This Week in Machine Learning & AI: Ross Fadely Interview

Introduction

Sam:

Hello and welcome to another episode of twiml talk the podcast by interview interesting people doing interesting things and machine learning and artificial intelligence. I'm your host Sam charrington. Once again, let's start the show by sending some love out to you the listeners for your continued support over the last few weeks and months this community continues to amaze us continues to grow and to engage with us, which we love to see we've said it before but please don't hesitate to reach out to us with any questions comments guests for topic requests or just a friendly hello via any of our various channels. You can reach us on our Facebook page or Twitter at twiml. You can reach me directly at Sam's charrington on Twitter or you can email us at team at twimlai.com speaking of community. Please take note. The next twiml on-line Meetup is coming up soon on Tuesday, November 14th at 3 p.m. Pacific time will be joined by Kevin T. Who will be presenting his paper active preference learning for personalized portfolio construction. If you've already registered for the meet-up, you should have received an invitation with all the details if you still need to sign up just head on over to twimlai.com Meetup to do so, we hope to see you there. Now as you may know a few weeks ago. We spent some time in New York city hosted by our friends at NYU future Labs about six months ago. We covered their inaugural a i Summit an event. They hosted to showcase the startups in the first batch of their AI Nexus lab accelerator program as well as the impressive a talent in the New York City ecosystem. Well this time we had the pleasure of interviewing the for startups from the second AI Nexus Lab at Mount cleverest. Buy a i second mind and bowtie Labs. We also interviewed some of the great speakers from the event and we're presenting a couple of those interviews to you this week. If you missed any of the shows in the series visit twimlai.com say I Nexus lab to to get caught up in this episode I speak with Ross family a new york-based Ashley with Insight data science Insight is a really interesting company offering a free seven-week postdoctoral training Fellowship helping individuals to bridge the gap between Academia and careers and data science data engineering and eh, I lost join me backstage at the future lab Summit after leading a machine learning primer for attendees our conversation explore some of the knowledge gaps that insight has identified and folks coming out of Academia and how they structure their program to address them. If you find yourself looking to make this transition, you'll definitely want to check out this episode and Now on to the show. All right, everyone. I am backstage at the NYU skirball Center where the future Labs group is holding the AI Summit and I am here with Ross family. Who is the AI lead at Insight data Ross, welcome to this week and machinery and they are

(end of excerpt)

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Guest:

high pleasure to be here. It's

Sam:

great to have you on the show. Why don't we get started by having you tell me a little bit about your background and how you got interested and involved in a not sure

Guest:

so I have a background in physics actually. So when I was in an undergrad, I was really passionate about physics ended up going to do a PhD focusing on astrophysics. Okay, and that time really drove me to understand and appreciate data. So during that I was really focused on doing Bayesian machine learning because we had some relatively small amounts of data, but we needed to quantify the uncertain Do you have her models? Okay, and so that I kind of just got forced into because of you know, how I went down my academic path, but it made me really excited by what was happening in machine learning and like some of the new emerging Technologies on that front. Also,

Sam:

I have talked to a ton of folks who came into the machine learning and AI by way of physics.

Guest:

Yeah, and one of the interesting things that happened when I was a post-doc most recently at NYU, I was jointly appointed with the computer science group with Rob Fergus who won the internet competition while I was there working with them. And so it was like a really unique opportunity to apply some of these emerging AI like deep learning model in the context of astronomy, which was really exciting times. Nice. Now, did he won that

Sam:

before or after her meds dealer

Guest:

if you want it with him? Yeah.

Sam:

Okay. Okay. So this is our second year here at the future lab Summit and last year. I keep saying year and Steve keep saying you're on stage was actually only six months. So the second time. Here and last time I got to interview Matt and hear a little bit about his story. So you are in the same group.

Guest:

Yeah, so Matt was a PhD student with Rob while I was robbed postdoc. It was interesting cuz I was jointly appointed with the the Civic screw. And so we were doing a little bit of cross-talk in terms of like bringing some computer science applications to astronomy, but also leveraging some extra physical knowledge when when applying these techniques.

Sam:

Okay, awesome, and now inside date of what is inside a to do

Guest:

so Insight is a professional education company. Okay, we run free seven-week Fellowship programs to help people transition into careers and data. Oh, wow. Yeah specifically it's focused around. Did you just say free? Yeah, that's the only two fellows shortly. It came out of the fact that like, they're really smart people in Academia. And Company is needed like data scientist, but didn't know how to find them and it didn't know that like the smart people were there and they didn't know how to connect so I found her they clamped realize that this there is this Mismatch informed the company, but of course academics aren't you know able to pay a fee for for Education because they're usually pretty you know strapped for cash. So we find it really important to like make these free for the fellows and the companies sponsor the program basically.

Sam:

Okay. And what is the typical fellow profile?

Guest:

It depends on the program. So in data science is typically a PhD and a quantitative field. So it does and traditional backgrounds like physics math computer science, but also spans in the you know, biological sciences, even things like political science and and Linguistics kind of a mix. So that's our our data science program. But we also run data engineering program a Health Data program and I'm in charge of the AI program that we run here in New York. Okay.

Sam:

So the AI programming the data science program are distinct. Yeah, that's correct.

Guest:

So the AI program is a little bit different in terms of backgrounds because we see this mismatch of what people want in industry and Where people are coming from so often people in the industry are looking for two Rod buckets one is like the AI engineer. So someone who has Extreme Engineering Talent, maybe knows the machine learning Parts quite well, but maybe not to the same degree that someone who's been doing research for a long time, right? Yeah. Okay. And so

Sam:

the AI is the idea that the AI program accommodates both this machine learning engineer and someone who's more traditionally like a data scientist, but focused on that or the data scientist goes through the data science program and the AI program kind of fills the the rest of the need for this around this engineering

Guest:

role. Yeah. No, it's it's more the former. So we do offer I was

Sam:

wrong as

Guest:

I'm able to require actually because like some of these different models are quite specific quite new and really cutting-edge the AI program cries of bringing people from that group of research into the program. Which is not necessarily true for data science more more generally. Okay

Sam:

got it. And so the program is kind of like this, you know farm team feeder program kind of thing specifically

for academics. It's not like your typical coding bootcamp or something like that where you're taking people off the street and training them out.

Guest:

So we we actually do admit people from industry. But only for are currently at least for our data engineering programs again on this engineering front for a i for instance. Some of the best Engineers are people in Industry. We've had people from seems like Google LinkedIn Salesforce top Engineers who want to move more into a I come through our programs. Okay? Oh wow. And

Sam:

so you talked a little bit about it some of the missing the things that that industry is looking for that are missing it like a really high level. Can you go a little bit more more deep on that like what what are the things that you're Really trying to teach these folks as they come to the program.

Guest:

Well often the people were coming into our program have like ninety-five to ninety-nine percent of the technical skills you need so they often come in with an experience say Ethan computer vision or well suited for those types of roles, but they don't know like the trade-offs and how people are actually using this in practice on real teams. And so one of the things we do is to help give them this idea of not only like scoping and appropriately like doing a product that speaks to the type of work that they're going to be doing industry, but we bring in top mentors from teams who tell them about the work they're doing help them understand what's like the most important thing what are the critical challenges they're currently facing and that that sort of information is something that you it's really hard to get isolated on your own and black box.

Sam:

And is it is it like project-oriented or is it more traditional just you know model by model or field by feel?

Guest:

Yeah, we find is really important to not have like horse work or a book work. It's all product-oriented. So the Fells execute a significant like data science State Engineering AI projects during their time and insight and it's done in a collaborative way. So it's a very collaborative environment. It's full time. So everyone's together in a room super smart people and they leverage off each other's knowledge. Cuz one person might be a deep expert in LP the other one may know nothing about it when they start talking they learn much more rapidly than they were told to like go off on the corner and read books. Okay,

Sam:

and how many people and then giving color

Guest:

so there's roughly about thirty people in each cohort. We're currently in four cities and we run those three times a year. So that's gives you a little bit scale what cities so we started off and Powelton 2012 are in New York Boston and Seattle and we also run

Sam:

around and get those right. And are you are you expanding the more cities or are you adding more programs? Like what's the expansion plan? If any

Guest:

yeah, that's a great question. So give you a little understanding of our previous expansion. We kicked off New

York and 2014 along with a new program and data engineering. So we start is just data science. Okay, we've been launched Boston focused on Health Data. That was also in 2014. I believe how many and then most recently Seattle and data science. Just last year was our first launch of the AI program which started off in Palo Alto ran for the first time in New York over the summer. So that's like our our historical growth. We're planning to move into a new cities in the coming future possibly in international locations and drinking heavily about new programs as they as they come up an industry. The goal really is like to live on this edge of the mismatch between what companies need and are struggling to find good people in and where there's a gap in in terms of talent and how can I help? How can we bridge that Gap

Sam:

especially that it's expecting that you have to address some of these challenges and this kind of impedance mismatch via project, but also it's challenging to do so because if you don't know what you don't know kind of

Guest:

problem, right? And

Sam:

so how do you supplement the project work with you know, the things that they need to know or is it just you know, go bang your head against the wall and figure it out when you finally figure out what you don't know. We'll be here to answer the question

Guest:

for you. Yeah, so as program directors as a people who run these programs their job is to ensure that they have the resources to overcome technical hurdles as they approached them. We encourage them to First dive into it and hit the walls themselves, but then just basically give them the right tools and guidance to overcome those technical hurdle. So that might become come from us like as people who run the programs but we have over 1200 people who have gone through our programs currently and They come back and regularly Mentor the people in the program not only on the technical front, but also like what is it like to be a data scientist X at X company and so on so very cool and so is the

Sam:

the program run as a single project kind of like a Capstone thing or is it a series of smaller projects?

Guest:

Yeah. It is just a single project because we want wanted to have a significant amount of debt that it's like impressive to see what someone can actually accomplish in just three or four weeks time later on the program. The fellas are going around and presenting this work as a way to worm start the interview process with companies that are interested in the insurance and

Sam:

are the projects things that they work on individually or in this part of teams understanding that there was collaboration and people helping each other, but why You know our folks grouped into smaller teams to work on things.

Guest:

Yeah, it's really individual based. Ultimately. These people are hoping to launch their new career and when they're going to need a new hiring manager and having some of their first interviews being able to talk about something they concretely did and not having mixed signals of who did what it's really important. Okay,

Sam:

I guess that was wondering if you know if you had any startups come out of this like if someone you know, if teams I guess or maybe individuals like put built something as part of this program and decided Well, you know forget industry. I'm going to offer get a job. I'm going to start a company around this thing that I did.

Guest:

Yeah, there's been a few examples of that. We're seeing more of it sort of come about especially with the the AI program particular because there's a new sort of green space that's being created around a I start up and so we're we're working closely with fellas who are interested in watching these new initiatives as well as ones who want something like more Professional okay.

Sam:

And so if you could give a list of folks who or if you can give folks who you know are similarly situated in Academia or have you know, strong background in the theory of machine learning and AI but not not the Practical experience. If you can give those folks a list of you know, you tell me how long one 3510 things to go, you know figure out or learn about and love and experience like incite what's on that list

Guest:

Austin four people and especially in pure academics a little bits about tooling. So some of them might be using a language like Matlab or or other languages that maybe aren't sort of Industry standard making sure that you have the tooling to do that so I can leave is sort of like the techniques often when you're doing a PhD you get a book learning of you know, the broad landscape of you know machine learning the alluring And then you dive deeply on one specific model, but often when you're on these teams you want to be able to speak to a more broad topics. So not just knowing one type of an LP, but knowing the the broad spectrum in a more deep way. And so the way you might be able to do that is to actually take on concrete projects with not just clean data sets that come from like cattle or some Machinery depository, but actually real live data that either you scraped or you gotten from like messy dump of of data and dealing with those problems that come up when you're trying to implement something that's more realistic that that companies have to do with. Okay.

Sam:

So two two things anything that's consistent with so yesterday. I was interviewing the startups that are part of the Nexus live and I asked them all like what are the biggest challenges they're experiencing in your latter Point dealing with, you know, acquiring and annotating and generally dealing with Messy data is Was universally like the number one challenges they face and sounds like it's not just startups. It's that's what industry folks are telling you as well and anything else Beyond those two. I

Guest:

think a lot of it too is like knowing how data fits in terms of strategy for an organization. I think a lot of people who are academics think oh you just go and do your machine learning model and and check that box. But in fact like being able to evaluate how poor to the company's Mission we were work is and what opportunities are going to have the very challenging space and also means it will affect how happy you are how we fit into a particular job. So on that front, it's more about getting out trying to find ways to network and learn more about learn more from people and Industry and get a sense of like, what does it mean to be a big Enterprise company focus on N O P versus will start up that's doing computer vision stuff. Those are broadly different motivations and problems that those those conversations are Awesome. Well, what's

Sam:

next for insight

Guest:

you talk a little bit about expansion. But any other you know programs or things that you'd want folks to know about. Yeah, we're we're currently thinking of ways that we might be able to work more closely with some of the the teams that we work with specifically around like helping them to come over come technical hurdles, cuz the the death of technical knowledge on our teams quite strong and we do a lot of like in-house research. And in order to stay on top of the type of work that our fellows are doing okay interesting. How

Sam:

big is the that research team?

Guest:

Well, so everyone sort of like all the the technical team members at Insight do their own like either projects or keeping up with the the the latest journals. So it's not like a strongly unified team. It's more like everyone knows that they wanted and they're excited to do it because frankly almost all the technical team members where people who went through the program and so they themselves are very excited by this type of work under to do it. Okay awesome.

Sam:

And working folks learn more and like what's the is there a link to the application or you know how to what's the process for folks that are interested?

Guest:

Yeah, you can find all the information on our website inside datascience.com. There's links to all of our programs including the white papers, which actually do really great job of like laying out. What is the difference between data science? What is the difference between that insurance? What is the difference between a i and all those things? Right and a lot of people especially from Academia and other places like that is a hard thing to parts and it's still like kind of a hard thing the parts for a lot of people in general, right? So great information there including our blog post which give you a sense of like the type of work fellas do okay and then the applications we run these programs roughly three times a year. They can go to the apply page simple web form and then there's next steps if the application seems like it's cool.

Sam:

That sounds like an amazing opportunity for folks.

Guest:

Yeah, I think so.

(end of excerpt)

Conclusion

Sam:

Awesome. Well, thanks so much Ross for taking the time to chat with me. I enjoy learning about the program. Thank you. All right, everyone. That's our show for today. Thanks so much for listening and for your continued feedback and support for more information on Ross Insight data or any of the topics covered in this episode head on over to twimlai.com stock / 68. We hope you've enjoyed our NYU future Labs AI Summit Series. If you need to catch up on any of the episodes visit twimlai.com say I Nexus lab tube, of course, you can send along your feedback or questions via Twitter to actually on or at Sam charrington or leave a comment right on the show notes or series pages. Thanks again to Future lives for their sponsorship of this series for more information on the program visit future Labs. NYC and of course, thank you once again for listening and catch you next time.

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