firms, many banks, including the bank that I work in, uh, use machine learning as an example, uh, to detect payment outliers, to stop fraudulent payments for going out the door or to stop payments that do not conform, you know, to a client's past pattern of payment activity.
[00:36:28] So key point is machine learning - its analyze it for me, figure it out for me, showing me what's working or what isn't working so I can make an informed decision. Right, then we've got generative AI, another subset of AI.

Um, generative AI creates something new. It creates content, uh, it creates content based on a prompt, uh, based on my input.
[00:36:56] Um, so think about it in the context of financial services. Um, I could give it a prompt and it could go off and it could create a contract for me, based on what it's learned on past contracts I might have. Or, um, another use case could be, hey, here are a bunch of policies and procedures, why don't you go off and summarize them for me and.
[00:37:19] Pick out the bits that are most relevant to me or to my job. Then we have a new kid on the block. Um, another type of AI, AI is doing another pivot and we [00:37:30] have Agentic AI. So this is moving beyond analyze it for me and search and retrieve and summarize information for me to actually. Taking action for me, do it, execute something.
[00:37:47] So in financial services, a good example here, coming back to what I mentioned on contracts would be execute the contract for me, fulfil the obligations of the contract for me. Don't just pull together the contract for me. Don't just summarize it for me, don't just create the contract for me, but, uh, be sort of a living and breathing contract and execute the obligations of the contract for me.
[00:38:12] So those are the three different types of AI.
[00:05:41 Yeah. So there's an awful lot of talk about Agentic AI in particular.
[00:05:47] Um, Big tech firms, um, they increased the reference to agentic AI 17 times in 2024. We expect it to go parabolic in [00:06:00] 2025, but also investors are walking the talk. Last year alone, 37 percent of global VC funding and 17 percent of deal activity was to AI startups. And autonomous agents and digital co workers had the biggest growth in VC deal activity in 2024, followed by Gen AI for customer support operations, 150 percent growth between the years 2023 and 2024.[00:06:30]
[00:06:30] People are talking about it, that's going up, and investors are putting a lot of money in it, and the changes on the supply side and the demand side that I alluded to.

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Alex: So that's a great moment to bring in our guest here, Greg, and in your amazing role there at MasterCard as chief AI and data officer, I imagine you've got a pretty unique perspective of what's happening here.
[00:06:51]Do you subscribe to the view that we're in some sort of AI bubble? Or do you have different concerns that there's not so much about that? [00:07:00]

[00:07:00]
Greg: So I think as far as the impact of the technology, Alex, and here speaking of Gen AI specifically, I think it's going to be transformative. I think it's actually happening pretty quickly.
[00:07:12] I think it's also taking a little bit longer than people might have anticipated to fully penetrate the lives of consumers, to fully penetrate enterprises as well. I think as a result, you have a lot of companies where the value expectations are really set out in the future. We see this with all new, potentially [00:07:30] transformative technologies that come out, but these loftier, some might say 'frothy valuations' are based on really robust forecasts of what we expect the long term profits and revenues to be at these companies.
[00:07:41] When you have that situation, you get just a lot of volatility. And that's because changes in assumptions that are happening today have really meaningful impacts on what we expect is going to happen in the long term. Um, and that volatility is going to continue to happen because of these future expectations and because of the uncertainty. And I think if you look at the battle for the LMS and who's going to win, I think.
[00:08:27] No one knows sort of, who's going to win, how many [00:08:30] winners are going to be, and importantly, what chunk of the profit chain or the value chain they're going to be able to bring in and what the winners will be able to capture in the future. So, but while there's a lot of hype and uncertainty around this, as we think about it, our long term investments take a pretty principled approach to make sure we take advantage of the technology, and I do think the quality of the technology and what it's able to do is meaningful.
[00:08:57]And so we're working to figure out how we can use that to [00:09:00] drive value to our ecosystem value to our customers value to our employees. And we're very confident in the sustainable and transformative impact on. Of AI on commerce and society at large.

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Alex: Well, maybe I could just draw you draw you out on that Greg in terms of what Mastercard.

[00:09:17] What does in terms of your approach to AI and I guess how you prioritize it because you have to choose where to, to, to focus, how do you think about your, I guess your philosophical and sort of your actual [00:09:30] implementation?

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Greg: Right. So I'd start off by, uh, say MasterCard has been using AI for decades. It's fundamental to what we do as our role in the ecosystem.
[00:09:42]We look at over 160 billion transactions a year. We're using those to bring intelligence to our customers and to protect the ecosystem from cybercrime, preventing fraud and the like. So that that that has given us a good, good roots for this Gen [00:10:00] AI craze and the Gen AI revolution more, more, more aptly.
[00:10:05] And so we're looking at this to understand how people and our clients can interact with our services, with our network and to make that more seamless. Before I get into the priorities, I'll talk a little bit about how we think about how we do prioritize things because every organization has a thousand different ideas about how AI can be deployed.
[00:10:23] And without any sort of coordination, it's easy to have a thousand flowers blooming, distractions, inefficiency from a [00:10:30] cost perspective, uh, conflating priorities, unintended consequences. And because the Gen AI technology is so new and it's evolving so quickly, Uh, that can create real challenges for organizations.
[00:10:42] So we have a bit of a hub and spoke model. We want to enable our organization to innovate. But also have some centralization around where our priorities and what are we going to do and what are we going to lean in and lean in on from a technology perspective, a partner perspective, a use case perspective.
[00:10:59] And so [00:11:00] we've analyzed where enterprises in general are getting the most value from AI. We've launched a sort of an intake process, so we understand everything that's happening in the organization and we're trying to prioritize along those lines. And for MasterCard, there are really four areas that we think about.
[00:11:15] It's around how we make commerce safer. How do we make commerce smarter? How do we make it more personal and how do we make MasterCard stronger. Around safe around safer, it's around how we use the data we have combined with AI to [00:11:30] protect the ecosystem from scams from cybercrime for each individual transaction to determine if it's likely fraudulent or likely legitimate, how do we make the organization smarter?
[00:11:41] It's around how we use this information to give better insights to our customers to help them authorize transactions as quickly and as, uh, and as accurately as possible. We want to help our customers personalize opportunities for their customers, and we use AI to do that. And when it comes to making our own organization stronger, [00:12:00] there are a few things we're looking at.
[00:12:01]One is around. How we take the corpus of information around our organization to enable knowledge management, internal knowledge documentation, helping employees synthesize information, answer questions on the job, drive their personal productivity. It's around role specific efficiency and agents. Things like how we're helping our software engineers accelerate their development pipeline and using coding assistance to do that, how we're helping our customer support organization [00:12:30] respond to queries more, more rapidly, and then the underlying foundation around how we cleanse and automate our data overall.

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Alex: So that's, that's a really robust approach I guess you got there. Maybe you could to draw out some of your work more recently around Agentic AI as well. Because obviously, as I understand it, you've done some pretty interesting work with Databricks and various so called onboarding agents. Can you just tell us about the problem you're trying to solve and I guess how it is that agentic plays a role for you?[00:13:00]

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Greg: Sure. Um, I think now that we have these sort of multimodal models, uh, and the capabilities that we can sort of plan before acting with the reasoning models, a lot of the innovation is focused now on agentic AI. as Sophia was talking about. And again, these are systems that can act more independently and with less human intervention and take action on behalf.
[00:13:21] Uh, they give the organizations the ability to take specific tasks that can be automated and, and, and roll with those much more rapidly. And as [00:13:30] this technology is becoming available, we're finding repetitive,

tedious and automated tasks and automating them away. Um, what's important for us too is when we see these tasks, when we can automate parts of someone's job, we see much higher job satisfaction.
[00:13:46] And indeed, as we're doing these, uh, using these coding agents with our engineers, We're seeing 70 percent of them have noted higher job satisfaction. And everybody focuses a lot on the efficiency and the productivity gains. [00:14:00] I think it's also important that we make the job, we make the job as enjoyable as possible because that's how we're going to get the best work for our employees.
[00:14:07So it's not just the efficiency side. It's also the satisfaction side.

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Alex: Yes, it's like that analogy where teachers want to be able to teach, not do all the admin in the background and just get into the bit they enjoy most.

[00:14:18]
Greg: Exactly. And the more you focus on that, the more time and energy we have to unlock the really interesting problems that we all want to spend our time and energy on.
[00:14:29]While we're [00:14:30] doing all this, though, it is important to realize that we have to approach this with, with caution, right? Having the right precision to do these things when you don't have the human in the loop as much, creates a different set of risks from a model hallucinating or providing wrong information or taking an action.
[00:14:48]And so we do have a very cautious approach to this, particularly given how we sit in the marketplace. Now, you mentioned our work with Databricks. We do have a deep partnership with them on a variety of dimensions, largely because [00:15:00] I think they're very aligned to our commitment to responsible AI development and our principles around transparency, accountability, privacy and fairness and more.
[00:15:11] There are a few things that we're doing with them. The main one, or the first one, I think, which you referenced, it's called the MasterCard Assistant Platform. We built a platform, which is basically enables us to,Uh, have, have, uh, models trained on our data and create agents that support specific functions.
[00:15:29]The first one we did [00:15:30] is around customer delivery. How we can help our organization help, uh, how we can help our customers onboard MasterCard products more quickly by creating an agent that understands all the technical information that we have around those products and can answer questions more rapidly.
[00:15:47] Now, we use that currently again with our own agents until we get it really perfect, in which case we'll make it more, uh, more external. What we've done with Databricks is both create a platform that we can build a [00:16:00] variety of agents on it. And then we've started with customer onboarding and now we're moving to customer care, customer delivery.

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Alex: And presumably what you're really trying to solve for is making that experience as efficient and as smooth and as productive as possible. And perhaps it's not always been that way,

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Greg: right? It's there. There's a lot of information. There can be complexity. How do we cut through that as quickly as possible?
[00:16:21]So our customers can Uh, can can take on the products and on board the products as quickly and with as little [00:16:30] pain as humanly possible.

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Alex: That's fascinating. Sophia, we've heard Greg talk about a number of really interesting use cases. You're speaking with a lot of people out on the road constantly day by day.
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What are you hearing from clients in terms of AI adoption? Where are they at?

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Sophia: Yes, that's a that's a very good question. I mean, machine learning, AI adoption. That's been there, done that, you know, most firms are using it in some shape or form. Gen AI, agentic AI, a very different [00:17:00] story,

uh, most firms are at the beginning, at the exploratory stage, um, early stage for gen AI and even earlier stage when you think about Agentic AI.
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And in the report we published, the multiple use cases that we cover on agentic AI, these are things that are being sort of built now but for the use cases of the future, um, when it comes to Gen AI, um, Alex, we, [00:17:30] um, our colleagues in our transaction banking business, uh, they did a survey and we, uh, last year, yes, and we asked our clients a bit like a temperature check.
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We asked our fintech clients, we asked our insurance clients, and we asked our clients that are banks - Where are you at on your Gen AI adoption journey? Just to see what came back. Um, across the board, everyone said they are at the beginning of the journey. But there's some differences between where fintech firms are at, where insurance firms are at, and where banks are at.[00:18:00]
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So 5 percent of fintechs told us they haven't yet started doing anything on Gen AI. Um, versus 10 percent of insurance firms, versus 26 percent of banks. So in comparison, based on the results of our client survey, banks are lagging behind on the gen AI adoption journey and the Agentic AI. I mean, it's even more experimental.

[00:18:24] Alex: So much more early stage. And presumably part of that is to do with maybe it's fiduciary duty, [00:18:30] regulatory perspective experience around, you know, not necessarily being the first to move a better to be a fast follower. What do you think? I guess. You know, policymakers and regulators are likely to focus on and how's that kind of coming into the debate?

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Sophia: Oh, they always get blamed. Don't they? I'm happy. I'm no longer a regulator. Um, but look, um, they have said policymakers, regulators, supervisors, they have said an awful lot of things in public about how to [00:19:00] regulate the application of the technology. I'm not going to repeat that. Broadly speaking, you'll see countries taking different approaches, particularly when it comes to AI and generative AI, some being well, similar to firms, some being, uh, first movers, like what we've seen with the European Union and the AI Act and others.
[00:19:19]Taking their time and saying, you know what? We want to wait a little bit to get this right. We want to understand the technology better, how it's going to be applied, what risks are in place so as to not stifle innovation, [00:19:30] see what guidelines we already have, and then we'll decide how to act.

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Alex: And that's an important distinction, isn't it?
[00:19:35] Depending on where you are in the world, as an organization, you also have to respect and operate in that environment.

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Sophia: Absolutely. And I think the more global you are, and the more countries you operate, the more complicated it's going to be for you from a compliance perspective, right? Because whose rules do you follow?
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Do you decide to take a wider than wide approach and just level up and follow, uh, [00:20:00] the rules globally throughout your operations of the country that has the strictest rules? That's an approach that most highly regulated firms are going to take. Now, when it comes to agentic AI, I think, and what we say in the report is regulators and supervisors, yes, they're going to look at all the risks and regulatory developments we have with Gen AI and machine learning AI, but they're going to hone in on the two new things [00:20:30] that agentic AI introduces.
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Number one, the agents, um, acting autonomously or with a degree of autonomy and making decisions and number two, the new types of, or the heightened, I should say Cyber risks that agentic AI introduces the first point to do with autonomy. This is all about this comes down to the governance framework. What is the governance framework that a firm has put in place?
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You can expect your regulators and supervisors to ask you a lot of [00:21:00] questions on that. And as a firm, you better be sure if you're going to play with agentic AI and adopt it, you better be sure to be taking kicking the tyres on your governance frameworks. Yeah, so that's point one. Point two is around the cyber side.
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Um, of course, we already have cyber risk, but if you're talking about agents taking autonomous decisions, well, cyber criminals will be able to act in real time. And if you have an agent acting and making a decision, taking [00:21:30] action, then the risk is that you will not have caught the cyber criminal until after the damage has been done.
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So you're going to have to invest in cyber, in cyber technology, um, to catch cyber in real time. And I think the role of the SISO will also be elevated within an organization.
[00:21:53] Sophia:
If I may add, I do think the role of regulatory sandboxes It's very interesting. [00:22:00]

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Alex: And when you say sandboxes, not everyone will be familiar with that term, but just explain what you mean.

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Sophia: Yes. And, and I'm not talking about any sandbox, I'm talking about regulatory sandboxes in particular, which, um, these are sandboxes that are usually run by, it could be a regulator or a policymaker in a particular country, um, where it will bring together the public sector and the private sector to test out.
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A particular technology

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Alex: in a controlled environment,

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Sophia: in a controlled environment, absolutely in a [00:22:30] controlled environment for a set period of times. And, you know, we've seen these regulatory sandboxes set up initially, uh, in the UK by the Financial Conduct Authority. Don't quote me on the year. It was 1 or 2 years after I joined Citi 2016 or 2017.
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Um, multiple countries and regulators set them up around the world, but particularly when it comes to AI, it's very exciting because under the rules of the EU AI Act, It mandates member states within the [00:23:00] European Union to set up regulatory sandboxes, particularly for AI, and Spain is the first country in Europe that has set up this AI regulatory sandboxes so that firms can go in, test their AI, including their Gen AI, to see if it complies with the regulatory framework.
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Hong Kong has followed suit. We have a Gen AI sandbox. And I think when you, uh, when we talk about a Agentic AI, Wait and see. We will have more regulatory sandboxes coming [00:23:30] up to test out the technology to see to what degree it complies with the rules or deviates from the rules, and so policymakers, when they think about rule-making, they can do so from an informed position.

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Alex: That's fascinating. Greg, we've heard there from Sophia, I guess, about some of the challenges and I'm sure at Mastercard there's a host of opportunities. When you think about the hurdles that you've got to kind of navigate going forward, is it that regulatory environment and the complexity of being such a global player that you have?
[00:23:58] Is it talent and [00:24:00] securing the right people or helping your current people kind of, you know, reposition or is it something else or no doubt some combination of all of the above?

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Greg: Yeah, it's certainly a bit of a combination. I think when we think about challenges and adoption, how this stuff comes to life, when we, when we think about this, it's, people often focus on the development or the, or the use of a, of a new model.
[00:24:25] But really where the adoption comes down is. Rethinking workflows, how [00:24:30] people do work. It's, it's a change management perspective as much or in our case, I think more so than, than the technology piece, the technology is, is critical, making sure you have the right process to bring the technology in, that you comply to the data is critical for our organization.
[00:24:46] I think because we have such a we're, we're data organization, we've, we've, we've had to have our data. clean and categorized and usable in, in, in, in a format for years to, to power our services. We've been using AI on [00:25:00] top of that for years. A lot of the building blocks we have in place, when you take on some of these new processes, it's really a change management, uh, question as much as anything else.
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So maybe

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Alex: you should think differently about your current sort of systems of work as much as anything.

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Greg: Yes. And how each, how, how employees have a chance to interact with this, uh, and, and how this comes to I think there are a handful of things that help us overcome this. One is around leadership. Uh, I think we have, from the CEO [00:25:30] down, a focus on this, an enthusiasm of this, uh, that allows people to lean in and make sure that it's seen as a valuable function within the organization.
[00:25:40]Uh, education's critical. I think there are a lot of people that don't understand or believe it's a little bit more futuristic than it is. They don't understand the practical realities. We have a multi stage education program, um, but one piece of it is sort of just foundational education on the technology across the entire organization.[00:26:00] Uh, the third one is around repetition. Just, the more people use the tools, the better they get at it. It's, this is the, the learning curve is not an hour. Uh, the learning curve is time, is, is using it over time and understanding the use cases and hearing from colleagues about how they're using different things.
[00:26:15] The virtuous

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Alex: cycle.

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Greg: Yeah. And so we're setting up a sort of two different guilds, one that's really technical around data scientists and data engineers across the organization. And the other one is what we call a collective, an enthusiast collective. Uh, everybody within [00:26:30] the organization, regardless of their technical training, can be part of that.
[00:26:33]We already have thousands of employees as part of it. That's really

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Alex: interesting. So different people can take part in different spheres.

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Greg: Yeah, and it creates a different, you can tailor education, you can tailor, uh, information more effectively based on how people can self select into those. Um, and then I think it's this internal alignment, this hub and spoke model around where we, where we can try to rapidly evaluate and, and, and [00:27:00] green light particular models or approaches as an organization.
[00:27:03] So people can use those while enabling the organization that spoke to the model, if you will, to innovate. That's been helpful as well, and we hope we're still early on this journey as everybody else, but we're hoping. These things will help us accelerate this even further in the future.

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Alex: Yeah, I can see that.

[00:27:18] Maybe I'll ask you both one sort of last double pronged question. Um, our listeners are going to be keen to hear what you say on this. And I guess the question is this. What excites you most about where we are [00:27:30] today with AI and looking forward? And I guess the questions that you're, you're looking to tackle both this year and next.
[00:27:36] Maybe Sophia, I'll, I'll put that to you first.

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Sophia: Uh, what excites me the most? Okay, I'm excited because It's a general purpose technology, meaning it's going to impact everything I do and how I do it in all aspects of life, be that from what I see on the news on high level [00:28:00] geopolitics to how I lead my life, how I'm going to work, my personal life, how I'm going to book holidays in the future and what have you not.
[00:28:09] It's impacting absolutely everything. And that is, that I find really exciting. And I guess the big, the big questions I'm asking for myself are on the back of actually on the back of deep seek. I think it's the wake up call we needed. Um, big is not [00:28:30] always beautiful. It's not always the way forward, be that big budgets and top tier chips.
[00:28:34]So the question for me is what else are we going to see and who are the new competitors going to be? And where are they going to come from?

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Alex: What's to come? Yeah, that's a really exciting set of questions. Greg, what about yourself?

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Greg: Sure, uh, the four things come to my mind. The first one is sort of a Sophia saying these advancements in these AI models around the reasoning capabilities around multimodality and around how we start bringing the cost [00:29:00] profile down, both through competition, both through better training, both through new, new, new techniques, as we've seen with DeepSeek and others.
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I think that opens up the opportunity for so many more on this. The second is I'm excited about what AI is going to do to enhance commerce. Uh, that's foundational for our future. I think it will make commerce simpler for people. I think it will make it safer. I think we're going to drive great advancements in, in sort of consented personalization, if you will, uh, to enable [00:29:30] consumers and businesses to get what they want when they want it while they can control, uh, that, that, that messaging and that ecosystem as well.
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The third one is around ethical and responsible AI development. I think that there's, there's an and statement. It's not an or statement around innovation responsibility. I think a lot of organizations are on that on that page as well. And I think as we get better and better at understanding how we think about the right ethical considerations are responsible AI development.
[00:29:58]It's going to work for [00:30:00] everybody. And then finally, I think this year we start moving from. a lot of hype and excitement around this to bottom line impact for organizations. Uh, people are deploying this at scale much more quickly. I think that's what the market is looking for. I think this is what organizations and enterprises are looking for, is what the employee base is looking for about how this is going to transform my job.
[00:30:20]And when it starts to trend, uh, it makes my job better. I can spend my time working, working on the more interesting topics. I can, I can save time and energy and [00:30:30] focus on the right things. And that's going to lead to real bottom line impact for organizations.

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Alex: Well, that that's fantastic. And look, thank you both for, for guiding us through this, this brilliant topic.
[00:30:39] Really appreciate it. And, uh, I think with that, we'll probably look to wrap. So thank you both.

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Greg: Thank you so much.

The Citi Institute Podcast

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