**Vasi Philomin:** 0:00

ML has been foundational for Amazon for over 25 years. They take the technology and they put it to use in real world business use cases at scale. The reason why GenAI is being talked about so much is because of its potential to automate work. It is going to help humans do things at scale that they've never been able to do before. So Generative AI essentially is bringing in a whole new set of people that can now start benefiting from it.

**Craig Smith:** 0:25

Hi, I wanted to jump in and give a shout out to our sponsor, netsuite. I'm a journalist and getting a single source of truth is nearly impossible. If you're a business owner, having a single source of truth is critical to running your operations. If this is you, you should know these three numbers 36000,25,1. 36,000 because that's the number of businesses that have upgraded to NetSuite by Oracle. Netsuite is the number one cloud financial system streamlining accounting, financial management, inventory, hr and more. 25, because NetSuite turns 25 this year. That's 25 years of helping businesses do more with less, close their books in days, not weeks, and drive down costs. One because your business is one of a kind, so you get a customised solution for all of your KPIs in one efficient system with one source of truth: Manage risk, get reliable, forecast and improve margins Everything you need all in one place. As I said, I'm not the most organised person in the world and there's real power to having all of the information in one place to make better decisions. This is an unprecedented offer by NetSuite to make that possible. Right now. Download NetSuite's popular KPI checklist, designed to give you consistently excellent performance, absolutely free at netsuite.com slash. I on a I, that's I on a. I e y e o n a I All run together. Go to netsuite.com slash I on a I to get your own KPI checklist. Again. That's netsuite.com slash I on a. I e y e o n a I. They support us, so let's support them. Hi, I'm Craig Smith and this is I on a I. In this episode, I talked to Vasi Philomin, vice President of Generative AI at Amazon Web Services. Vasi shares his journey and the pivotal role his team has played in launching Amazon's array of AI capabilities. As the mastermind behind services like Lex Polly and Code Whisper, and now Amazon Q, Vasi provides a peek into the transformative potential of generative AI across industries and how Amazon's unique approach to AI integration and customer-centric innovation is shaping the future of enterprise AI solutions. I hope you find the conversation as fascinating as I did

**Vasi Philomin:** 3:41

so my background is actually AI ML, so back in the 90s when I did my PhD in computer science, I chose to specialise in AI.

It was not a common thing to do back then, not at all. Yeah, most people would talk about databases or networking and operating systems. Those were the hot topics then and this was sort of an obscure topic. So all of my friends and family that thought I was nuts back then they think I'm a genius now because I picked the right topic. So it is my background and I do have a lot of experience with AI. It is my background and I joined Amazon about six and a half years ago and if we have to talk about my earlier role outside of Amazon, that's going to take a while.

**Craig Smith:** 4:13

So I'm going to pass on that from Amazon Right.

**Vasi Philomin:** 4:16

Yeah, so I joined Amazon exactly when they were setting up a team to focus on AI ML as a business in AWS on the AWS side of the company, and so my team is the one that has launched the majority of the AI services over the last six years. So all of the language services and I've managed language services like Lex and Polly and transcribe and comprehend and Kendra, and then we have vision services like recognition and text racked and we've got some industrial services like monitor on, amazon monitor on and things like that, and I was my team was the one that launched all of this. So I've had a very busy six and a half years Every year at reinvent, launching a whole bunch of new capabilities for in AI for our customers, and that's led to widespread adoption of our services and I'm sure you've heard we've got more than 100,000 customers that use AI ML on AWS, and so I've been part of the journey the whole time, having launched all these services. And I think this was at remars last year, if my memory serves me, right when we had actually envisioned code whisperers. By that time we knew that generative AI was there and saw the first killer application is really helping developers be more productive, and so we ended up coming up with the concept of code whisperer and then we launched it at remars and that's kind of how I fell into generative AI and very quickly we realised the potential of generative AI. We think at Amazon, we think it's going to simply transform pretty much every single function in every single business, in every single industry. And if you probably saw the keynotes Adam's keynotes yes, keynote yesterday and Swami's keynote today it was all full of generative AI. So we're investing heavily in that space and it made a lot of sense for me to just focus on that as an emerging topic. There's a lot of ambiguity, there's a lot of complexity and there's a lot of potential and challenges. So the company wanted me to focus and work on just generative AI, given the broad scope of it, and so I had to leave everything and all the other stuff behind and focus now fully on generative AI. And it was great last year. We've been on a very accelerated pace and we're not even waiting for reinvent to announce anything anymore. It's like, immediately we've got something that we think is good enough and it's going to help customers and we put it out immediately. So we didn't even wait for the GAF bedrock. Normally we would have waited for the GAF bedrock to reinvent itself, but we didn't and we launched it like a couple of months ago.

**Craig Smith:** 7:01

Yeah, yeah, I'm curious about Amazon's development because I'm a journalist, not a practitioner, and I started paying attention after writing about Jeff Hinton in 2017. So much later than you? Yeah, obviously, but at that time and for the first few years, as I was getting to know the space, you know, open AI obviously was a player. Google was a player, Microsoft, to a certain extent, was a player. Amazon it was all kinds of. It seemed to me all kind of behind the scenes and you didn't talk a lot about your AI work. It was in the products but not as publicly facing services. So, for Gen AI, when did you build the first foundation model at Amazon?

**Vasi Philomin:** 8:10

Let me actually answer the question. I mean, there were a lot of things that you said there when you asked me the question. I think one of the things we, one of the things most people may not know, is that ML is found. It's been foundational for Amazon for over 25 years, yeah, and I think what Amazon does best with any technology, especially AI ML, is they take the technology and they put it to use in real world business use cases at scale. And I've chosen these words really really carefully, because that's what's lost in all the hype. And we do it quietly Because, in the end, what matters most is nobody's going to look at pieces of the puzzle. They want the entire thing. They want to be able to do something differently that they've been doing before, and to enable that, you have to think end to end, and I think that's what we do really really well and that's what attracted me to the company in the first place and that's probably the reason why I probably worked there for a very long time. It's because we think end to end. We think of real business use cases, which means, you know, it can't just be a toy, it can be an experiment, it can be just for show. It needs to be adopted at scale, and so the cost has to be lower than the value for this to be adopted at scale. There's all kinds of things you have to think about, and I think you have to think at different levels of the stack. That's why we keep pointing out the different levels of stack we have for AI ML. So it's important to point out that that's what Amazon does really well, and we have lots of examples of it. So, for example, back in the 90s, if you bought a book on Amazon, people who bought these books also bought those books right, and that is a classic ML technique called collaborative filtering applied at scale back in the 90s, when I was still doing my PhD, right. And then fast forward. Now you look at Alexa. That's like 100 million users and a billion interactions every week. That's ML applied at scale. And if you look at our fulfilment centres, if you've ever been to one of the fulfilment centres, you will see that we ship 1.6 million packages a day and that's humans and robots working together doing the same exact tasks. We've got videos of it, but best is to go and see it live. They're doing the same tasks in the same space at scale. So we've got a history of taking technologies like AI ML and applying it at scale to real world problems, business problems. That's exactly what we've done with AI ML and now that's what we're planning to do with generative AI. Majority of the cloud workloads happen on AWS with more than 100,000 customers using our services. Nobody's even close. And I remember the same kind of thing being said when we started six and a half years ago, when we started exposing the AI ML capabilities that we've used internally for a long time for external customers to use for their own companies. People said the same thing you know, I know about Google and know about some of your competitors and but then you just fast forward, we just execute, we work backwards from customers, make sure that it's going to fit in to what actually they want to do at scale, and that's why most customers gravitate towards AWS, and we're doing the same thing with generative AI. If you were to come back to your question, when did you exactly start? We've been. A lot of the things that we've been doing have been tried out by various parts of Amazon already, many businesses. So there are sets of capabilities that we expose to customers through AWS. Some of those could be from another Amazon business that is actually applied at its scale. So it could be things like that. Other cases, we work backwards from our own customers, aws customers. We look at their problems and then we may have things happening already within the company or we may choose to do something new, and so Code Whisperer. I think we started working on it already like two years ago, two and a half years ago, before all the hype around generative AI, because we saw it was a natural evolution of what was happening in AI and, if you're familiar with it, as the models got bigger and more sophisticated and they were exposed to like web-scale data, the models started having some emergent properties and these were properties sort of like latent in them and you can unlock it very easily without a whole bunch of scientists. In the past, we would build specific models for specific things and you would start from scratch all over again and again. You would collect the data, you would build the model and you would make sure it worked for that specific niche use case and then you would put it out and then you would go and do the same thing for the next use case and some of the use cases may have multiple models involved. Now you've got these more sophisticated models and more capable models that you could simply tweak it, you know, to kind of do the thing you wanted to do, the task that you wanted to be good at, by just giving it examples of inputs and outputs, and this is something that anyone can do. You don't need to be a scientist to do that. And so these are the kinds of capabilities now that so Generative AI essentially is bringing in a whole new set of people that can now start benefiting from it. You don't have to be an ML expert, you don't have to be a scientist to do any ML at all, and you can get these models to do what you need to do. And so Bedrock we created this new service called Bedrock because of that reason, and, if you look at it, we also don't think it's going to be a single model to rule them all. You've probably heard this phrase. Some other companies want you to think that. They want you to think that it's just a model that matters, but it doesn't. There's a whole bunch of other things that you have to care about, and especially in such an early phase of a new technological trend. You just can't bet on any one thing and I don't think that any one thing is ever Like, even for a certain use case. We end up using multiple models behind the scenes because you have to take into account other things like cost and accuracy and latency, and it's always a trade-off. And I think in the keynote today the Intuit person the person from Intuit mentioned that and they've been always cutting edge, leading adopters of all of our services but also all of the technology out there, and she was talking about how there are lots of choices you have to make and you can't just think that the one model is going to help you solve all of those. So what we've done with Bedrock, for example, is we made sure that our customers have different choices and there are different families of foundation models. So some foundation models are like text in text out. Other ones are like text in embeddings, which are more useful for search. Then there's a third group text in image out, and we announced some new Amazon built models there. But the main point I want to make is we think that it's not just going to be one model provider and it's not going to be one model, and that's the reason why not only do we have we've assembled the best startups out there and the best models out there as part of Bedrock. We've gotten our partners to come and offer their models on Bedrock, but we're also building our own model. We're not saying it's just third party models that will be available on Bedrock, and I think ultimately all this just benefits customers because they have the choice and no one knows how things are going to go, and you've got all of these things available in one place, and so it's very easy for you to figure out what works for you for your particular business cases, and it's always been about choice.

**Craig Smith:** 15:41

So how many? Well, actually, just quickly, how many models or model families of models does Amazon have? You don't have a marquee model.

**Vasi Philomin:** 15:57

I don't know if there's anything like a marquee model. It sort of helps to look at this whole thing holistically. It also doesn't matter if we have them. If there is one, it doesn't matter. If we have it or if you know one of our other partners has it, it doesn't matter. It only matters what customers have access to right. And so Let me just talk through the different model providers we have. On bedrock right now, we've assembled. We've got AI 21. There was an early startup that created some of the first models. And then we've got Anthropic, which is very, very popular, right, and they just announced Claude 2.1, which has an industry leading 200k context length, and what that means is that you can feed it the largest books you can think of in just that one call, in that one context, and then you can ask it all kinds of things about that book and you can even make it write another book, right. So it's got that. It's got, I think it's. They've reduced hallucinations dramatically compared to their previous version, and so We've got Claude. And from Anthropic, then we've got Lama 2 is an extremely popular open access model from Meta, yeah, and so there were a lot of customers asking us for that on bedrock, and so we did that. We had offered their 13 billion Parameter model chat model a while ago and I think we announced today the 70 billion chat model from Lama, which is very, very popular. We have that. We've got co hair, which is another interesting startup, and they've got their own Text in text out models, but also an embeddings model. And then, if you, we have stability, which is one of the hardest startups and when it comes to, you know, images and videos and things like that. So you've got Stability SDXL 1.0, which is their latest model, which generates high quality images. We have that update as well as part of this reinvention. And then, finally, the Titan family of models, where where, if you noticed some of these, some of these model providers, they probably stick to one family like text in text out, anthropics models, for example, are text in text out models right now and Stabilise stability's model on bedrock. Today they're text an image out. With Titan, we're looking at a holist, we're taking a holistic view of the whole landscape. Here. You've got Different families of foundation models. Right, text in text out is just one, but it's the one that is most popular and most visible because of what chat GPT did. Right it's. I think consumers could relate to it, and so it became very, very popular very quickly. But that's just one family of models. You you can't do much without the text in embeddings out models, because if you want to do any sort of retrieval and and searching and finding information, you're going to need those, and it's usually behind the scenes so nobody talks about it much, but it's a super important component of the whole thing. And so we've got Titan text and we got different versions of Titan text, the smaller ones. We've noticed that you can take a smaller one and you can fine-tune it. We didn't talk about customization yet. That's a key, key component of our offering. But you can actually fine-tune it and you can get it to perform on that one task. You can get it to perform close to the best models out there. If there is a marquee model, you can make it actually perform as good as that, but now you're doing it with a much smaller model. So your latency, your costs are going to be dramatically different from if you would use this, this hypothetical marquee model that may be out there, right. And so we've got that family right. And then we've got our Titan also has a text embeddings model, and today we announced the Titan multimodal embeddings model. This is where the text embeddings model allows you to search documents, but the multimodal Text embeddings allows you to do image combined with text. So if you have a product catalogue, you could either search with an image, or you could search with text, or you could search with both and, for example, I could just say here's, here's a picture of my, here's a picture of my living room, recommend Furniture that fits with it, right. So it's a combination of you're saying something, but it's linked to the image that you may be uploading as well, right? And so that's kind of when you would need this multimodal embedding model. So Titan just announced that right in GA, and then you've got the text to image, which is where it's useful in creative situations where, let's say, you're a marketing company or an advertising company. You just want to. You've got a new product that you want to create a marketing campaign on Instagram for. Then you may want to create images that are reflective of what your message should be about the product you're trying to sell. But, again, you'll use that in combination with Some of the other models. So I think that pretty much every workflow will require access to different families and even within a family There'll be differences in the way the models were trained. For example, the text to image the Titan Image Generator Model which was announced in Swami's keynote today. That was. We focused a lot on those ad creation, marketing campaign kinds of use cases. So we put a lot of effort into doing very high quality images of faces, things like product placement, allowing customers to isolate products and put them in different backgrounds. So we focused on specific workflows and I'm sure another provider that's looked at the same problem. We're focused on other use cases. So this actually speaks more to what we are doing, which is offering all these choices so that customers can figure out what works for their particular use case.

**Craig Smith:** 21:37

Yeah, I wanted to ask, are you? I presume you're working on video? I just saw Andrew Carpathi on Twitter highlighting just an incredible piece of software by a company I'm looking for now called Pika.

**Vasi Philomin:** 22:01

Pika 1.0.

**Craig Smith:** 22:02

Are you guys doing something like that?

**Vasi Philomin:** 22:05

Yeah, so we're constantly working on as per our strategy and as per what a customer's looking for. 90% of what we do is really working backwards from customers, right, and the reason why we built things like Titan Image Generator is because we heard from some of our customers that are in that space saying the current solutions are okay, but they've got some issues, and so that led us to actually go back and build something specific, because we saw the potential and we saw how it could help change their innovations in their business, and so we're constantly working on new technology. I don't have anything specific to share today on video, but you can assume that we're working on a lot of different topics in this area, and I think we'll put things out when we feel like it addresses a business problem, and we'll put it out also when we think it is something that can be adopted at scale and not just something that can be demonstrated in a prototype or a proof of concept.

**Craig Smith:** 23:04

Yeah. The other thing I wanted to ask is there's sort of this direction to building agents off of large models. Where are you guys with that?

**Vasi Philomin:** 23:18

And to me, that I mean all of these models are amazing, but when you get to agency, that's when the world will change Absolutely, absolutely, and so many customers would think that Bedrock is just a hub of different models, but that's just the beginning, right, and what we've done, I think, in the last several months is we've thought about workflows around these models. So, if I I've talked to a lot of customers, and one of the questions that a lot of customers have for us is you guys are making these capabilities available also to others and to my competitors who are part of the others, and that means that you know I need some way of differentiating myself from all those others because they have access to the same capabilities. This is why, when we started with Bedrock, we didn't just say, okay, it's gonna assemble the best models in the world. We said it's gonna do that, and then it's going to allow customers to make these models their own, with their own data and their own IP in a super secure and private way. Right, and that's crucial for enterprise adoption. It's so different from the consumer side of things and I think it was nailed I think Adam talked about it a lot in his keynote security and privacy, and how you wanna give customers the option to do this on their own in a very private way that even AWSC with what the data is right, and that's the kind of controls we've always given our customers, and we're putting it to use here so that they can actually make these models their own in a super private way. So there's workflows around customization and there are many different kinds of customization, but then there's also workflows around putting actually automating work, which is exactly what agents is all about, and the reason why GenAI is being talked about so much is because of its potential to automate work, and for me, automating work scares people sometimes, but for me, it's more like it's transformative productivity. That's what it is. It is going to help humans do things at scale that they've never been able to do before. So I think that is how I think about it. And so agents here's a quick overview of what we announced agents in GA right now, and here's what agents allow you to do. If you've probably taken chat GPT, you've talked, if you've used chat GPT and you asked it like who the Oscar 2023 winners were, I'm sure you've seen chat GPT tell you my knowledge ends. There's a cutoff date for the knowledge. It says my knowledge ends December 2022, and I can't tell you who the winners are, and so what we believe is that knowledge, especially knowledge that is changing fast, should stay outside the model. It shouldn't be part of the model. And you don't wanna do fine tuning just because you wanna give models knowledge. You wanna do fine tuning because you want models to perform tasks Right. And so agents solve two problems. It solves that whole workflow of keeping the knowledge separate. You create an agent which is powered by one of the foundation models on bedrock and then you point it. You have to go through this workflow of creating your data sources, your knowledge basis, where all of your knowledge resides, and then you've gotta point the agent to it. And now suddenly you've got an agent that is Very good at all of your knowledge, it knows about your knowledge and it's going to be very useful when you actually try to get it to do stuff Right. And so that's the first, that whole. It's the rag workflow, the retrieval, augmented generation workflow. It, with the knowledge base for bedrock, simplifies it. The knowledge base part of it. And then now you create an agent and you point it to a knowledge base. Now you got this, this, you know this. This digital worker is the word that I use for an agent to describe the agent. That is very, very fluent with all of your business knowledge. Now the next step is you want to automate. You want to break down complicated tasks and actually make it happen. You want the agent to actually do things, not just be able to answer questions. That only gets you so far. You actually want to be able to do real work, and that's what I mean by automating work. And so a good example I want to give you is let's say that I've just been shopping a lot for, you know, because of Black Friday and Cyber Monday, right, and so you often buy, you buy. Let's say, I buy a shoe, and I buy a shoe of a certain colour, and when it gets delivered to me, I don't like the colour, and so now I want to, I want to send it back, and but I want to replace it with a shoe of another colour from the same brand, right? So I'm triggering, essentially as a consumer, I'm triggering an order replacement workflow, right. And now you can, behind the scenes, what you can do is create an agent and obviously you've created knowledge bases around all of your, all of your products and information that you may have, and the agent knows those things. But also, you can teach the agent API's, the back, the business API's you may have in the back end for your own business. So, for example, there may be an API to say, does this brand even carry this shoe of this colour? And there may be another API that spots the price difference, if there is any. And then there may be a third API that actually triggers the order replacement workflow. So it's going to give you a label to return your previous thing and then it's going to set up the order for the new, to send the new shoe with a new colour to you. So you can teach the agent all of these API's in natural language and then, when the, the overall, when I as a consumer, trigger this whole workflow, the agent knows how to break it down into the appropriate API calls without you having to do any work or any coding, and and be able to automate work, and so that's exactly what agents do.

**Craig Smith:** 29:12

Yeah Well, let me ask, because the model writes the code for the API call, does the model actually make the API API call?

**Vasi Philomin:** 29:22

Yeah, yeah. So with agents, what we've done is integrated Lambda functions, and so with Lambda, you also can deal with security, like you don't? You don't need a way to set permissions on the API, who can call them, all of that kind of stuff, and so Lambda helps you do that. And if you actually go through creating an agent on bedrock, you will encounter that you will be describing the API and you'll actually be. There'll be a Lambda function behind the scenes that's going to make the actual call. So the agent will make the call to the Lambda based on what it needs to execute the command from the outside, which is I want these new shoes of this scholarship to me, and it may find out that she doesn't exist, and then it knows what to do as well, and so it's. It's easy to set up an agent. It's now easy to tell it all the internal things, but you don't have to go through the logic of doing all the if then else is and all of that. You can leave that to the agent and the digital worker will do the work for you.

**Craig Smith:** 30:17

Right. The one thing I don't understand and we don't have a lot of time left, but the actions taken by the agent is. That's a separate model and it's not necessarily a generative AI model, is it?

**Vasi Philomin:** 30:37

Actually, I don't think you even need a model to execute some API. I think what happens is the agent. What it does is it breaks down the complicated thing into different steps with a certain kind of a flow chart workflow. If this happens, then I've got to. I need that other information for me to finish this task and so it knows what information it needs to seek. It could seek it from the knowledge base or it could seek it through API calls, the way I described the workflow there. I think there all you need is the agent is powered by a GPT like model behind the scenes that has reasoning capabilities to break it down, but actual calling of APIs to get the information. There is no model involved there. It's just a. It's just a piece of code that's gonna do it. But I think what you're thinking about and I think you will see this probably in the future is you can imagine now a situation like I create a digital worker and I teach it a specific task, and then I create another digital worker and I teach it another specific task. So now we've got two digital workers. Each of them really understands how to do that one task that they've been taught really, really well, and you can, you can. There's parallels to how we do work, right, yeah, and then I think what you're talking about is, in that case, then, for that low level task, you're thinking of that as a model as well, and then you could, of course, have a Higher level digital worker that coordinates. You know the work that these, these two agents, do. So maybe that's what you're talking about, and if you think about it with that abstraction, then you can think of the, the, you know the agents at the, at the lowest level, as being some models that execute the thing. But ultimately, all the agent needs to do is to figure out what it's being asked and then, if it knows how to execute that thing, and then go do it. The doing it part doesn't require the model.

**Craig Smith:** 32:35

Yeah, that's what I was asking. Where is the? How complex do you think agents will get? Or in how or how complex Are the workflows that you think agents will be able to handle? I mean, you know Amazon has warehouses. They're still human workers in the warehouses, but Could it be that you'll have an air a, a warehouse entirely run by AI agents and robots and Somebody just watching for problems?

**Vasi Philomin:** 33:13

Yeah, I think we kind of addressed it earlier, where I'm going to now address it head-on. I really think this is all about Transformative productivity and I think people set this back. We bought the Kiva robots For our, for you know, lifting these shelves of inventory and taking it to the people that are fulfilling the order in the where, in the warehouses, in the fulfilment centres, and when we bought, when we started doing that, people were saying you know, is this gonna is, are you, you're gonna run it autonomously with just these robots? And you fast forward. Now, for many, many years later, we've dramatically increased the number of people that work in these fulfilment centres, because the nature of work changes and I believe that Humans and AI can work together to do things at a scale that's never been done before. I don't see a world where at least not yet I don't see a world where, you know, where it's just robots fully autonomously doing all of this stuff. It really depends. There's a lot of, there's a lot of gaps. Today especially, there are a lot of gaps Even on simpler things. So, if you, if you've got a very, very complex workflow with very, very many different APIs, having this one single agent is not the right way to go, because it may not know which API to call. So as the complexity grows, you actually want to break it down. You know, go back to the architecture that we were talking about earlier, which is to split it up in different agents, and, you know, make smaller digital workers that do less complex things, but then, ultimately, you put it all together. So, essentially, you're sort of doing a little bit of coding, right, you're? You're organising your work in such a way that these things can do what you expected them to do, given where they are today. So I think, even there, it's very clear that it's not going to be these, these digital workers that's going to do everything on their own.

**Craig Smith:** 35:14

All right, yeah, and when we kind of drifted into robotics, yes, with generative AI, with language models in particular, yes, they, you know I've been following their development right. But then they hit the public space, right, and it's just transformed so many industries or workflows, right. When do you think agents will do that, where suddenly Everybody will be Using agents or talking about agents? I mean, right now it's still kind of within, you know, deep in the corporate tech stack.

**Vasi Philomin:** 35:55

Mm-hmm, mm-hmm. Yeah, we're very much focused on enterprise adoption, right, that's our focus area at AWS, and the reason why we built agents in the first place is because we've heard a lot of customers say there's a lot of undifferentiated heavy lifting for me to do those two things we talked about, like create a Digital worker that has knowledge of my business, and, number two, create a digital worker that has understanding of all of the internal business logic APIs that I may have within the company, and so we did it based on that. So, with any of these, that is anyone's best guess.

**Craig Smith:** 36:32

Hi, I wanted to jump in and give a shout out to our sponsor, net suite by Oracle. I'm a journalist and getting a single source of truth is Nearly impossible. If you're a business owner, having a single source of truth is critical to running your operations. If this is you, you should know these three numbers 36,000, 25 1 36,000 because that's the number of businesses that have upgraded to a net suite by Oracle. Net suite is the number one cloud financial system streamlining accounting, financial management, inventory, hr and more. 25 because net suite turns 25 this year. That's 25 years of helping businesses do more with less closing their books and days, not weeks, and driving down costs. One because your business is one of a kind, so you get a customised solution for all of your KPIs in one efficient system with one source of truth: Manage risk, get reliable forecasts and improve margins everything you need all in one place. As I said, I'm not the most Organised person in the world and there's real power to having all of the information in one place to make better decisions. This is an unprecedented offer by net suite to make that possible Right now. Download net suites popular KPI checklist designed to give you consistently excellent performance, absolutely free at net suite com slash I on AI. That's I on AI, y E O N AI. All run together. Go to net suite com Slash I on AI to get your own KPI checklist again. That's net suite com slash. I am AI. E Y E O N AI. They support us, so let's support them. That's it for this episode. I want to thank Vasie for his time. If you want to read a transcript of the conversation we had today, you can find one on our website. I am AI. That's E Y E hyphen O N dot AI. And. And remember, the singularity may not be near, but AI is changing our world, so pay attention.