SDS PODCAST

EPISODE 1044: IN CASE YOU MISSED IT IN OCTOBER 2026

Jon Krohn:	00:00	This is episode number 1044, our In Case You Missed It in October episode. Welcome back to the Super Data Science Podcast. I'm your host, Jon Krohn. This is an In Case You Missed It episode that highlights the best parts of conversations we had on the show over the past month. My first clip is from episode number 1037 where I speak with Dr. Richard Socher, former chief scientist at Salesforce, co-founder of U.com, and author of the national US bestseller, The Eureka Machine. His newest company, Recursive, came out of stealth this year, having already raised over half a billion dollars to build recursively self-improving super intelligence. For a lot of people, that is the scariest phrase in AI, RSI. Richard put it in his company's name, so I ask him why it doesn't frighten him the way it frightens so many others. You're the CEO and co-founder of Recursive.
	00:56	You co-founded that business last year. It came out of stealth earlier this year. It's already raised over half a billion dollars. And the idea behind recursive is that you build recursive, self-improving, super intelligence to automate knowledge discovery. Do you want to tell us about that business?
Richard Socher:	01:13	I'd be happy to, yeah. It's exactly what you said. We believe that after seeing natural language processing and AI hit several massive inflection points because we replaced human processes, expert designed features with bitter lessened, larger scale automated processes, we basically realized, well, we've done this with feature engineering, then the community switched to architecture engineering. Then had this crazy idea in 2016 and 18 to try to replace all that architecture engineering with one neural network that you can just prompt with any kind of question. It's called DECA NLP, that paper famously rejected, but cited a handful of times by the early GPT papers from OpenAI is kind of putting forward this idea that really you can just have one model and prompt it with any kind of question and always get an answer back.

And so that led to unifying all this architecture engineering and now letting the AI figure out how to deal with different kinds of questions.

02:23 And now I feel like the field is stuck again, but at the next meta level, and that is basically manually doing research, manually coming up with ideas, then mostly using AI now also to implement more and more of those ideas and then validating those ideas, which is also non-trivial with a lot of compute and so on. And we figured out let's try to essentially automate one more step and that might be the last necessary step for all of AI. And so that is when you automate the scientific method and you apply that automation to AI itself, then before you know it, you get to recursive self-improvement. And a lot of people use that term very loosely by when you see blog posts from OpenAI say, "Oh, we're getting better at self-improvement because look, we're using codex more and more." But that's still, I would say, argue, weak form of self-improvement where you still have humans majorly in the loop, human experts major in the loop.

03:24 And that makes sense when you have thousands of them on your payroll and you pay them tens of millions of dollars every year to do this. And so we think that it can be done better and differently and fully in a strongest form recursively self-improving. Of course, even there, humans will set the goals, set the rewards, set the environments and so on. But inside those AI should really come up with its own ideas, implement them and validate them.

Jon Krohn: 03:53 A lot of people use RSI as a scary term, but it's in your business name. For you, it's obviously not a scary term.

Richard Socher: 04:02 That's exactly right. Yeah. I think it's really fascinating to dissect the various groups that have non-zero P doom. And it's very easy for the human imagination to come up with scary scenarios. I think you can, in various levels,

try to put science behind them. I think at the same time, we've seen that many times before. The number of experts that predicted financial crises correctly, the hundred out of the five financial crises are correctly predicted as a joke. The overpopulation crisis was huge and people were worried there'll be so many people, too many people. The amount of crises and fear around nuclear energy, around GMOs, there's so many fears that people have had that ultimately held back humanity. The number of people who died from keeping coal around for longer is so much higher every year than all of nuclear, including Chernobyl and Fukushima and other disasters combined.

05:10 And so we have to be careful a little bit and not dismiss progress. Obviously, AI is omni-use technology. I'm not saying they're zero risk. Maybe chatbots should have ratings like movies. Maybe we should have FDA, controlled drugs, which we already do, and transportation authorities control self-driving cars, which they already do. And think about a lot of the applications of AI and where they're touching human lives, we should be careful. But I think a lot of people have a very vivid imagination when it comes to the apocalypse.

Jon Krohn: 05:40 Yeah, I love the analogies that you're making there related to coal power, nuclear power. Looking ahead, it seems like we're on the cusp in the next few years of having commercial nuclear fusion, for example. And AI, especially an AI system that is helping bring scientific breakthroughs, can make a big difference in realizing nuclear fusion faster, other clean energy technologies, storage technologies. And so there's a lot of resistance, particularly in the United States today, but in probably lots of countries all over the world around building data centers, empowering data centers. And it seems like it's kind of a similar argument where it's if we can accelerate getting to fusion energy faster by building an AI data center, to me, that seems like the way to go.

Richard Socher: 06:27 That's right. I think a lot of folks, and this is partially because of the media, partially just human sort of priors of being more fearful than joyful about the future. There's so many positive things and that's kind of what my book is about, the Eureka machine, where I basically lay out how impactful AI will be to scientific discovery in physics for energy generation, in chemistry, for energy storage, in biology for creating healthier people, and really being able to eradicate disease, which sounds as impossible as it sounded 10, 20 years ago to automate all of natural language processing in one model. But if you have enough data, it'll be possible to understand our brains better of neuroscience, to improve our economies with AI economists, and to really go even beyond earth into astrophysics and understanding that better. The book lays out where all of that is already happening with AI, where it's already seeing progress.

07:23 But then when you combine all of these things, you can create this ultimate eureka machine. And I wish in the grand scheme of things, data centers have helped a lot of communities. And of course you have to be careful, especially depending on how they're powered, where that exhaust goes, and you have to be conscientious around where exactly they're put and how loud they are. But these are all fairly fixable issues. There's this whole lie about them using up all this water as if they're just steaming that water back into the atmosphere. Almost all data centers these days are closed water systems. So there's a lot of fear and uncertainty and doubt that is spread. And I'm always not quite sure whether it's a political SYOP or if it's just people are worried about things and you should actually talk to all the communities that are there and hope that they can be responsive to the facts, which are mostly positive.

Jon Krohn: 08:21 Richard thinks many of us have a vivid imagination when it comes to fear. My next guest has made a habit of walking straight towards hers. In episode number 1035,

Carly Taylor, the extremely popular founder of Rebel Data Science and who previously held senior leadership positions in machine learning at Databricks, Microsoft and Activision, Carly tells me how she deliberately chases discomfort to keep growing and what happens to leaders who are too afraid to admit what they don't know about AI. She also borrows an idea from Buddhism about inviting your fears to tea and makes a confession about public speaking that I would never have guessed. Another useful tip that you've shared online is you've talked about tricking yourself into public speaking, which is something I think that follows really nicely from this conversation we've just been having about making sure that you're staying uncomfortable and how it's never been a better time than now to be experimenting and using all the various magic wands that we have as technical people with unlimited capacity.

09:25 Anyway, you wrote a post on your Substack, which people also should think about following, and it's called Trick Yourself into Loving Public Speaking. And you wrote about confronting fear as a catalyst for growth. And so I guess we're kind of now double clicking on this idea of doing things that you're afraid of is actually a way to growth, the obstacle is the way kind of thinking. So yeah, how do you intentionally chase fear in a professional context to build yourself, to build your teams, to build the organizations that you work for?

Carly Taylor: 10:03 I mean, I think it's just by always chasing those situations, like I said, where I'm uncomfortable. So if I'm not growing, I'm not learning, I get too comfortable where I'm at. I know that it's not the right place for me long term. And so you always need to be pushing your boundaries into that edge where like, okay, I'm going to have to learn about X, Y, or Z in order to be effective here. When I was working in video games, it was pushing myself into the territory that I didn't know anything about networking and servers and the way that the server-client

relationship worked, especially in multiplayer games and keeping state. And so it was like I could either say, no, that's not my area of expertise, or I could start pushing myself into learning that. And I would say as leaders, especially with AI, so many leaders I talk to feel overwhelmed by AI and they're too scared to ask the question and admit that they're kind of maybe not sure what's going on or maybe they don't even understand what AI is.

11:03 And they're like, it's the meme of like, I don't know what AI is and at this point I'm too afraid to ask. And I would say that is the place where innovation goes to die is if you are too afraid to be uncomfortable, you're literally now fearing the fear itself of being uncomfortable, of being uncomfortable public speaking. If you let the fear of getting up on a stage and talking about your expertise stop you from doing that, you're no less afraid. You're just not at a place now where you can walk off the stage and say like, "Wow, I did it." And so I think the feeling of uncomfort, people don't like to be uncomfortable, obviously that's part of the definition of being uncomfortable, but the idea that it's inherent and that it passes is very true. I think even in that Substack article, I'm not sure if it was this one, I can't remember, but there's this idea from Buddhism of inviting, I think it's inviting Mara to tea.

12:08 And it's this idea that Mara is, I don't know if it's a demon, so don't hold me to this. I'm not Hindu or Buddhist, but it's this idea that you will always have uncomfortable thoughts, you will always be in uncomfortable situations, you will always have imposter syndrome about yourself, these thoughts that creep into your mind that tell you that you can't do something. And if you push them away, that's one strategy of just like, don't even think about it, ignore it, duck, dive, dip, dive and dodge or whatever it is for dodgeball. Just avoid those thoughts at all times. But the other approach here

is to invite them in and sit with them. Have a glass of tea with all of the doubts in your mind and all the things that scare you. And when you kind of actually sit with them and you invite them in and you say, "You can stay here for a while, but you can't stay forever." I think there's some power in that of just welcoming in all of your doubts about yourself and then letting those doubts be transient.

13:08 But that sounds very deep and I haven't figured out. I don't. There are still nights before I public speak where I have to do public speaking where I can't sleep and I'll go up on stage with three hours worth of sleep for no reason other than I was so nervous that I couldn't sleep. And that's how it manifests for me. So if you see me looking tired, that's what happened. So it's not always like that it works out perfectly, but it's that I've committed to the fact that I'm always going to go up there regardless, even if I didn't sleep at all. And you just have to commit to it.

Jon Krohn: 13:37 I would never have expected. I mean, most of my interactions with you are only real-time interactions. I've been in podcast episodes and you speak so confidently without any ums and ahs, so clearly on interesting topics, complex technical topics. And so it just seems to me like you're such a natural on state I would never have thought that you'd have trouble sleeping before.

Carly Taylor: 14:03 It's manifested as that actually for me, is my anxiety is manifested as the sleep the night before something big. Oh, you're going to be tired, it's going to be bad. And everyone knows the best way to get to sleep is worrying that you're not going to be able to sleep. And so it's just something that I'm working through. So I guess what I'm trying to say to anyone listening is that you don't have to listen to this and be like, "Oh, I'm behind because I haven't figured it out. I haven't figured it out. I spent a lot of time thinking about this stuff." But the one part of it that I have figured out is that I never feel better about anything by not jumping in feet first. So if it's AI that's

scaring you that you don't understand it, you're not going to feel better by just ignoring it or not raising your hand and saying, "I don't understand."

Jon Krohn: 14:49 Being afraid to use AI is one problem. Colleagues using it carelessly is another. In episode number 1033, Stanford communication professor Jeff Hancock and better up chief scientist, Dr. Kate Niederhoffer, the pair who coined the term work slop in Harvard Business Review last year. They explain why AI generated filler that is harmless fun on social media becomes infuriating at work. I share how I dealt with one client's obviously AI generated emails and Jeff admits to catching himself doing something with a machine that he did not like one bit. What's the difference between AI slop and work slop? Is work slop kind of AI slop in the workplace?

Jeff Hancock : 15:27 Yeah, it's funny you ask because we've been tracking it at my center where it was just sort of weird funny things like shrimp Jesus, which you may remember from 2025 and just these strange AI generated thing that people on social media were sort of sharing around. And slop, it was negative in that it was clearly AI generated, so it didn't have a certain quality, but it was often kind of funny. And then last summer, Kate and I both sort of experienced on our own the thing that you mentioned of getting something. For me, it was students in class, Kate had her own experience and we're like, this is like that fun sort of slop stuff, but it matters here. This is at work. And so that's how we kind of ported it over was just taking that idea of just pure AI generated stuff is slop, but it's happening in this context.

Kate N.: 16:24 Yeah. I mean, at work you have different expectations for content and different goals that you're trying to attain. And so I think part of the frustration is the missed expectations and the missed opportunity to collaborate effectively to reach a particular goal, to play the role that you have as your requirement and that you expect of

others or you've come to expect over time in collaboration. So there are all sorts of different norms that create, I think, the intensity of sloppy low effort, low quality AI generated content that shifts the burden. The burden is, for lack of a better word, this sounds so AI generated, but the burden is real when you receive work from someone else that just doesn't take into account the context that you need to get the work done, that you rely on other people for, it matters.

Jon Krohn: 17:19 For sure. And while AI slop in general, I think can be fun. It can be amusing. I was recently interviewed by a major news publication. I don't know if it will be out before this episode airs or not, so I can't say who it is. But yeah, one of the news publications that everyone knows, they're doing an article on AI generated food images in menus or in the real world. And that's just funny. It's maybe to the detriment a little bit of the business that has obviously AI generated shrimp scampi on their printed out menu. But for most of us on the internet, it's just funny and it's kind of like a nice break, whatever. But in the workplace, it can be infuriating. Work slop can drive you mad. So I'm the CEO of an AI software consulting business and we have lots of different clients and my email inbox can get full quickly, but I do everything I can to make sure I'm at inbox zero, at least with that work email account every day.

18:23 And we have one client that has great ideas and I love being in person with this person because they're so vibrant and thoughtful about their ideas, but the emails that they were sending to me were obviously AI generated. And I just said right off the bat, I will not, even though they're the client, I was like, I do not have time to be trying to distill from this long email that you wrote what is actually your opinion and what just happens to be randomly generated. And I think that was well received. I think people understand that. What do you guys do to combat work slop?

Jeff Hancock :	19:01	Well, so Jon, did you actually confront the person and say, look, this is not working for me and they changed or -
Jon Krohn:	19:07	Oh, I replied all.
Jeff Hancock :	19:10	I see. So you told everybody, look, I can't figure out these long emails.
Jon Krohn:	19:14	Everyone that was in that thread, when that email was sent, I said, send me three bullets that describe what you actually want, what you actually think instead of all of this content because it dilutes, I think work slop, it often dilutes what the real message is that someone is trying to get across.
Jeff Hancock :	19:40	Yeah, I think that's right. And one is you had to do that email, and so that was probably some emotional labor in there. How is that going to be received? That's stressful. I've had the same experience and there's another cost, which is, so this person, I don't know well enough to be able to just say it directly to them. And it's very clearly they've put in three bullet points into say Claude and Claude generates this long email. And before I realized what was happening, I was like, okay, I need to write back a similarly thoughtful long email. And so I was doing a lot more work and this is something that Kate studied two decades ago, this kind of idea of reciprocity and language. We style match to other people. So I was starting to think like, man, I'm style matching with a machine. That's not cool.
	20:30	And so yeah, I completely agree with that point and yet also how difficult it is to reset expectations.
Kate N.:	20:37	The other thing that we've been studying more at BetterUp Labs is about sort of good management in this era of AI. And I think a lot of what we're seeing is the importance of human skills like relationship building,

coaching and alignment. And those come into play quite a bit when you're giving feedback on work slop that you received, even if it's not a hierarchical relationship. And that's to say when I receive something from someone that doesn't sound like them or I can't decouple the effort and quality that appears, then I often say, I have such specific expectations for what I receive from you. And it's sort of like a moment to look someone in the eye and say, I see you. I know the content that you produce and I need that. You play a really important role in producing this work. And so it sounds like Puritan models of management or sort of this Pollyannish view of what work should be like.

21:33 And I don't mean to be so rose colored about the situation, but I think that that's the message that needs to be communicated is like, put yourself into this. My expectations are specific to a role that I may have hired you to play or have come to expect you to play in our collaboration. And I want to see that in our work product because I'm habituated to it and I know that's what it takes to get the work done.

Jon Krohn: 21:58 We're rounding up a great month with episode number 1039 in which Professor John Renne, Henry Shane professor in real estate and urban planning at Tulane University, tells me about a global research project he once thought would be nearly impossible to coordinate. And why his co-author on that project reckons two hours of their recent work would've once needed a half million dollar grant, which raises a question for every academic. Does a professor still need PhD students? Jon, what excites you really big picture in this space? When you talk about things like being able to tackle climate change and AI playing a role in that, what are some of the big ideas that excite you about how AI could accelerate human development and improve the world?

John Renne: 22:39 Yeah, so I'll give you two examples, very different examples. One is this global TOD database that I've been

working on. And the other one is kind of an existential crisis facing education right now, which is students using AI to write their papers and do all their work and figuring out a way to be able to improve the educational system through expanding the use of oral exams. So to get into the first one, I did a sabbatical three years ago at Oxford University where I know you had been and I love Oxford. I did my first sabbatical there in 2013 and my second one in 2023. And when I was there, I had talked about my American database of 4,500 train stations. I started working with some colleagues in France and England and I previously did a postdoc in Australia. And so I've gotten to know folks from all different parts of the world in my field.

23:56 And I though to myself, what if I start going to my colleagues in different parts of the world and say, Hey, what if you kind of do the similar analysis that I've done in the United States with this TOD database in the United States that I have? And what if we do it in France and England and in Australia and other countries? And so I though to myself, I could kind of create a network, explain to colleagues about how I did the work that I was doing and get them to replicate that in their own countries. And I even started having conversations with folks who thought it was a great idea and they were interested. But coordinating that kind of research across the whole world is very challenging. So at best I though, well, maybe if I could just get five or six countries, that would be a huge improvement over just having data from one country.

24:56 So that was three years ago. Then all of a sudden, about a year ago, just over a year ago, this was even before I started using vibe coding, I started using coding using ChatGPT at the time to help me write code that I would use. And I said, "Gosh, can I extract data from a global database to be able to create..." So for example, there are global databases out there with lots of geospatial

information. So one of them is open street maps. That's the biggest one. And that's the one I've been using mostly, but there are other ones out there that I will increasingly integrate into my new global TOD database. I was able to extract information on over 110,000 train stations across the entire world. And now I have this global TOD database. I've been working on it with my colleague, Billy Fields. We're writing a book on it called Green TOD, should be coming out hopefully next year with Cambridge University Press.

26:11 And it is mind blowing the kind of work that we are doing and what we're able to achieve that would have never been fathomable, like I said, just a few years ago.

Jon Krohn: 26:24 Yeah. I think you've expressed to me that you can be doing work for that book, like international TOD analysis that would have taken years and postdocs, hundreds of thousands of dollars to be able to do, and you get it done in hours for a few dollars.

John Renne: 26:43 Billy and I were working a few weeks ago and he said to me, and I fully agree with him, he said, "The work that we just did in the last two hours probably would have taken a $500,000 grant and at least two or three years, and we would have had to collaborate with probably half a dozen people, experts in different fields, postdocs, PhD students." And literally the work that we did just in a couple of hours was equivalent to what it would have taken about a half a million dollar grant to do just a couple of years ago.

Jon Krohn: 27:25 It's pretty wild. I wonder if that will shift researchers from kind of mentoring their postdocs, their PhD students to just sitting alone metaclaud code session.

John Renne: 27:37 Well, I do have a fear about that and I am looking into setting up a new doctoral program in the Tulane School of Architecture and Built Environment where I run the real

estate program. We also have a sustainable urbanism program and architecture and historic preservation. So there's a lot of interdisciplinary thinking and we are excited to think about creating a new PhD program. I think on the one hand, you can absolutely make the argument that I do not need to work with other folks and I can sit and chat with a bot. However, I don't think that that will happen because I do think that I went into this field as a professor because I literally enjoy working with students, mentoring students. We all want to leave a legacy. We all want to help folks that are earlier in their careers or get them going.

28:40 Now, do I need to go get a half a million dollar grant to do this task? Well, probably not. But if I were able to get a half a million dollar grant, think about what I can actually achieve now. It's like building a 386 computer back in the 1990s versus now having supercomputing capabilities. And so I have so many ideas about where we can take this to. And I did just apply for a major grant with colleagues at TU Delph, Oxford University and Cranfield University in the UK to do this. And that study would basically take my global TUD database and do a lot of energy modeling around transportation, land use, and building systems to figure out how we can create carbon free or significantly reduced carbon communities to achieve a future goal to where we can bring down global warming. And so I don't think we're at the point where we could just say, "Yeah, we could just sit around and do it ourselves," because the challenges that we're facing externally out there in the economy and mother nature necessitates us to have the super computing because we don't have a lot of time if we want to figure out how to bring down global warming.

30:10 We've already surpassed a lot of the temperature targets that we said we shouldn't surpass.

Jon Krohn:	30:17	All right, that's it for today's in case you missed an episode, to be sure not to miss any of our exciting upcoming episodes. Subscribe to this podcast if you haven't already, but most importantly, I hope you'll just keep on listening. Until next time, keep on rocking it out there, and I'm looking forward to enjoying another round of the Super Data Science podcast with you very soon.