AI and You

Transcript

Guest: Olivier Caron-Lizotte

Episode 67

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Welcome to episode 67! We spend a lot of time talking about high level, theoretical aspects and consequences of AI on this show, but right now, if you want to do anything with AI, then you've got to deal with return-on-investment equations, you've got to deal in hard cash, and you've got to know where to find people that can do AI and you've got to know what's realistic. So we're going to get into the nitty-gritty of that today, with our guest Olivier Caron-Lizotte, who is the CEO of explor.ai, an AI-as-a-service company. I caught up with him when he was working out of his RV in the woods in Quebec, a lifestyle that would signal success to many of us, because I wanted to talk about what it was like to wrangle a team of developers who need to be paid, with customers, who need to supply money and get value in return. So you're going to hear a lot of practical, real-world, battle-tested experience about AI being developed today. And this'll be helpful to a lot of you who throw dollar signs around for a living, no matter which side of the buyer-seller relationship you're on. So let's hear what it's like on the front lines of AI development with Olivier Caron-Lizotte.

Olivier, welcome to the show.

Thank you. Thank you. Thank you for having me here,

And I'm looking at you right now in your RV, out in the woods, living what many would say the dream of a CEO in the AI business of working remotely, extremely remotely in this case. And. Is that well? Tell us about how you got to this this place of being able to realize the goal of working on a guy from out in the middle of a forest?

All right. Well, then I I'll have to provide a little bit of context then. In my previous I was co-founder of BiogeniQ previously, which were bought by Biron Health Group here in Quebec. And I had a three-year contract that ended up during 2020, in March specifically. So, I was already working on my new venture, but I ended up having to launch it on March 2020 when they closed schools here and they closed the offices and they I ended up at home with my four kids and I had to handle the kids and start a business at the same time. So, it's literally as if I had five kids at home who is not super easy, but I had to find some help doing it. So, I started to look around at how this Covid situation could benefit me some in some way just, to try to see around the problem. And I ended up finding a lot of AI experts, software developers that were willing to do from 5 to 15 hours a week more than they actually do because they didn't have to travel anymore. And now these people are very, very talented, and normally they wouldn't work elsewhere, but they just felt like they wanted a chance to show other people that they were good, and it worked. And the work they were doing was quite easy to do from home. And so, I ended up building a network. Currently we are 138 such experts, mainly AI experts that are willing to help us from five to 15 hours a week. And so, with all these very talented people - myself, I

didn't have to be as talented in AI and I thought I thought I would have to for having the first projects with our company.

Well, you can do a lot with that kind of talent on tap, and let's explore this remote collaboration here for a bit, because that really puts you at the ground zero of an intense debate that's happening right now, and sometimes acrimonious, in various companies where the bosses are saying, OK, pandemic's over time to come back to the office. And they're saying, we made it work for a year from home. Why do you want us to get stuck in traffic for two hours a day? And so here you are creating a new model with people on tap who have got extra time who have been able to work from home. You're doing that in the minute in AI. What are the lessons, I think the insights that you've had in your position as the CEO of bringing people together for this remote work, that you think are informed by this shift in our working patterns due to what's happened in the last year?

Yeah, that's a good point, in the first year of the pandemic, obviously hiring people from remotely was normal, but then because we have a couple of employees and not just part time worker, I had to make sure that these people wanted to work from home for a while because we're not going to have an office for, like, probably ever. And so, it's not everybody that wants to work remotely all the time. We are seeing right now a lot of statistics about people not wanting to return to their offices. There are people like that, but that's not everybody. So, the first thing is to make sure that you hire. Well, in my case, that I hire people that are willing to work from home, who want to work from home. And then the second thing is about tools, making sure that they like the tool they use, if they don't like their computer and they prefer the TV and they're at home, not managed by anyone. It's hard to motivate oneself into using the computer. So making sure that they're comfortable in their environment, that they like the tools they use, and they like the project they work on. And that's another thing that Explorai can provide: We don't work on thousands of hours projects. We work with lots of different companies on their small projects. So, there's always a different challenge, which is something that please most experts are actually that I find that most people that are talented like these environments with lots of different challenges.

How did you get into AI? How did that field open itself up to you or vice versa?

So, I had some AI experience back and forth in my previous days, I have been in research centers a little bit and when I launched, well before launching Explorai, sorry. Before cofounding BiogeniQ, I was in bioinformatics and for five years, now back in the days, that's currently the case still. But in bioinformatics, you don't have many projects without AI, how everything that's every paper written has some form of AI in it. And so, it was the case that I was helping lots of students and grad students to their AI part of their projects. But with BiogeniQ, we were new. I was mainly working on the infrastructure, the operations, so I was at least four years without touching AI. And then when we were bought by Biron, I had the chance of becoming their chief data officer. It's just a way to say that my role was to value the data they had and the most trivial way or obvious way to get the right to add value to the data right now was through AI. So I had some weeks to get some information, coaching, just to be up to speed with newer technologies,

and I started hiring people and coaching startups around us, so I was sometimes hands-on with the AI, but most of the time just piloting projects in different and different fields like, for example, in vision and biochemistry, just business intelligence, really different fields. That's another thing that I noticed there, is that it's really hard to find one talent in AI that manages to work with sound, image and tabular values. These are expertises and, in the past, in the software development world, we've seen that the software developer is not just a guy that can work in any kind of software languages. They eventually get specialized, and the same thing is true about AI, but for a company with a small budget, you can't have one expert with all of this expertise. Hence the idea behind Explorai to be able to help these small companies with their projects, to hire us instead of hiring multiple different expertises.

So, do AI developers specialize in vertical applications? To an extent, I think you're saying there I thought that they would be specialized in horizontal technologies, but it seems like you're saying that they specialize in the sector that it's applied in, or the technology, whether it's vision, natural language. How does that work out?

Yeah, I think it's a little bit of both. When I've seen people coming out from the universities, they tend to have a horizontal field of expertise. They are very good in everything that's deep learning or they're very good with any form of object detector, not just images. But when they get into in the private sector, they start working, and then that's where they start getting these vertical. And they become very good in the type of data they work with, they become subject matter experts in this type of data, as well as the machine learning models that work well with those.

Does bioinformatics form a large part of your business at the moment?

That's a good question, very good question, actually, not a large part. The first year of Explorai, I was in a strong non-compete, so I really didn't touch at all these kinds of projects. Now it's different. I have a couple of clients. I'm mainly the only employee with bioinformatics experience. I do have some experts available, but out of the five employees we are right now, I'm the only one that actually does hands down the bioinformatics projects.

So, you have five employees and over 100 contractors or people for hire. Is that right?

Yeah.

So, when a project comes in, what causes you to decide whether that's something that you want?

Well, as for any business, it's true it's true that it's hard to say no, but I didn't have to say no to a lot of projects. I did have some people coming at me very early on their project. And so, I was offering some counseling to help them sometimes just get the right grants for their project and then a couple of months later to come in and we work together, we also help these companies get the data right because it's worth it for the company to work with their data to learn how to process and prepare their data for the machine learning part. It's good to have the companies do it themselves through their business intelligence people, just because any transformation that's

needed for machine learning, they're going to have to do it when they're going to run the model and operations, when they apply the model. So that part is very important, and we are actually a very small organization. So, we tend to and most organizations that are coming at us, they are also small and small to medium sized businesses. We make them a little bit more comfortable, I guess, than the bigger groups. So, for now, I think it's very a very good fit. Everybody projects we had fit between 40 and around three hundred hours.

And how much do you see of unrealistic expectations about what AI can do?

I had maybe ten people that I've had to say that this is not either not possible right now or it's just not been used before and that and thus there is some uncertainty on their project. But what we really like as a business is that we get a client describing the project and we find one of our experts that says, I've done something very similar. It takes that amount of time using that and that technology. It's concrete. We know exactly how to do it and how long it's going to take. For the client, it's easy just to say yes or no to that project. Now, when the client comes in with something that's new that no other company like them has done before, they're slightly in the fundamental stage that's not concrete enough. That's when we try to find a university partner for them because it makes more sense to have universities, researchers and students work on them. It's not quite a prototype, but that's a pre-prototype. It's more cost effective than having a private company.

We hear a lot about how organizations need to have their data well curated before they can let AI loose on it; and do you find people coming in who haven't done that and is it hard to get them to accept what they might need to do?

So far, it's been going very well, for example, if a software company comes to us and they are not quite there yet in terms of their data, most of the time, we've found free trained models or existing APIs that some of our experts have knowledge using, and we're going to coach the company into using or implementing this AI. And in the same process, they prepare their data. So, they're going to be using API for a year while prepping their data and making sure that in a year they can have a project and build their own API and be self-sufficient, if you want. So that's kind of one of the ways we have been redirecting these companies. So they have something concrete they can work on, and they prepare in a way that all the staff there, they understand what's going on. They see how they use this API, so they know which kind of transformation they need to do with their own data to be able to do the same thing in a year, for example.

So, would you say that then people are getting better educated, more intelligent and aware about the way that their data needs to be ready for using AI?

Yes, I've been impressed so far. I've had some people come in, come at me saying, "I have a competitor, they've done this project in vision, they have some robot that goes on a tube, and they record everything and process everything. We want to do the same thing." And they know the first thing they tell me, "We have that many recordings of robots and they have been annotated by people telling at that time or at this distance there was this artifact." So, they

already know which kind of data they have. It's not perfect, but it's actually quite close. I think you're right. The people know more and more how this stuff works.

That's encouraging. So, what sort of applications have you been involved in providing here? You mentioned machine vision there. What are some examples you can talk about of the ways that people have been using AI? Where broadly does it benefit them?

We're working with a lot of software companies that themselves have different clients on different verticals, so we've been working with, for example, a company in building roads the process of building roads, is there a term for that in English?

Building a road.

You know, these different layers.

Road building. Yeah, OK,

So that's just called road building.

Far as I know.

OK, sorry. So, one of my clients is an engineering firm. They work with people that are building the roads and they have lots of different machines, for a company like that to have a project in AI, they would need a lot of different talent because they have a time series, they have geo positions, they have images that they need to extract some form of defect from the images. So, these are some projects that we work on. Their engineer or their software engineer would put together a software that has lots of different AI components or machine learning components in it. AI, machine learning sometimes it's just a very fancy way of processing the information. That's our ways we work with the client, but that's these are the kind of projects that we can work on. Another type of data that we've been working with a lot is documents. There are more and more people with documents that want to scan them, extract some form of information from them, and they don't have access to it very easily. We've had some people that we helped implement the best OCR into their software which no commercial OCR would work and we had to develop a custom form of OCR.

How much of what you do is a one-and-done where people say ,here's data to figure out something from it, give me the solution, and the solution is what they want; versus, they need a system to integrate with their business to work on an ongoing basis with new data as it comes in.

Half and half, I would say about half and half.

And what sort of advice do you have for businesses that are asking themselves, "Here's a bandwagon here, AI is all over the place," and so people in every industry have got to be getting nervous, thinking, "are my competitors using AI, how are they using it? Is it giving them an advantage, am I about to be thrown out of the market?" What sort of questions should they ask themselves before coming to you?

Good question. I think before they ask themselves if they want AI or not, they need to have some form of a need. A need can come from a competitor developing something that gives them an edge that they don't have. Now, if that happens, whether it's AI or not, they must hop into the bandwagon or find a workaround or implement something that's going to make sure that they stay up as a business. That's been true for hundreds of years, regardless of AI. So, my focus with Explorai has been more on giving value to businesses than AI. Of course, I'm all about AI, meaning that people approach me thinking that they need something that's AI, but they don't necessarily come out of it with an AI solution. We are helping them use ready-Made solutions most of the time that are using AI, but still there are sometimes solutions that they don't see that are really close to AI, but actually just better for them to use through APIs, through just the right expertise and as a business, one of our cores focuses to add value to other businesses, regardless of whether its AI or not. So, the question that people need to ask themselves is, Which kind of direction they want to go when one of their competitors has AI service, if they want to go head on with them, with their own service, do they want to implement something that exists that I just as close, just as good, or some other business strategy. That's what they want to do. If they work around and shift their business, they're probably not going to have a use for us if they want to become competitive compared to their competitor that are also using AI, then they might need us.

So, you mentioned non-AI Solutions there. Where does that dividing line fall? I find this a question that's alternately fascinating and frustrating, hard to answer. Where does that dividing line fall so that you can say, well, that's not AI, that's business analytics or business intelligence or that's regression analysis or that's statistical clustering or what deserves the term AI?

It depends on who is asking, for a business that comes and see us if we have a bunch of data and they need something to be predicted out of this, for example, tabular data, whatever the solution we come up with, what's going to be interesting for them is precision of the solution. If it turns out that linear regression is the best way, that's what we deliver for them and whether they call it AI, or we call it AI or not, it's almost irrelevant. So that depends on who's asking.

Are we, in your opinion, going to get to perhaps another AI winter where people will keep doing these things, but no one will want to call it AI?

That's possible. I've seen some groups, in Montreal, mostly, that are using new terms instead of AI, and I think it's not a bad idea by itself. I think what's most likely to happen is that there's going to be some fragmentation about the term AI. We've launched a company with the oldest term, the one that's very broad, and that on some terms, even regex are some very basic algorithms [that] are within that large AI definition. But I think in most people's minds, AI is a step above that, like Siri, Alexa, these kinds of systems. I will make it parallel with a term called "organic" that's been coined maybe 20 years ago, I can't remember exactly when, but back in the day, the official definition was not what it is today. Now, today, for everybody, organic means that you are growing your food without some additives. I think we might see something like that happen to artificial intelligence. Either the term will evolve, or some new term will come up and we'll make it clearer whether something is the AI or not.

So maybe we'll have organic AI.

Why not?

How much of what you produce is our customer relationship, let me say customer service agents, customer interaction?

The closest I've done in that regard was looking through marketing data for a churn like the chances of someone not buying another product for a company. We have only one project in this direction. One of the things we're seeing as a company is that the more solutions that exist that already inside of it, the less projects we have on this, for example, if I don't know what to say, HubSpot as has AI system that actually calculates your churn rate or something similar, then there are less and less chances that we're going to have AI projects in that field.

How big a threat is someone like Watson or Amazon to you? Amazon seems to launch a new service every week, some vertical AI system. Is that something where you can see them nibbling away at your business by launching something that reproduces what you just spent three weeks coding?

That's a very interesting point, and the way we envision it as a business is we're trying to help our partners be less and less affected by that. But the bigger the potential risk for us is to build something like that for one client and then have this other company start a service that works better than what we've developed. We and the client are both losing something, but that would be sporadic. That wouldn't happen to us. We are a service company; we are accompanying our clients into implementing AI whether we are coding it for them or help them make the right choice and try to do it parallel with whatever Amazon is doing in the AI world. For example, - maybe you're not aware of that; I'm trying to find a good analogy here - but let's suppose you're a cook and you have a client that comes up and asks for a meal that, you know as a cook, there is like 30 different variants of this meal. How are you going to cook it? It depends on what you can get from the client as what you think they want. We're going to try that. We are going to try to understand these services as they get out. We are trying to have experts that know these services and can accompany our clients into using the right service. So, we are in a way trying to surf the wave of new AI services by offering service to our clients to pick the right one, the more there is in this market, the better for us.

It's a very volatile market in every way. Is it hard to hold on to talent in this way? What do you need to do? are you at risk of companies poaching the people that you have?

Yeah, it happens already. I mean, there are a couple of companies that are growing that that are picking our part-time people and giving them contracts that they can't work with us anymore. So it happens, but I guess it goes in every direction. All companies work this way. So, what do we do as a strategy as we keep growing our network faster than it churns, in a way? Right. And that's kind of our strategy so far.

What do you tell people that you're approaching to be part of your team? What's the unique selling point of Explor.ai?

We like to tell them that they've developed some very specific expertise that they are very good in something hyper-specific, and they can share this talent with others. Of course, they are paid to do this, so, it also helps and there is always this monetary incentive that we need as human beings; and there's the factor of the challenge. If we need them, it's because it's hard, it's really challenging. And if they're very good, then they're the best in their vertical then it's super interesting for them to tackle this challenge that comes up.

And the teams that you're forming for each project, to what extent are these people that have worked together before or are you pulling resources from a list, put them together and say, OK, guys, go. How does the teamwork of the project come together?

Yeah, so most of the time we will have a team for one project that haven't had the occasion to work together before. We like to work as one coach, one doer, somebody that's going to do the work and another one that's going to coach him to going in the right direction and right away, we do the same thing with our clients that we are coaching some of our clients in the same approach that we've been doing in the last year with these experts, stepping in for 15% of the projects, in terms of hours are for these people and the other ones are for most of the time, they are employees or part-time employees that come in and they're the ones speaking with the client. That's another thing: These contractors they can concentrate on, on their expertise and coach other AI experts. They don't have to speak to the client, which is sometimes hard for them to use the right language to speak to our clients.

What do you expect to be doing or what would you like to be doing 10 years from now with AI?

That's the biggest question so far. It's really hard to say. AI has been going sometimes fast, sometimes a little bit slower, the past years, so it's hard to tell which field of AI is going to explode. In the past years, we've seen a lot of a lot of progress in vision, and but then it's become it started slow, but there are very, very cool AI approaches and pre-trained models that are existing right now. And we didn't see them being applied correctly on the market yet. So, there's like these two different things, like the AI sometimes is moving faster and the market will will be there just a few years after. But I'm also looking into the new startups and the subject where they're trying to achieve, some of them are very big challenges, not sure they're going to make it. But most of them are just implementing stuff that we've seen in other industries. It's like for a year and the year and a half there's more startup in AI, but they're not fundamentally different anymore to just attack a different vertical. So, does that mean that there is going to be less development, fundamental development, new AI approach? I really don't know.

I think we both have children, right; are yours interested in AI?

Yeah, in two ways. They are interesting into what I'm telling them that we can do, like we can teach some machine to do some of the stuff that they still can't do. And some other machines, they were not able to teach them to, for example, doing bicycle, which is very easy for them to do. But they find it funny; there's a lot of toys that right now that are just AI-enabled, but that's just something very basic but still, that's impressive for the kids. My kids are really amazed by these things, and they behave, they react automatically to some cue, keywords. It's impressive.

Do you find yourself thinking about how AI might affect their education, their entry into the job market?

Yeah, I think there's some negative impact, it might be like this CVs being filtered automatically without anybody looking at it, there's some use of the AI that's been, I wouldn't say that I'm 100 percent that I would agree with all the use of AI, but, I mean, it's like in everything you can't agree with every use of a tool that you create. You're going to create a screwdriver, but some people are going to use it to flip pancakes with it. There's not much you can do to prevent it.

What do you think the most positive possible applications of AI that could change the way our schools and the first careers as your children reach those stages?

Yeah, that's something I've been thinking about for a long time, I think the first time I started thinking about it was in a book from Neal Stephenson, *The Diamond Age*. There's this very intelligent book that teaches a girl from kindergarten to, I guess, university grades. And so, it's a very personalized approach. I have twins and I see them in the same class, not learning the same thing at the same speed. So having some system that would help them learn as much as they can, but that their own speed, like optimizing the way they learn, that would be perfect. And it's not something that's humanly possible, because right now the teacher to student ratio is about one to twenty-five, I think. And so, it's just not possible without some new solution, like AI, to have a very personalized learning experience. And that's one of the fields that I would really like to see improvement from AI.

Interesting thought there. I've seen systems that address that at the post-secondary level. It's much easier to apply AI in education at the university level. It's a much bigger challenge in high school, and it's virtually impossible below that. Not that I necessarily think that's even a good idea below that. In my family, we're just beyond kindergarten. That was last year. But some part of me just is repelled by the suggestion of introducing AI into kindergarten, unless it's something that just makes the teacher's life easier in the background, like keeping statistics and filling out forms and other stuff that they have to do but don't like. Do you have any thoughts, visions, fantasies, daydreaming about AI in education?

Yeah, actually, I think it's a good point, you don't want to have something that you don't want your kids to be taught by some emotionless system. And I think you must look at it in a way that most projects that we are working on right now, they're not there to replace somebody, they're just there to make sure that they do a better job that they do less error, for example, so if we can come up with a way to help and motivate or some sort of gamification for the students that motivates them into learning more or improve their learning process, I think it could dedicate more time to the teachers and to giving more time to actually their students one on one, maybe on one on one meetings, for example.

Olivier, how can people follow you what you're doing, get in touch with you?

They can have a look at our website Explor.ai, there's a form there to contact us. There was also a forum a little bit hidden, but if they search, they'll find it a way to book me directly if they want to have a meeting with me. What I do at Explorai is mostly meeting clients, making sure

that the project fits in for both sides; I mean, having a project that will work for the companies and work for us as a company, you can reach me. Also on LinkedIn, I have a strong network there that's the only social media I am in. So, I would suggest connecting with me on LinkedIn.

Fantastic. Well, anything you want to add for our listeners: advice, final words on how you see AI changing our lives?

Well, I think AI is going to last, it's not there to leave. So, if they have any question or want to use it within their company and they are still not sure how to progress, they can still have some, for example, an ideation session with us. We're not the only group that does that. But I find it very, very interesting for most companies. So, if you are a company interested in AI, hire someone like us to do an ideation session just to see how AI could help their company and take it from there.

Thank you, Olivier Caron-Lizotte, it has been a pleasure talking with you.

Thank you, Peter, for the opportunity.

That's the end of the interview. Olivier's website is explor.ai. I'm really grateful to him for revealing how he makes all that work, it was a fascinating view of the sausages being made, so to speak, at the coal face of AI, if you like horribly-mixed metaphors.

In today's news ripped from the headlines about AI, we've talked about transformers on this show before - not the cool robots in this case - but the large deep learning models that learn some fairly generalized abilities from swallowing a large part of the Internet, the most famous example being GPT-3. So far, the examples I've seen were trained on text. Well, DeepMind has a new learning model called Perceiver, and it generates interfaces for transformers to use images and audio and other media such as point clouds generated by LIDAR on autonomous vehicles. It's already doing better than the industry standard neural networks on tests run on ImageNet, that huge database of labeled images that people use for training image recognition AIs. There's a link to the paper in the show transcript.

Next week, I'll be talking with Daniel Demillard, Founder and CTO of Foodspace, which uses AI to derive nutritional and other information from food labels so you can ask high-level questions and get useful information out of an online grocery store. I want to know how that works, so we'll talk about that next week on *AI and You.*

Until then, remember: no matter how much computers learn how to do, it's how we come together as *humans* that matters.

http://aiandyou.net