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Making AI enterprise ready with Chris Wells, Indico Data

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[00:00:00] Save themselves for their own incompetence. I think it's brilliant. It's a brilliant story. Trips over brilliant coffee cup goes over the computer. Human race is safe.

Welcome to Cloud Realities, a conversation show, exploring the practical and exciting alternate realities unleashed through cloud driven transformation. I'm David Chapman. I'm Sjoukje Zaal, and I'm Rob Kernahan. In this week we're gonna be talking about where we're up to on the AI hype cycle, what the world might look like on the other side, and how to properly mobilize and scale AI in the enterprise.

Joining us this week for that conversation is Chris Wells, VP of R&D at Indico Data Solutions, [00:01:00] and a fellow podcast host of Unstructured Unlocked podcasts, which I think is available wherever you get your pods. Welcome, Chris. Great to see you. Do you wanna just tell us a little bit about yourself?

Yeah, absolutely. And thank you for having me and I apologize for everything that's about to come. I appreciate you tolerating me. So my day job is, you know, I'm vice president of research and development at Indigo, as you mentioned, which these days means my real title is Chief Prompt Engineer. spend a lot.

All of ours will be eventually. Yeah, that's right. That's right. My. Main focus at that company. I'm not an algorithms nerd. I used to be, I'm a recovering algorithms nerd. My main focus is figuring out how to make AI enterprise ready and getting it into the hands of business users, not, machine learning engineers, just making it usable.

In the past, I was a data science lead in the financial services space, various roles for about 10 years. And ancient history at this point was an academic PhD

insufficiently, and. [00:02:00] Cool. So, so maybe let's kick off by, talking about Indico itself. So where are you guys based and how long have you been running for now? And, and effectively what you're trying to do, Chris. Yeah. Company's based outta Boston was founded by, it's sort of the, it's a trope, but founded by a few folks who dropped outta college and right.

Pucky and had a dream Start living a dream. Yeah, exactly. Yeah, that's right. Yeah, so they, it was Olin College of Engineering, just just outside of Boston. This started out aspi company, so some, you know, models and various sort of old school AI APIs and trying market developers, developers to build API solutions.

Randomly had an interaction with an enterprise company that said, We'll pay you basically 10 x the fees that they were, they were, you know, that they were charging developers and they were like, oh, maybe this is the way to go. Yeah. Sort of pivot, pivoted. Yeah. That's, I, I see the strategy there. Yeah. That's clear.[00:03:00]

Very good. It's very, it's very typical startup strategy. Just bumble around in a random drunken walk and say, find a thing. I was actually customer three. In ok. I was amet, were brilliant in my.

One of the co-founders, is Alec Radford, who folks know from OpenAI and, you know, lead author on the original GPT papers. So he Right, right. More of an academic bent. He left in for OpenAI and, when was that Chris? That would've been, gosh, when was, when was GT first released? I wanna say.

The last six or seven years, and really starting to see a lot of interesting traction, especially in insurance, which blows my mind. [00:04:00] not known for their innovation. I probably shouldn't say that. I'm gonna get in trouble with our marketing, but I think it's true and I've been surprised by it. Well, very heavily rule based, I guess.

And, I mean we might, we might come back to that in a second. So what is it that you're trying to do with AI and the enterprise at sort of at this stage in its cycle? A lot of people talk about our platform as a machine learning platform, and I don't, I don't think it's, I think it's a machine teaching platform.

So we try to, we try to abstract away the implementation details of what transformer am I using, what are the hyper parameters? Data scientists hate us for this reason. Cause they, you know, there are no knobs to turn anymore, at least reduced knobs. But we make so. Supervise a model, you know, like literally on a document labeled data, and then the model says, oh, I see, I got you.

So does this fix for the, the age old problem that if your data's not good, you're gonna get garbage [00:05:00] information back? Does and, and a lot of organizations get partway through that journey and generally end up giving up and they've been doing that since the days of master day management. Is that the problem It's fixing for?

I would say no, we, you know, at the end of the day, platform sounds, someone finally got it. It sounded like a good question, Dave, but completely off track. No, no, it's a good question, but I'm, I'm reminded of an anecdote about Charles where someone asked him if his first mechanical computer would give the right answer.

If you asked the,

at the end of the day, we allow you to supervise. The model, but you're still building model and if you do a terrible job supervising it, you're gonna get a terrible model. And what's interesting is we see a lot of times people discovering how terrible their own processes are, right? Because they're trying to memorialize that process in the weights and biases of a model.

And they, one of the first projects I did when I. We show model metrics. So [00:06:00] you can tell like, is the model learning my stuff? What's it gonna do when it gets to production? We try to make the black box less black, so to speak. And, you know, the subject matter experts who had been labeling the data were like, well, the model's crap.

This isn't gonna work. We're throwing the whole thing out. And we pulled up their labeling. It was like, You don't have a single process. The process depends on who's doing it. So like you get on the same page and then come back to us when you know what it's you're doing. It's the old classic, the digital transformation failed.

Let's blame the technology and not any of the other things we failed to do. Like people and culture and standardization and all the good things that we actually think, you know, no, deep down you should, but we'll just blame the tech cause it's easier. Yeah. Exactly. Soa lot of, a lot of folks come to us and they're like, we just wanna reduce headcount.

You know, we wanna increase our throughput. And what they end up finding is a lot of knock on benefits. Like your process gets streamlined, your data's much cleaner that it's ever been. So analytics are now possible because, you know, it's going in. [00:07:00] And then three, and I can't emphasize this enough, job satisfaction, like doing data jobs.

Easy stuff done for them and they, they actually get to use gray matter more happier. So AI tool set that you guys are creating a productivity. Yeah, it's not a robot. It's a Mex suit, which I think is much cooler. Anyway, I like that. Yeah, that's very cool. Yeah. Yeah. Well, well let's, let's just, take a step back for a second and talk about the models and obviously the dinner party conversation of the days, the generative models, like where are you on that, because obviously there is some prevailing wisdom in the world at the moment that says it's maybe

going too fast and Pandora's box is open.

And you know, are we gonna get it back? Like what, you know, what are the next 10 years perhaps look like? And then there are maybe other commentators at the moment saying, once you get past the basics of asking it for cheese jokes, which is Rob's favorite usage of it. I thank [00:08:00] you. Yeah. Yeah. It actually doesn't do very much.

So where do you guys stand on generative at the moment? And, and what else is there out on the market? Yeah. Oh man, that's a lot. And also, I'll tell you, 10 years in this space is an infinite amount of time, so I'll Right. Even the last six months Yeah. It's been the Cambrian explosion for ai. Right. So I'll, I'll try, I'll take a shot at those things.

where do we stand? Our company history has been, as soon as GT came out, a month later, it's in our platform. Right. As soon as you know, Roberta came out. A.

Our history has been, like I mentioned, indiscriminate models where you tell them these are the things you can tell me and do not stray from them. And they won't, they can't. Generative models, of course, you ask it for a cheese joke and it, it can give you a mouse joke. cause there's some correlation between those two concepts and it's training data.

So where we stand is that there [00:09:00] is some very low hanging fruit that these generative models can pick from the tree, for example. They are incredible. Zero. Right. You don't show it any examples and it can find things, fact. So interface by just these models. It can find them, assuming it's a human understandable name.

It's not the name of some dumb column in your database. Right? Right. So our first approach has been like, let's treat these as discriminative models. Let's build the guardrails. So hallucinations never get back into your database. They never come through your downstream workflow. So we solve for that labeling data, you know, for a complicated workflow, used to take about a week for a team of people.

Corporate it can get it stuff together, which is a whole other, I'm not, I'm not gonna spend any time there. There's a whole season of podcast on that. It, it seems to me the human [00:10:00] ability to implement AI might be the thing that ultimately saves us from not being taken over by the robot. Yeah. That's the reality.

Yeah. I love the concept. Humans save themselves for their own incompetence. I think it's brilliant. It's a brilliant story. Someone trips over the kill. Yeah. Yeah. Brilliant. Coffee cup goes over the computer. Human race is saved. No. Think there's some truth to our, our entire enterprise, our arc has. Whatever the best in AI is, whatever the best in natural language processing is, make it enterprise ready.

Cause it's probably not like a few years ago, any random, you know, SME at whatever insurance company XYZ could downloaded the biases of Roberta and harness around it. But you're gonna do a bad job and so we take our expertise and we make these things enterprise ready and that's what we're doing with gt.[00:11:00]

We're starting the next arc we're on, and this one's really exciting and also a little terrifying is actually taking advantage of its generative capabilities, document summarization, generating, you know, here are five clauses. I like, can you generate one with these characteristics, heavy guardrails, the last six.

And, and when you look at the hype cycle for generative AI at the moment, yeah, it's probably true to say we're at least, I hope we're near the top of that at the moment. If not, we, we must be very close to it. To you, what does the, what does the arc look like for someone who spends every day in this world?

Yeah. When are we gonna hit the other side of it and have you got a, a sort of a view of what the other side of the hype curve is gonna look like? Yeah, I talked about the good side and the interesting things that we're doing. Let me tell you, I'll answer that question after I tell you what the other side of it is.

These models are still pretty dumb. I have suite of [00:12:00] tests I run every time, open releases version of, you know, four. And one of those tests is just asking college math problem, like solve this ordinary differential equation and it very convincingly fails. Right. It just, it, the, the answer is so plausible.

It looks like it could've come outta the notes of some professor and probably did. Cause they were on the web and they got scraped. Mm-hmm. But very wrong. Right, right, right, right. And you can poke it and prod it to get there. It'll eventually get there, but, it's worse. I used to teach undergrads and it's much worse.

It's fantastic. I think when you ask it to make a joke about something and it tries to make up its own joke and it pulls data that it thinks are connected and it puts it into a joke construct. So it reads exactly like a joke, but actually makes no sense. It's like so on the other day, which is like, why did the man put his keys in the blender?

Cause he wanted to make time fly. That's makes absolutely no sense whatsoever. It's funny in a way though, isn't it? In the [00:13:00] ridiculousness of it. It's very surrealistic. It's very surreal. Yeah. Which resonates with me. I didn't, I think the one I I loved the other day was that lawyer. Who submitted case presidents to the courts and the judge went and checked and none of the cases existed.

Yes. And chat G P T had made it all up, but it looked really convincing. Yeah. And it had merged a load of things together and just said, this is true. The lawyer just believed it, submitted it and got into some pretty deep water for basically making stuff up. Yeah. That, that brings me back to the hype cycle.

I do think we're near the top, although you know I've wrong before I gonna. There's all this excitement. Everyone's trying a lot of experiments. People are not being very disciplined. Right? Yeah. At the end of the day, it's a machine learning model and there are things you're supposed to do with machine learning models before you set them loose in production and people are forgetting that cause they're so excited.

I think we're gonna, that's gonna get tamped down. The applications in the enterprise of these tools are gonna diverge. I think there are gonna be like [00:14:00] personal productivity applications like you're on your desktop. You use chat g pt or some framework around chat gpt to solve your day-to-day tasks. And then there'll be a few use cases that are broadly adopted within enterprise companies, hopefully enterprise companies that have bought licenses to Indigo.

that, nicely done. Thank you. I don't, I'm not part of the sales org, but I aspire natural interrupt. There are few use cases. There's, we're gonna be in a bit of a valley discontent for the next six. What those are, and a lot of companies are gonna try to do it themselves. And I think they're gonna, they're gonna burn a lot of rubber and not get very far.

Yeah. If you had to pick one sector that should be excited about the future of AI versus one sector that might be excited, that shouldn't be, which, which two would you pick? The one that's going to get the most out of it and the one that [00:15:00] might, might not get what it thinks it might get outta it.

Like, blow a lot of cash on, on MVPs and actually not get value out of them. Yeah. I. That is

a fantastic question. I obviously, every vertical that's paper heavy is, is excited Yeah. About this, right? Anything you're pr where you're processing tons of documents or even call transcripts, I think it comes down to how heavily regulated you are.

So I, I used to work in financial services. I was a quant. Back in the day and day, you build a model, it gets deployed, it makes investment decisions, right? And then every six months, the audit team is like, okay, why does it do what it does? you, you put numbers in and they come out, right? It's so, and and they go up.

As long as they go up and you make your money, you're, and they're like, no, we have to understand. We have to file reports or whatever. So the regulation's gonna be the bar, and I think just above the bar is probably insurance and financial services. They're gonna, they're gonna get really excited. There are a lot of good use cases.

They're already really [00:16:00] good because of those years of being sort of governed and audited. They're really good at figuring out what the right frameworks are for talking to their auditors and very rule-based anyway. As a, as a system of work. Yeah, exactly. So what would be your advice for companies that really want to start with generative model on an enterprise scale?

What is the first step that they should take? I, this is gonna be controversial. I'm a researcher at heart, right? And research ends at certainty, right? That's where you start engineering and it begins at uncertainty. I think companies, the ones that are gonna be successful, are telling their employees, use chat GT for everything now.

They should be using the safest possible version of it. You know, Azure open AI is a better choice than straight up open AI because of data privacy and data security guarantees that you get from Microsoft. There are also some nice, I'll throw in a shout out to one of my favorite other small companies, private ai.

There are ways to put a pane of glass between you and open AI [00:17:00] to strip out things like pii, anything that might be material, non-public information, for example. So, Do it as safely as possible, but get people using this thing because like I said, we have to, only a few use cases are gonna survive both on the personal productivity side and the enterprise scale side.

And the faster you figure those out and start to start to scale them the better. Just before we delve a bit further into the enterprise, cause I, I really wanna follow that theme a little bit more deeply. I do, I wanna return to the end of the hype cycle, so yeah. What does the landscape look like to you?

Is that landscape we're heading towards a singularity moment of agi or is it, is it, is it more mundane? I think it's much more mundane and I, I'm sorry to be boring. If this impacts your downloads, feel free to deep fake me saying something more spicy. The robots are coming panicked. Yeah, it's funny. The best definition I've ever seen of AGI actually came [00:18:00] from chat gt.

Funny that. Yeah, right. I was, I was up at three in the morning and I, I just couldn't sleep. So I was talking to my robot friend and, I asked it like, are you in artificial general intelligence? And they're like, no, here are their criteria. I checked these four, not the last three. And I was like, no, that's closer than I thought.

Are you sure, Chris? He wasn't trying to trick you. I mean, he might be, might be messing with your head a little bit, especially at three o'clock in the morning. I'd probably deserve it too. The first thing an AI should do before it takes over the world is make everybody think it's

stupid. And then before it pounces, you know?

That's right. We'll get the Terminator vision. Yeah. Is it failing my ordinary differential equations test on purpose? Yeah. You never, you never gonna know the answer to that question, that guy. Yeah, yeah. No, I don't, I, I, I don't know exactly what intelligence is, and that might just be a lack of creativity on my part, or that's really the state of humans.

Like, I have three kids. When did they become intelligent? I [00:19:00] don't know. And I think it was sort of a very smooth thing, like the singularity, actual singular, I'm a physicist by training actual singularities in the nature. You get to them very smoothly. It's, you know, you don't really know. When you've hit it, cause it just sort of comes and you're there.

But I, I think we're headed towards something much more mundane, which is back to my Mex suit analogy. The me suit's getting better and better and some people are gonna put it on and shoot themselves in the foot. There are some industries which are gonna do a bad job. So insurance and banking I think are.

Gonna thrive in this space, especially if they, and we're not the only platform, but especially if they, they take advantage of platforms that already have guardrails in place. So you can't shoot yourself in the foot. There are other industries that are gonna really wanna take advantage of this and it's just not gonna work.

And again, marketing and sales will probably be upset with me, but I think it's gonna be really hard for medical applications. Pharma, maybe, but just like. Medical claims, medical insurance. Right. Until these giant [00:20:00] models can be behind the firewall. Hmm. And some people will tell you they can be today, but like the performance isn't there.

Right. I don't, I don't see that happening. I think we're a ways from that. So what's going on in that? Because she would think that, say something like General practice medicine, which is quite a, a, a reference material based. With medicine. I don't mean that disrespectfully to any general practitioners out there, you know, they're, they're a lifeblood for us.

But, I'd always thought that actually generative AI in that space, in terms of churning through all of that data could be very helpful. What concerns you about it in, what is it? The corruptibility of the data and the un untrustworthy nature of the data are somehow else. People worry me more than, Technology.

Right. So back to the, the silly lawyer that didn't do some fact checking. It would, it was a, it was like a one Google search would've solved this. Yeah. So like I can see a world where the physician has on their tablet, if they're using a tablet, it's probably pen and paper still. But if they're using a tablet, here are the [00:21:00] symptoms, what's the diagnosis?

And then not asking a follow question to verify it that's going happen. I'm quite certain. So you think it'll be a, a couple of those instances and then all of a sudden we'll sort of withdraw from using it type of thing? Yeah. It, it's, it really comes down to, it's like self-driving cars, right? The, the risk is massive.

So everyone wants to talk about accuracy, right? So in my world, people will ask, okay, how many of my 500 page documents with 300 data elements are gonna be straight through processed? And my answer is, zero. Statistically, because they'd all have the accuracy on each data element would have to be like seven nines, right?

For you to get five nines on the entire document, it's impossible. And that's for like, that's for like invoices, right? Right. Now we're talking about a world where it's diagnosing cancer or you know, pediatric. You just cannot get it wrong. And so I think having an AI helper is a great idea and studies have been done where radiology [00:22:00] is better.

If you have suggestions from computer vision system that are then double checked, hmm. But people are gonna PE again. People are forgetting that they're just models. Treat them like models. Maintain the rigor, build the right human interface.

But people are gonna forget that initially and I think, I think medicine is gonna be lagging behind cause of things like that. So it sounds like what you envision is a world where we have sort of productivity assistance and then maybe some quite well understood use cases in, in very specific ways, rather than some sort of like, Sprawling general use of AI engines.

Oh, it's gonna sprawl. People are gonna do silly things. Like I saw an article this morning that Mercedes announced. We put Chachi BT in our, in our console, and I'm like, I want less crap in my car. I want fewer buttons, fewer lights. Like, just make it more fuel efficient and, [00:23:00] you know, spend money on. Not having to spend a thousand dollars every time I go to the shop, you know?

Yeah. I read that as well. And the, the first thing I thought was, for what? Well, and No, no, you got it. Hey Mercedes, you, you, you're a traffic jam. Hey Mercedes, tell me a cheese joke. It's there. You've got it. It's brilliant for you. It's a great job. I'm buying it. I'm buying it. It's fine. Take my money. Take my money.

Yeah. Yeah. So I, I think we're gonna see sprawl. I think there's you're aftershocks peak hype cycle, and it was the same way with, you know, when Appled.

Now everyone just has Spotify on their phone. Right, exactly. And so I think we're gonna get there. I think there'll be a lot of silliness and some danger in the interim. A topic maybe for later in the conversation. I think the Internet's gonna become like unusable for a while, but Yeah, that's right. Well, you mean it'll just become untrustworthy at such a level.

You can [00:24:00] only go to certain places. You absolutely can verify or it's just. What's the is it just can't trust anything anymore. And not that you can trust a lot on the internet, let's be honest. Yeah, that's right. But it gets worse. You ever read Neil Stevenson? Oh, he love Neil. Neil Snow Crash. Love Neil Stevenson.

Yep. Yeah, he wrote, he wrote this book that I hate called an anthem. I've got by 300 pages into that and I just couldn't go any further. It was hard work. It never gets better, but there's this cool concept, which I thought was stupid at the time. Internet was just. Whatever their internet is was in this world was just unusable.

Who could go into the internet and make sense of what was right and wrong. Oh, amazing. I mean, I might start a company after I close my laptop on this call where I, you know, internet tour. Yeah. Every business model that's mentioned on Cloud realities is now owned by Cloud realities. Cloud realities. Yeah.

Yeah. Sorry. That's our ip. You can't, but you get that. That person on the WhatsApp group who. Tends to ask the WhatsApp group [00:25:00] the why Didn't you just Google that question? Question, which is just Google it. It'll tell you the answer. What's that? Then well just Google it and find out for yourself a joy, a voyage of discovery.

Yeah. No, I think the internet is going to be flooded with nonsense more, more than it has been historically, and I think eventually the problem with like stable diffusion fingers and.

And I don't know what humanity does then I'm hopeful that what happens is people realize you never should have just taken for granted what the internet says. Yeah. And we go back to like actually asking the question, is this right or wrong? But using our own, being thoughtful instead of being information led.

We had a, a great guest on before who was drawing that distinction and saying that actually some of the higher end schools in the US in particular are now taking computers out of the classroom. And, and their focus on teaching sort of critical thought and see that as being like a, like a future advantage where actually probably most of the people who.[00:26:00]

You know, in our conversation today, most of us were brought up with kinda being taught to leverage computers. Yeah. Well it comes back from when you're educated, before the internet, you got a textbook and you were told to believe what was in the textbook, even though you could get some textbooks that didn't get tectonic plates.

Right. And you know, and that's in recent memory that went, oh, that's a terrible theory. That can't be true. And then it turns to be true, but, but we were always taught to believe what we read. And when you read it, it's more believable. And then we're into the age of the algorithm is corrupting and people are posting fake news and everything else.

And I think we're hardwired to want to believe what we read. But now you have to be cautious. And I think the education system personally has to catch up with the reality of information can't be treated as truth all the time. So here's, here's another hot take. I think a lot of people become teachers cause they're not actually particularly good at anything.

Any one subject. And I think we should drop almost all. Like factual education from schools. [00:27:00] And focus on, like you said, critical thinking. How do you build a worldview? Like what's a worldview and not any particular worldview, right? But do you build one Does consistent look like? And then economics, so, so stop saying dumb.

The state. So you're more into sort of classical education and ideas around things like philosophy and ways to approach the world. Yeah. Learn how to learn, right? Yeah. That's, that's the, I, I hated school. I went to school for like, what, I dunno, 25, 27 years to get a PhD finally. Right? I hated school until my third year of grad school where it was like, go figure out this thing.

No one's ever figured out, right? And then it was like, oh, this is how it should have been all along. And it could be, but. It's harder to lead a classroom and I've taken us way off course. I apologize. No, it's, it's, it's, it's very important about cuz there's, there'll have to be at some point in the future, a social reset about how society looks at technology and we're haven't done that yet.

And we're getting more and [00:28:00] more technology pushed at us and it's, it, we can't cope. A lot of people just can't cope with it. So there'll have to be a reset point at some, some, yep. Juncture That might be a compelling event or it might just be a conversation that we start to have, but, oh. The, it has to be there at some point in the future.

It has to be there. It's coming really quickly. I, I'm on a community softball team, and they're, it's a broad scattering of humanity that is on this team. And one of the folks on the team is a college junior, getting ready to finish his education history, education degree, and he was complaining about chatt and the every question that he was putting together in lesson plans was solved.

Don't complain about that, that's an opportunity you can now ask more interesting questions that can't just solve. And let the students use Chap GBT to like solve the little components of that larger problem. It's the introduction of the calculator, isn't it? Yeah, totally. Yeah. And I look, my high school calculus teacher was [00:29:00] a hard ass, and we weren't allowed to use calculators at all.

Right? And I was much better in college at math, you know? And then like once you

understand what's actually going on, then use calculator. So once written an essay, understand the structure essay do tell. I hope their teachers aren't listening. They're.

Going away and the people that get really good at it are going to thrive. Do you remember when Google first came out and there were certain people that just couldn't Google effectively? Do you remember this? This was a thing, and the people that got good at Googling got good at finding information faster than others.

This is just that on steroids and meth and whatever other stimulants. Well, let's return back to the enterprise briefly, because I wanna return to sort of. Solving scaled problems and stable problems, and we touched on it a little bit earlier, but an enterprise going in, building on [00:30:00] Shelly's question, like what, what should they do?

I guess what I wanna bring into that mix is what should enterprises be cautious about going in and what kind of safety mechanisms should they be wrapping around the adoption of ai, particularly when we're in like top of the hype, hype cycle frenzy period. A couple things. So back to the point I've probably made too many times already, but it is just a language model.

At the end of the day, it's a probability engine. It knows what the most likely next word, after, you know, knock, knock who's there, right? It, it understands the probability of what words follow that, just the model. It's a mathematical entity. Treat it like one. So that means really highly critical information.

That you would have a for eye check on, right? Like someone looks at it and then another person looks at it, keep doing that. Maybe two is, or GT or llama or bard, whatever. The other two, I should still be human. If it's business critical, highly risky, whatever else. Don't [00:31:00] forget your roots when it comes to rigor, mathematical, and also governance and compliance.

Don't forget those things. Two, use it for what it's good at, right? So it can be used in a discriminative way. That, it's a really helpful research aid. So there are lot of really interesting startups. Indi included. There's a reference architecture from Microsoft Azure for using this as your own sort internal search engine, right?

Like if you have research heavy tasks based on corpus documents, access to, for example, in the legal domain, put it to work. In in that context, right? It's a really, it's a great boost to human creativity. Give your knowledge workers the me suit, let 'em put it on and help let them go faster and farther.

Don't just let it into the wild. Send it to production without those things, and you'll be, you'll end up very happy. You might make some missteps cause we're all trying to figure this out together. You might put a prototype in production if turns out it, not a productivity helper. You know, introduces [00:32:00] too much risk.

You can't get it past compliance, but that's okay. It's okay to take some missteps cuz we're gonna figure out together what the things are that scale and that are safe and the right way to what you've been looking at this week.

So each week I will do some research on what's trending in tech, and this week I want to focus on managing the data for the AI life cycle. So for the past decade and especially after the release of chat G PT in November last year, the conversation around AI has focused on how this new technology can solve all sorts of business problems.

And while that's true, that conversation misses a critical component for AI success, which is high quality data. If you invest in AI technology without also investing in high [00:33:00] quality data, you will basically get garbage in, garbage out. So it's time to shift the

conversation from which business problems AI can solve to how to make your AI technology the best it can be.

And that conversation starts with understanding the AI data lifecycle. And there are four main components in this lifecycle. First one is data sourcing, finding the right data from the right source. Next one, data preparation, which is also critical for success, including data annotation, quality assurance, et cetera.

Third one, model training and deployment going from pilot to production. And 85 of AI projects fail to make it in production because of data. And the last one module evaluation by humans, you must continuously evaluate and update your model and ensure that the results are accurate and there is no bias.

So a question to you, Chris, do you think that this life [00:34:00] cycle is complete or are there any additional or maybe completely different steps to take? No, I, I think you have the right life cycle. I, I would emphasize, I see this over and over again. Folks train a model, they get it to production, they're happy with it, and then they forget about it, right?

Mm-hmm. Cause they're, they, they were raised in the, you know, deterministic programming and robotic process automation world, right? And it's like, well, they let the bots loose and bots bot, these bots are probabilistic and they're by data double. The model grooming, the, you know, feeding and watering of your models in production and, and completing that loop back to the pre-production, data pipeline.

So you can get continuous improvement or at the very least, just static performance of your models in production. All of this gets really tricky, with these large language models, that you don't have control, generally speaking over what data they're fed, but that might leave. [00:35:00] And so when you think about that, the culture change that comes with this type of new way of working, so you, to, you talk, you ingrained in, I wrote a bit of logic.

it puts parameters in that are defined. It puts parameters out the defined, and now you get into this, things can change on the way situations change when you need to constantly, it's like the, the, the view of the person constantly pulling the lever and twisting the knobs on the machine to make it.

You know, highly optimal, you know, the view of the computing in the sixties on the TV show site, they actually might become a reality that you have to keep it as an attended thing that you feed and water and take care of. Cuz there's always been this enterprise culture that, you know, you implement the massive program and then you go ace.

That's right. And you walk off and you forget about it for six months and then you wonder what, what happens? Yeah. Why do I smell smoke something on. Fire behind us. Yes. That type thing. But I, I think that it goes back to with this technology, there is a massive cultural shift in thinking, ways of working, understanding, approach, strategies, gaining a different style of mastery over.

It'd be interest in your view of, think about when you work with [00:36:00] customers and you go in, are they aware of the need to change their culture with the new technology or do you think they think they're still treating it Like the 20 year ago e r P implementation, they didn't quite do what it would, but everybody called it success anyway cause that was the right thing to do.

The, the good ones have an inkling and I generally they have an inkling because they've tried this before and it's blown up. Yeah. In their faces. Some of my favorite clients of Indico are folks that have tried a dozen other platforms and haven't been happy because they get it.

Like when they see our stuff working, they know that it's working.

On the other side of the spectrum, I've had so many conversations when folks ask vague question of how accurate this. I don't know how accurate is your labeling gonna be? Like, can you actually teach this platform what it's supposed to do? And then I'll ask them the co counter question of just, how accurate are your humans today?

And it's crickets like, because there's, they wanna replace a human. Something subhuman. Right? And they don't [00:37:00] even know how well the job is going today. They don't have those process. They don't have they. They're not even cases. And that's terrifying.

Badness happen faster is scary. Right? That's the thing about humans. If you don't tell them anything different and they'll do the job they know how to do and they're good at little adaptations on the way through to go, just through experience they've trained themselves. Yes. Whereas computers, unless you tell them about it in the model, then they can't cope with those little micro variances on the process that they just know hu a human will deal with naturally.

Yeah, and it seems to me to go back to Shark's question that, you know, the expectations of people going in, particularly some business decision makers, are that, you know, this is all there already. Like, you know, they've consumed chat G P T, and as a result, Well, we could just go consume that thing because it's already there and [00:38:00] you know, I think we need to be setting the records straight.

Then actually the other side prep of getting the model to that point for a proper scaled business application is, has got hard yards attached to it. That's about right. Right? Yeah. Chatt PT is not going to solve your data quality issues. Right? No. People think they that It will. Yeah, it's, well, it's interesting it.

And it can, so one of our biggest challenges, and everyone has this challenge is, you know, people will sends of notes on napkins through our terrible incr struggles. I've seen a lot of instances where chat gpt will actually pre correct the OCR and then pull the answer outta the document and correct. And so like we can't do anything with that.

Cause we just, it's the words on the page. That's the answer. Right? We have to keep it grounded in the actual text. So I think there are some unsexy things that are gonna [00:39:00] be applications of these large language models and data. Behind the scenes. But the way you talk about that, it is a very powerful thing because it, the, the way you said it becomes a, a support to the function.

Yeah. You are, you are reducing toil and fundamentally increasing productivity. And one of the problems that. Organizations and countries face is how do you get productivity up? So maybe this is the next wave of how we boost it to, to drive the next sort of industrial phase. So it's a, it's a, it's a tool that actually will be of great benefit, but it'll be the boring stuff that it's of great benefit with as opposed to something revolutionary and magical that we all sort of told in the press.

Yep. I, I've spent a lot of data world right. 85% of the time in a data project is data cleaning and, and scrubbing. Yeah. Right? Yeah. I haven't written on my own a data scrubbing or cleaning python method, in the last six months. Right? Because you can just say, Hey, here's my data structure. Here's [00:40:00] what I want to come out.

Here are three examples of the rows in this data structure. Can you manipulate this in the way I want? And it gets you 90% of there the way there. You fix the error and then you're good to go. Right? Massive productivity boost. Well, thanks for joining us today, Chris. That

was a, a very insightful conversation.

I think looking at some of the practicalities of what AI means today and you know, dispelling. Some of my fears at least, and it's given Rob an opportunity to try and get himself back in with the machines, which never felt to take goes off steer. Absolutely. I'm still hopeful for my machine-based, phony bologna job in the future.

That is my, yeah, that is my hope. Yeah. Have you put out any prompt engineer applications?

Only for the cheese joke community. Very good. So look, we end every episode of the show by asking our guests what they're excited about doing next. And that can be anything from Great Restaurant of the Weekend all the way through to something exciting you're doing in your business life. So Chris, what you're excited about doing next?

[00:41:00] I already talked about. Business stuff and you know, my days now Chatt, so leave it. You and you and Chatt lying to you and trying Touc seduce you into a place where you think they're. I thought it was my friend. I'm so disappointed. Sorry about that. And I don't have a lot of friends for obvious reason.

Yeah. I just lost another one. No, I, so, this weekend in the US you know, Mondays a federal holiday. It's Juneteenth celebrating the sort of unofficial, end of slavery in Galveston, Texas. Oh. I am playing keyboards in a, in a gospel band, with a full choir. Uh oh. Wow. Cool. Everything from like, you know, spirituals, swing, low sweet chariot to, earth, wind, and fire.

Keep your head to the sky. I, I'm just, I'm jazzed about it. And Wow. It's been a long time since I've, and this is not a humble brag by any means. This is just, [00:42:00] just where I, my life played in an ensemble. I. Where I was like, am

here's.

Here's the bar. You gotta jump a little higher. So it's, it's great. Super pumped about it. Yeah. Oh, that's amazing. We wish you a huge amount of luck with that. I'm sure it's going to go, really, really well. Thanks. And I'm not using G PT to do any of it.

So a huge thanks to our guest this week. Chris. Thank you so much for being on the show to our sound and editing wizard, Ben, and of course to all of our listeners, we're on LinkedIn and Twitter, Dave Chapman, Rob Kernahan, and Sjoukje Zaal. Feel free to follow or connect with us and let us know if you have any ideas for the show.

And of course, if you haven't already done that, rate and subscribe to our podcast. See you in another reality next week.[00:43:00]

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