1:43

Alexey

**This week, we'll talk about volunteering and open source work. We have a special guest today, Sara. Sara is a Google Developer expert in machine learning, a Google PhD fellow, and also a co-founder of AI Wonder Girls. She likes to demystify AI to empower individuals with tools and mindsets that require building solutions that matter to the community and humanity.**

**We met with Sara in October, I think, at a conference in Porto. It was an amazing conference. We had a very nice chat. Sara was talking about what she does and I thought “She would be an amazing guest.” And here we are 3, 4, 5 months after that, finally. [chuckles] So, welcome to the interview.**

2:34

Sara

Thank you.

# Sara’s background

2:37

Alexey

**The questions for today's interview were prepared by Johanna Bayer. As always, thanks, Johanna, for your help. Before we start – before we go into our main topic of open source work and volunteering – let's start with your background. Can you tell us about your career journey so far?**

2:56

Sara

Yeah, sure. I got interested in AI in my first engineering year, back in 2016. We were part of an interesting journey called “Beyond Engineering” (educational engineering) where we had to contribute our engineering skills to help the locals. And that's actually what pushed me to start going this volunteering road, because I enjoyed it so much – giving back to the community and my skills that I wanted to do it as well. But from there, I started learning about what AI is. And obviously, like everyone, I started with Andrew Ng’s course, Machine Learning from Stanford.

That's how, after that, I got into [inaudible] deep learning [inaudible], so on and so forth. On the side, I was volunteering my skills with Omdena AI, and then got an interesting internship from STEM-Away. That's how I actually got to where I am now [chuckles] doing my PhD in AI applied to help. One of the reasons why I actually wanted to do a PhD was to get deep learning research –applied research in industry. Obviously, if you're going to be doing research, you do need some kind of research intensive – that's a PhD for you. [chuckles]

4:23

Alexey

**And what is your background? What were your studies about?**

4:26

Sara

Yeah. Actually, in our engineering, we were doing computer science. Our major was called Computer Science and Emerging Technologies Engineering. In our last year, I did a Big Data Engineering specialization.

4:44

Alexey

**And then you liked it and you wanted to do more AI [Sara agrees] and this was a way…**

4:48

Sara

Yeah, in that same year (in 2017) I was interested… I was actually part of a Big Data Challenge for EEE. When we did that internship, I was like, “I really want to do this.” I was enamored by computer vision because I'm a vision person, most of the time. That's how I got interested in computer vision, and then from computer vision, I was really interested in the medical field. I watch a lot of medical dramas. That's how I wanted to do AI Applied to help in mind.

5:29

Alexey

**Grey's Anatomy?**

5:32

Sara

Oh, I kind of watched that, but that wasn't my first choice. I usually prefer [inaudible] when it comes to doctor dramas because they're more thorough.

5:46

Alexey

**Yeah, I also know Scrubs, but I guess it's also not really a very medical show, right? [Sara agrees] [chuckles] Okay, so your focus is on AI and healthcare, right? [Sara agrees] So what is your PhD about?**

6:03

Sara

It's about deep multi-modality learning for COVID-19 and IDT diagnosis. Practically, I am trying a bunch of CNM models and vision transformers. I mix and match, depending on the disease, different modalities. For example, for COVID, chest X-ray with CT – I feed them to the CNMs or the models I'm comparing to do a benchmark and see which models outperforms and which models for example… Which modality is actually much more efficient to our searching model than another? Why? And is it normal? For example, is it what doctors usually rely upon more than the other modality available on the modalities? That's practically, in simple words, what I'm doing. [chuckles]

6:56

Alexey

**How long have you been doing this?**

6:58

Sara

Oh, this is like my fourth year. This is my final year. I'm just wrapping up the writing part.

7:05

Alexey

**Final year, okay. So now you're almost finished? Right?**

7:11

Sara

Yes. No, no, I'm finished. I haven't done any experimentation for almost a year. Yeah.

7:20

Alexey

**So you've been writing papers for a year?**

7:23

Sara

No, it’s more like I have been writing papers from the start of my PhD. My first paper was ready by… I believe it was November or something. It was ready, as it was circulating around journals. Because, by the way, the paper that was published just recently, just last year and this was the first paper that was written, all the other papers that have already been published, but it was still roaming around.

# On being a Google PhD fellow

7:53

Alexey

**Ah, so it took a bit of time. [Sara agrees] You're also a Google PhD fellow. [Sara agrees] What does that mean and how did you get it?**

8:02

Sara

Yeah. Actually, one of the things we don't have in Morocco, sadly, for now – we don't have funding for research. One of the things I had to do was find a funding source – a scholarship or something to help me support my studies. Way before that, I was involved in a lot of Google stuff, like with the GDG (Google Developers Groups). I knew they had a program called Google PhD Fellowship. I applied to it. I… What can I tell you? The thing is, if you want to apply for aid and you want to have a chance to be selected, please make sure that you focus on something they care about. For example, try to figure out what they're researching, especially, for example, a searching field – if you're doing it for healthcare. Figure out what they're interested in. Then the second thing is, it has to touch upon a SDG goal, like helping you or your community. And it has to help your community.

That means if you're in Morocco, or if you're in a certain region, it has to help your region do something – it's going to be useful if people leverage that research or something. I think that's why I got it, but I believe strongly that most of the reasons why I really got it was not just around the proposal, but also, obviously, my supervisor. And the second thing is all of the works I have already done way before applying to it. I have done a lot of volunteer work; I have touched a lot – I've been [involved with] all kinds of different AI and applied it to different domains. So I think that's one of the reasons why I got it. So what is it all about? Usually, in the fellowship – you can think of it like a scholarship because it kind of is like a scholarship. They give you money, right? For example $10,000 per year. By the way, they increased that – now it's $12,000. But usually it’s $10,000 a year for three years, depending on the region.

For example, Africa, this is what we have. I believe in the US, they only give them for one year, because usually they do have funding. What do they give you on top of the money, is they also give you a Google mentor and it's up to you to leverage this mentor or not. I am a very independent person. [chuckles] So I did almost everything by myself. Sometimes, when we had our meetings, I was like, “What do you think of my proposal?” “Is it relevant or not?” And then he would be like, “Yeah, it's interesting. You can go ahead with it.” That's practically much of our meeting. [chuckles] That's what I do in our meeting. Well, apart from that, there is the PhD Fellowship Summit that I invite you to – it's a virtual Summit, where obviously, there are all of the Google PhD fellows gathered together. Then Googlers talk about what they're doing in Google, in the research aspect – obviously, about AI.

# Sara’s volunteer work

11:08

Alexey

**Interesting. You mentioned that one of the reasons you got this was the cause, and that it was helping the local community. [Sara agrees] Not only that, but also, because of all the previous work you had done – all the volunteering work, and that you applied the AI to a lot of things. Can you maybe tell us more about that? What kind of volunteering work have you done?**

11:38

Sara

My first volunteering work was with Omdena – it was around the detection of post-traumatic stress disorder. In that project, we kind of, as always… I'm not sure if you know this, but in AI, most of the time, we have the problem with data – we have the problem of computational resources. We didn't have the data at the time. We kind of had to get creative regarding where we got it from. We were a bunch of AI engineers collaborating together to help figure out from certain discussions if a person had PTSD or not. We developed a chatbot for that.

For example, if we believed that that person had post traumatic stress disorder, we suggested resources based on DSM-5 and CAPS-5 (these are standard psychiatric guidelines that we referred to). Obviously, most of the time, we always refer them to the doctor, because with AI, you can never trust it. This is one of the points. Apart from that, from then on, I started volunteering with Omdena more. I actually volunteered with their second project about trash out, which was about detecting if a certain trash is recyclable or not, using computer vision. For example, you have some kind of trash, and then you figure out if it's recyclable or not. Because every region in the world has its own regulations, on top of figuring out if it was recyclable or not, we had to figure it out… It depends on what type of actual trash it is, depending on the region. That was my second project with Omdena.

My third project was with Fruit Punch AI, and it was around detecting our cervicals. In our spine, we have curved because seven cervicals and we had to segment those. What they wanted us to do was to segment these cervicals so that they could actually plot a searching function where they… They tried to know if this movement that I'm doing right now is normal. If it is a normal movement.

14:08

Alexey

**In the neck only, right?**

14:09

Sara

Yeah. Yes. They were trying to figure out if… For example, when someone had surgery to replace one of these cervicals, was the movement still the same as it is in normal settings? Because, what happened was that, when they replaced one of these cervicals, the “meat” kind of sticks to the new cervicals, and the neck doesn't move as normally as it could. So they wanted to know what the difference was? What was the factor that was helping us do all of this movement, and figuring out a solution for that.

That was my third project. Then like all the other projects that came after that were related to my internship, where I started to do it… It was an online internship – this was my first online internship ever [chuckles] with STEM-Away. Actually, we had to figure out what type of topic a certain post can go to. So when you have a couple of forums like, for example, Stack Overflow, Stack Exchange – you have people discussing a lot of topics. So, for example, you might have someone saying a certain discussion and you might want to classify which topic this might be for. For example, if it’s AI, is it computer vision, is it using deep learning, or something like that? So that was what the internship was about. I started being a mentor from an intern – from a project lead to a mentor in that setting, and then creating content for people to learn AI.

15:50

Alexey

**That's amazing, so many… Going back to this Omdena – the first project was about detecting PTSD and you implemented a chatbot for that, right? [Sara agrees] I imagine… Where can you even get the data about that?**

16:05

Sara

Oh, so we got it from… Someone in the university had a friend in the military, and they contacted them, and they said we could use that data. At that time, if I remember correctly, IBM was interested in developing chatbots for military people. Because, mostly, they are the ones who suffer most from PTSD. I mean, they go through traumatic events almost every day. So they were interested in developing a machine learning model and that's why the data was available. So we can say we struck luck. But, for example, for the Trash Out, what we did was… We already had some data. But, obviously, if you're doing segmentation, you need more data [chuckles] than, for example, just a couple… 100 is not enough, right?

What we did was leverage open images – there's a huge [cache] of Google open source open images. What we did was pick the trash from that. We picked trash from Google images. We kind of had to get creative around how to collect data. This is what happens in every volunteering challenge I have entered. Normally, this happens with people who… Even businesses that can't afford to buy data – they get their own data from somewhere. So you have to get creative around where you can find that data. In research, this happens a lot, especially if you don't have funding. It's hard to find data.

# Finding AI volunteer work

17:41

Alexey

**How did you actually come across this project from Omdena? How did you find this PTSD project (the first one)?**

17:48

Sara

That's a good question. From my LinkedIn. [chuckles] When I was back in my first year, the one where I discovered that I was interested in AI, the whole time, I was complaining about opportunity. When I got into AI, I was really… I knew I needed to get a PhD or a Master’s, so I can further my studies and develop the skills. Because what we had in Morocco was still kind of… We didn't have experts. We had only a few people who actually knew about AI and mastered it. So I needed to get more expertise, and I wanted to go abroad. One of the things I was always complaining about was, “Why do we not have opportunities to further our studies and get funding and scholarships, and all of that?” So what I developed was a kind of reflex of searching for opportunities.

Right now, I use my Facebook, Twitter, and LinkedIn just for opportunities hunting. Whenever I see someone posting something interesting – that's why I actually send a lot of LinkedIn requests. I have people from all over the world with different opportunities that they post from time to time. You can think of it like a task or habit now – I scroll everyday through all of my LinkedIn feed (or Facebook feed) for an opportunity. Although now I kind of know where the treasure trove is, thanks to the mailing lists. [chuckles] So it's easier to get opportunities. But before, that's how I actually got across LinkedIn, by… Actually the Omdena thing by Rudradeb (his name is a bit difficult to pronounce). He is the founder of Omdena. He was posting about his… I believe it was their second challenge, where they were detecting rooftops. That's how I learned about Omdena, and I was like, “Yeah, sure. It will be interesting to use my skills and help in that way.” And that's how I came across the PTSD challenge.

19:57

Alexey

**Okay. So, social media, right? You follow relevant…**

20:02

Sara

People. Interesting people.

20:05

Alexey

**Yes. And they post relevant stuff and you follow on that – you connect with them and you ask, “Hey, I want to take part.” Right? [Sara agrees] That's cool. But can’t… Sometimes, for me, when I open LinkedIn, it can be a bit overwhelming.**

20:25

Sara

Yeah, it is. That's why you kind of need to be very specific around who you follow. You need to be mindful… [cross-talk]

20:37

Alexey

**And what you like, right?**

20:38

Sara

Yes. And you need to be mindful of how much time you're spending. For example, for me… Actually, to be honest, I developed the bad habit of scrolling. Not just scrolling, for example, sometimes I'm just holding my phone. I'm always doing this [shows thumb scrolling motion]. Scrolling, right? One time, I was reading a book – this was around during startup. I was on a train, and I wanted to move to the next page. So instead of turning the page… [chuckles]

21:14

Alexey

**It didn’t work, right? [chuckles]**

21:15

Sara

Yeah, you know – it's a bad habit. Right now, what I'm doing is cutting off all social media from my phone. But I check them out on my laptop. Usually, my laptop is only for work. So if I do it, I do it only for five to ten minutes, and then go out to do my work. [chuckles]

21:36

Alexey

**I guess if you like these posts about relevant opportunities, then LinkedIn will surface suggestions next time you open it.**

21:44

Sara

Yes, suggestions and recommendations. Sure. Yeah. By the way, Facebook is a great place to find opportunities as well. But please, don't follow irrelevant people and think that you will get anything interesting from that. Try to see where, for example, it's about specifically the topic you’re interested in. For example, for me, I'm interested in computer vision – let's say in health care for now, I will only join Facebook groups that talk about that specifically. And I will make sure that it's not a Facebook group that is full of irrelevant posts. Sometimes it can be about a topic, but it has nothing to do with what they're posting about.

22:29

Alexey

**I noticed that what Twitter recently started doing is – in addition to people who I follow, they also started mixing in popular content. [Sara agrees] Which is things like puppy videos, or things from movies or quotes or whatever.**

22:48

Sara

And ads – lots of ads.

22:50

Alexey

**And ads, yeah.**

22:53

Sara

But, I mean, everyone is trying to rip some money off people. That's why, I guess, they're being like that.

23:01

Alexey

**I mean, ads, I understand. Ads are sometimes relevant, right? If the algorithm is good, then they show relevant ads. Okay. I don't mind that. But puppy videos? It’s like they just want to get me to stay on the platform. Who doesn't like puppies, right?**

23:19

Sara

Yeah. [chuckles] Just be careful how much time you spend there. Twitter is a great place if you're a researcher because most researchers hang out there. That their fabulous place – at least it used to be.

23:35

Alexey

**Well, I remember Yann LeCun once wrote, “I'm leaving Twitter. I'll never come back.”**

23:41

Sara

Yes, yes. It was the mastodon era.

# Sara’s Fruit Punch challenge

23:44

Alexey

**Yeah, but he's still there. Right? [chuckles] Okay. So this is how you found these opportunities – through social media. So you found Omdena, then you took part in another challenge with Omdena, and then there was this FruitPunch.AI, which is a similar platform, right? Or what was that?**

24:08

Sara

Yes, it's just that the setting is a little bit different. For example, Omdena gathers all of us AI engineers together and leaves… We do have meetings, but it leaves the freedom for us to work on what we want, or what is relevant to what we want to achieve. But for Fruit Punch AI, it's more structured. For example, they have a team for every task – they're the ones describing the task very specifically and then if you want to join a specific task, it's already a task there. You don't have to come up with the task yourself.

24:50

Alexey

**So Omdena just gives you a general problem [Sara agrees] and then it's up to you how exactly to approach this and what kind of tasks you have. While at Fruit Punch AI, it's more structured like you would have at work. Somebody could be a sort of “product manager” or a business person who translates the requirements.**

25:19

Sara

Yeah, they are the ones who do that. They are the ones who translate the requirements – they define the problem into actual specific tasks. At Omdena, they tell you, “Here's a problem. Here are parts of the problem that we want to solve. Here are our objectives.” But in terms of who is going to do what, what the specific tasks are, and everything like that, it's up to the AI engineers to figure it out. But then I think it's because of the public.

Fruit Punch AI, they really target people who are still beginners, but for Omdena, they target people who are already advanced. You have to have done at least two to three projects in AI in order to be able to really navigate the challenge. Because it's really hard when you have a lot of experts around you and you're intimidated to do anything if you're not familiar with AI.

26:20

Alexey

**Does that mean that if I'm a beginner, I cannot take part in Omdena challenges?**

# How to take part in AI challenges

26:25

Sara

You can! That's the thing, you can. They won't block you. [chuckles] It’s just that it’s going to be very overwhelming. But people usually are very nice. If you're not shy, and if you ask for help, everyone will most surely help. People are really nice – everyone is willing to help and ready to help.

26:44

Alexey

**Okay. Let's say I want to join a challenge – a similar challenge from Omdena, from Fruit Punch AI, from something else, from some other company.**

26:57

Sara

Join us! [chuckles]

26:57

Alexey

**“You” who?**

# AI Wonder Girls

26:58

Sara

AI Wonder Girls!

27:01

Alexey

**Okay, tell us more about that.**

27:02

Sara

We're a group of ladies interested in AI, from different walks of life. There are people who are tech and people who are business-related. We get together and we find a challenge that's interesting for us –a hackathon, competition, you name it. We get together and then work on it. That's it!

27:23

Alexey

**No, that's not… [cross-talk]**

27:24

Sara

Nothing fancy.

27:25

Alexey

**What are you working on right now?**

27:27

Sara

Yeah. Well, right now, I'm not sure if any of us… Because we have a bunch… The name is the same but we have different teams. Any team can – you get at least five ladies together, or three, and then we should do something interesting. There are people who are interested in health care, like me. [chuckles] Most of them, there's something related to health care. I share the link in our WhatsApp group and I'm like, “Ladies are you in? Who's in?” And then we get together, we pump up our first meeting, figure out what they want from us – from a challenge or the hackathon.

Obviously, one of the things we really care about is judging criteria. We figure that out first. Then we figure out what they are interested in us helping them solve. Then we brainstorm together, we come up with a couple ideas to explore, we gather data around it. Is it feasible? If it's feasible, we move on and then we start coding. If it's not, then, obviously, we move on to the next idea until we find what we're looking for. We have won a couple of challenges. Actually, from the day we started, we kept winning until now – sometimes we don't win. [chuckles]

28:50

Alexey

**I have so many questions about winning and challenges. But I want to take a step back.**

28:54

Sara

Go ahead. Go ahead.

28:59

Alexey

**Yeah. So the way it works, as I understood it – there is already a community, this WhatsApp group of ladies, who are interested in AI and doing something with this. There is already a community and there is not necessarily a problem that you want to solve yet. Right? Then somebody (it could be you or could be somebody else) says, “Let's work on this problem.” And then they reply, “Yeah, let's work!” And then you start analyzing this problem, start checking if it's even possible (if it's feasible to solve it). Is there data?**

**Then you go through this process and you understand, “Okay, this is feasible. This is possible. The data is there. Let's work on that.” And then you spend a bit of time (a few weeks, let’s say) working on that. There’s also an objective, I guess. Once you understand, “Okay, we reached the objective,” or maybe, “We did not reach the objective because of (reasons).” Then you finish the project and then the process restarts.**

30:00

Sara

You submit. And then it goes up once again.

30:04

Alexey

**Submit where?**

30:07

Sara

For example, if it's a hackathon, usually you'll be submitting your solution to the hackathon. If you check out the post, they have a couple of hackathons. We choose one. One of the things that we're very specific about is that the challenge has to at least touch one SDG goal. It has to have an impact. That's why we are all there. We're interested in impact – in using our AI skills for impact. [cross-talk]

30:36

Alexey

**So the way I understood it (and it's probably what you’re saying) is that you always come up with problems yourself. But you also mentioned hackathons. I guess the same communities, the same WhatsApp group, where somebody could say, “Okay, I came across this hackathon. Let's take part.” Right?**

30:55

Sara

Yeah. Yes.

30:56

Alexey

**“This hackathon has a good cause. It's for social good. So let's take part.”**

31:04

Sara

Yeah, that's it.

# Hackathons

31:08

Alexey

**Can you tell us about one of the hackathons?**

31:11

Sara

Yeah. For example, our first hackathon was around medical imaging. It was from Microsoft and Stratica. Actually, that was the first one that started everything. Previously, I really wanted to be part of hackathons. I was amazed by people who got together and came up with a solution and then won something by the end of it [chuckles]. I really wanted to do it. I tried it before – it didn't work. But this time, I was like, “This is really a cool hackathon. We have a bunch of ladies gathered together interested in AI.” So I said, “Let's try my luck.” I copy/pasted the link into the WhatsApp group, and I was like, “Ladies, there's a really super cool hackathon. Would you be interested, by the way, in taking part in it?” That's how 8 ladies got interested. They reached out and said, “Let's do this.”

We created our own Discord, created our own channel, and started exchanging ideas around how we could participate and what we could offer. We based it, obviously, on the description and the judging criteria. Usually, in these hackathons, especially if it's from a reputable source, they have mentors. They always provide you with mentors. Because this was around medical communication, they did provide doctors. So we had a meeting with a doctor and we understood their needs. He told us, “We already have AI tools, but we would like it if the AI notified when it was finished its task.” For example, if it was going over a chest X ray, going over a radio and a modality and then notified them about it. Obviously, it should help them actually write the report.

One of the issues that usually… It’s not an issue, but one of the things that makes it so difficult to do their job is that – if you remember, in the time of COVID, they had a lot of people coming in. Because almost everyone was touched by it, right? So they were overwhelmed in the radiology section. A radiologist normally has only eight minutes to read the scan and then do the report. So what they wanted us to do was to expedite this part – to actually have the AI come up with the report, and then the radiologist can actually go over the report and fix it, if possible. So that was kind of the final solution that it was about. That’s it – we figure out what the mentors want from us, we review our idea with them, and then keep refining it. Obviously, when you have a couple of engineers put together, most of the time, the solution only comes near the end of the hackathon. [chuckles] You know how we love to work at the last minute. So that's kind of how we usually do it.

The whole month where there are sometimes meetings and sometimes talking about the solution, and then in the last week, we’re all rushing and putting it in front of us to be able to deliver the solution we agreed on. Most of the time, we kind of tried to deliver as much as we could. That means, for example, for the medical imaging, we did not only take the red radiology detected (it was about hand fracture) – does the patient have a hand fracture or not? Delivered the report, we also provided a dashboard so they could see all the cases that were coming in and all the details that you can find in a DICOM file. That would be things like gender, demographics – anything you can think of.

And then we provided what we call “future work”. That is things like improving the platform, the UI of the platform, the visuals and the delivery, and then sending the message over to their phones, tablets, whatever they have their hands on. In almost all of our hackathons or the challenges we work on, we never provide just one solution. That's actually the power of numbers, because most of the time, we're 5-8 people. We have the luxury of having everyone focus on an aspect that could be added. So we don't work on one solution – we work on several solutions in one package. That's the reason why we win. [chuckles] Obviously, we respect the judging criteria and a lot of other stuff.

35:58

Alexey

**Do I understand correctly…? There's actually a question that reads, “What's the key to winning a hackathon?” So let me try to summarize what you said and then maybe we will add more. First of all, you have a mentor, and you need to get the most from this mentor to really understand what they want from you. These people will tell you what kind of things you need to do. Right? [Sara agrees] So they will help you understand the criteria. They will help you to understand what exactly you need to give at the end.**

36:32

Sara

Wait. By the way, they won't tell you. You need to get it out of them. [chuckles]

36:38

Alexey

**Yeah, yeah. Of course. So it's not like they just tell you “Oh, here. By the way, this is how you do this.” So you ask. You will tell us how to do this, but let me finish the summary. Then the second thing is, you don't focus on one single thing. Once you figure out, “Okay, this is the problem. This is the solution,” you then explore other solutions and you think, “Okay, there are two-three potential things we can do. How can we put them in one package – to form one solution from them?”**

**And then you split into subgroups and work on these sub-solutions and then present it as a whole thing. So that's the key to winning – understanding requirements, talking to your mentors, and presenting multiple solutions. Is there anything else? What else would you add?**

37:39

Sara

Yeah. You can think of it like a business. In business, you obviously have clients, and you have an offer. Right? So one of the key criteria in business is to understand your client – to be able to provide them with the offer that is going to suit them, right? This is very similar in hackathons or challenges or anything you're doing. So you need to understand the judges. So what do the judges care about? You first need to know who they are, if it's possible. Otherwise, you need to read through the lines. What matters to these people? What is it that they are stressed about that you really want to get up? So this is the most crucial part. And you need to be very careful of the judging criteria. So what do they want? What are they going to be giving notes on? For example, if they care about inclusion – nice!

In your presentation, make sure you leverage the fact that you're an amazing eight ladies from all over the world [chuckles] and working on AI. This is a winning point in one of the judging criteria, for example. So if they care about something specific – let's say they care about the environment – figure out a way to add environments to your solution. So figure out how to leverage what they're looking for, what they care about, as judges – as people – and then, as organizers of the hackathon. If you try to figure out what they want out of the hackathon, that's the best way to win – to understand what they want and deliver on it, as best you can. That's the winning criteria.

# Things people often miss in AI projects and hackathons

39:30

Alexey

**That's smart. Is there something that most people miss? I guess if there is a list of criteria, then most people try to… “Okay, they care about the environment. Let's set something…” Is there something that most people miss?**

39:45

Sara

Yes.

39:46

Alexey

**You don't?**

39:47

Sara

No, there is. There's one thing actually that we all miss. It's the fact that we say, “I can't do this.” So what I invite you to do is not to think about the fact that you can't do this, but think about what you can do with what you have. For example, let's say I want to build a model that detects if someone has hair loss or not through, for example, some kind of data from bio (not from images). It's difficult if you don't have the data. But what if you got creative around it? You really have to have that data? Isn't there some kind of other place where you can find similar data? Or you can… With LLMs right now, you can create your own data. Because what they're looking for is for you to show them that it's possible to be done. In a hackathon, they're not looking for the final solution.

That's not possible. When you have one to two months, you can only come up with an MVP. Right? That's what you want to do. Focus on how you can build the MVP and don't think about, “I don't have the means.” For example, if you lack computational power, there is Goggle, there is Colab. Leverage the resources you have. Get creative around which you can build. This is one of the reasons why we usually fail in hackathons – people give up too early, because when they get into the solution, they're like, “Oh, my God! What did I get into? This is not possible to be done.” But that's not how you should approach it.

41:38

Alexey

**So the state…**

41:40

Sara

The mindset.

41:41

Alexey

**Right. The mindset should be not, “It's not possible,” but “How can I do something that brings me closer?” Right? And then it could be just maybe taking a step back and then exploring other ways to do this. Instead of getting data, you generate the data, or as you said…**

42:03

Sara

Or get it from social media, research papers…

# Getting creative

42:07

Alexey

**So what if I'm the least creative person on Earth? How do I go about being creative when it comes to getting data?**

42:15

Sara

That's a cool question. Well, thanks to generative AI, you have ChatGPT, you have Gemini, you have all kinds of AIs to help you get creative. You can just go around and say, “I want to build this solution.” Just tell it everything you have as a problem. “There is no data. I have never worked on this before. I only have experience with basic machine learning models. How can I win this hackathon with the following judgment criteria?” Give it all the descriptions and let it run wild. The only thing you have to do is pick the solution that you feel most comfortable with.

42:57

Alexey

**Yeah. So, basically just tell the Chatbot all you know about the problem.**

43:09

Sara

Yes, sure. What do you want from it? This is just one way. If we didn't have AI, how can you do that? One of the best ways is… One of the things I forgot to talk about is your team. You need to pick the right people in your team. In your team, there is a need for someone to be creative. There is a need for someone to love doing things – someone who is going to build the actual solution. There is a need for someone who is a little bit technical – they don't have to 1000 percent know how to do it, but they at least have to know how to do something. So your team is one of your assets. If you can't, or if you're not creative, but you want to get ideas – simple. There are a couple of ways you can do it.

First things first. You can go to Reddit, figure out what people mainly complain about in that subject area. Here you go. Here's your idea. There's a lot of complaints. Just pick the one that you find the most relatable to the hackathon or challenge or research. If you're doing research, by the way, this is the same thing. Whatever project you want to start, even a startup, go do some market research. Try to understand what people are complaining about and leverage that to come up with a solution. This is one of them.

Usually if you're in this field, related to it, you might want to start reading research papers on a weekly basis, or at least follow people who do so. For example, I'm necessarily a huge fan of reading typical research papers. I only love reviews – thorough reviews – but I don't usually read the normal papers. But I do follow a lot of people who read papers. Practically all researchers I'm interested in, I follow them. There are enthusiasts – people who are interested in researching specific topics and they share about it. So the only thing I have to do is scroll through my feed and here I am. I know practically everything that there is to know about the latest stuff happening. [chuckles]

45:14

Alexey

**How do you find them? On Twitter?**

45:18

Sara

Oh, simple! It’s just following one person, and then there is a suggestion to follow a couple of others.

45:22

Alexey

**It’s all on Twitter, right?**

45:24

Sara

On Twitter.

# Fostering your social media

45:26

Alexey

**Because there's a question from Omar, “What's the best way to foster your Twitter?”**

45:30

Sara

Oh, cool. Here's the greatest, easiest way. Let's say take you, for example, what is your favorite subject in machine learning or deep learning in general?

45:46

Alexey

**Okay. Let's say NLP.**

45:50

Sara

Alright, cool, NLP. What do you like about NLP? There is so much stuff about it.

45:55

Alexey

**[chuckles] You're putting me on the spot. [chuckles]**

45:57

Sara

A quick one. Let's say transformers.

45:59

Alexey

**Transformers. I was going to say “fake news”. But let's say “transformers”.**

46:04

Sara

That's good. Let’s take fake news. The only thing I'm gonna do is go to Google Scholar and type “NLP, fake news”. Then I will get a couple of papers, suggestions, and based on your preferences, you can rank by date. Then you can check out their papers. Someone you like – their papers you like – try to figure out if they are on Twitter. If they're not on Twitter, try to figure out if they're on LinkedIn. So try to figure out the people that you’d like to subscribe to and just follow them.

Or you can just use hashtags. Use #NLP, #fakenews in the search bar of Twitter, and you have a couple of people that you can check out. Obviously, before you click on “follow,” please make sure that you check out all of their feeds to be sure that it aligns with your values. Otherwise, you might get some very bad, expected stuff.

47:08

Alexey

**Even though they are researchers, they're also people, and they might share their travel plans.**

47:14

Sara

Yeah, just make sure that it aligns with your values.

47:19

Alexey

**Okay. So, find things on Google Scholar, and then find the people on Twitter.**

47:26

Sara

Or attend conferences if you're not a research person. Attend an event and get to know people. See if they have Twitter. If you like someone, ask for their Twitter or their social media.

47:41

Alexey

**Okay and then… [cross-talk]**

47:43

Sara

If you don't have the budget, for example, to attend a conference (because sometimes it's expensive) what you can do is go to the conference you like, and then see the speakers list. Usually they provide the program for free – you can just check it out and see the talk that you like. By the way, try your chance, copy/paste the title and their name and see if the talk has been recorded – if it's on YouTube, or if it's even shared on social media. Or just Google it and see if it's shared. Obviously, watch it, see if you like it. If you like it, then follow that person. Otherwise, move on. I mean, just research. Use your creativity.

48:29

Alexey

**And then, as you said, once you follow one person then Twitter suggests others.**

48:32

Sara

Then you can follow the others. Yes.

48:34

Alexey

**“Like” that person. Okay. That's smart.**

48:39

Sara

Thank you.

# Tips on applying for volunteer projects

48:42

Alexey

**So, another question. “Can you share tips on how to apply for these volunteering projects?”**

48:52

Sara

Like, what…? Oh, yeah. Sure. Let's say, for example, there's an Omdena challenge. They have a lot of challenges, by the way, and you can check them out. In different areas, and they touch different SDG goals. Let's say you like the challenge. One of the first things we do is read about the challenge. Just know what it is, what you're going to do and how comfortable you're going to be with it. You can think of it like applying to a job. Usually, when you're applying to a job, you need to figure out what they want from you and you need to adapt your CV to that.

I don't think they asked for a CV, but they will be doing an interview. When they're doing an interview, think of it like… you don't need to think of it like a job interview, so be very relaxed. It's just volunteering, they're not going to pay you. This helps to calm the nerves when you know they're not paying you. [chuckles] So just pitch yourself. Just tell them… Let's say, for example, it was around PTSD (post-traumatic stress disorder). I was never a psychologist or anything like that. But I'm a huge fan of the medical field. And I'm a huge fan of human behavior in general. So when they asked me why I wanted to join, I just talked about my passion. I just kept mumbling, “Here is why.” Just be direct. When you're talking, try to showcase how relevant your skills are to what you're applying for.

For example, if you have done NLP before, even though it's not in healthcare, you can mention that. What they want to see is just the fact that you have already done this. They don't want you to get into the challenge and then stay stuck. Because you will see a lot of people rocking it and going hard on the tasks, but when you’re coming up with a solution and you're stuck and looking at them, not doing anything. They want to make sure that you at least have the basics to be able to navigate around the river.

# Why it’s worth doing volunteer projects

50:59

Alexey

**I’m wondering, what do you actually get from participating in these projects? It's not paid, so you're getting some experience, I assume. What’s in it for you? Why do you take part? Why would I want to take part? What do you think?**

51:21

Sara

Okay. I will be talking about impact and then practical. Let's start with practical. When you're trying to search for an internship and they tell you they are doing X or Y, they will be giving you specific tasks to do, right? When you get in, they don't give you that. They give you something completely unrelated most of the time, or at least they will give you something that is similar, but it's not really what you signed up for. With volunteering, you get to choose what you want to apply to. Actually what they tell you is going to be done is 100% what is going to be done (and a little bit more). You're going touch that and then touch a couple more other things that you might be excited about for growth. This is one.

In internships, I'm not sure if it's this case everywhere around the world, but some of them are paid – most of them are not. You don't get paid either way. [chuckles] For internships with an organization, what they usually end up giving you is a statement that you did indeed intern with them. That is also the case with Omdena or Fruit Punch or any kind of other volunteer platform – they will give you a certificate saying that you actually did participate in the challenge or volunteer work or whatever. Let's now talk about employment. Usually, in employment, one of the things that will be required from you, apart from the certificate, for example, is people they can talk to.

People from the volunteering side will be super happy to actually help you get a referral – refer you to jobs or even vouch about your skills, especially if you did well. If you contributed and you were active, they will be super happy to recommend you and even actually help you find jobs. In the corporate world, getting them to do your referral is like trying to push them to wet someone. [chuckles] It's really difficult.

In volunteering, you meet people from all over the world. You don't just meet people who have worked on one issue or very specific issues – they have worked on different things. They have a different broad view –different mindset, different cultures. So you get to actually play the role you want. For example, you might be the team lead, or you might be a project manager, you might be something that you want to doб but in an organization, they can’t give you that position because “you don't have to experience, you don't have what it takes to do that”. In volunteering, you have flexibility – in a typical job setting, you don't. That's actually one of the main advantages. In a work setting, impact is not what is important, most of the time – it's actually profit, or the tasks required by the employer. In volunteering, the most important thing is actually impact. If something doesn't have an impact, most likely, we will scratch it from our list. These are all the benefits,

55:02

Alexey

**So, experience, connections, and then impact. I guess you also feel good because you helped some social cause, right? [Sara agrees]**

55:10

Sara

And soft skills! These are actually highly vulnerable, but we don't usually care much. If you're in an organization, they might not give you the chance to present a project, talk about it and then debate it with your peers. But in a community, when you're volunteering, you have a bunch of people that you can talk to, you get to practice your communication, you get to practice presentations (if you want to do that). If you're a non-English speaker and you want to practice it, you get the chance to practice your English. Actually, that's one of the reasons why so many people think my English is good – it's because I have been collaborating with a lot of people and talking in English.

# Opportunities for data engineers and students

56:05

Alexey

**Right now, in DataTalks.Club, we have a course about data engineering. There is a question, “Do you know any opportunities for data engineers?” If I'm a data engineer, or if I'm studying to become a data engineer, can I also apply for these Omdena projects? Or are they more for data scientists/AI people?**

56:30

Sara

Yeah. When you're doing this volunteering work, remember that a task is broad. What you want to do is relate to how you want to do it. They're not going to force you to do something. This is one of the perks about it. If you're interested in data engineering – let's say that in engineering, one of the most important things is actually picking the right data and preparing it. You could go ahead and say, “I will start a task around data engineering – preparing the data for the data scientists or AI or ML people to actually fully leverage it.” You can do that. The only thing… [cross-talk]

57:11

Alexey

**The data scientists will be very happy.**

57:11

Sara

Oh, they will be over the moon.

57:15

Alexey

**[chuckles] Yeah.**

57:17

Sara

By the way, in this volunteering work, most of the time, the data is a huge mess. So it's a great experience for you to learn the real mess of data and to deal with it.

57:31

Alexey

**You mentioned that in one of the hackathons, you also built a dashboard – not only a model, but also a dashboard. [Sara agrees] In order to build the dashboard, you need to have the foundation. You have to have the data in the right form, such that you can present it. This is something that data engineers usually do.**

57:47

Sara

Yeah, but usually, for example, when you're doing this with everyone in AI engineering, you learn a couple of skills that have nothing to do with your title. That's actually one of the things that are really cool – you get to touch up on all the parts that you might want to explore. But normally in an organization, they won't give you the chance to touch it because you don't have the skills.

# Sara’s newsletter suggestions

58:17

Alexey

**We don't have a lot of time. There’s one last question. You mentioned that when you were looking for opportunities, and when you still look for them… I asked you, “How do you usually find these opportunities?” And you said, “Social media, but right now, I'm cutting down on that. I'm only doing it on a desktop.” But you also mentioned that you're subscribed to a newsletter, where you get these opportunities from. Can you mention which newsletters these are?**

58:47

Sara

Yeah. For example, WIML (Women in Machine Learning). They keep posting every day about opportunities – PhD opportunities, PhD students opportunities, job opportunities for all expertise levels. So please subscribe to their Google Groups mailing list. Also NeurIPS has its own mailing list, but NeurIPS is only active during the conference days. That's where they usually share about opportunities. They might request you to send in your CV so they can send you these specific opportunities. Apart from that, there are a couple of great newsletters, but it's for French people – for people who are in France or know how to speak French. There are a couple of great research newsletters.

There are a lot of them. Just Google them and then you'll find them all over. They have great opportunities as well. But there are a couple of other newsletters. For example, your newsletter also provides information about opportunities sometimes. Just subscribe to newsletters that are AI-specific, especially for communities. Usually communities are the ones who share relevant job offers and opportunities. But if it's a one-person newsletter about something specific, they might not share about them, because that's not their interest. It's not what their audience wants from them.

60:22

Alexey

**Okay. Thank you, Sara.**

60:23

Sara

You’re welcome.

60:24

Alexey

**That was nice. It's really great to speak with you. Thanks for sharing all your experience with us. It was very motivating. I'm sure you managed to convince a few of the listeners to actually give it a try. So thanks a lot for doing that.**

60:43

Sara

Yeah, you're welcome. It's a great pleasure. Please reach out to me whenever you need anything.

60:52

Alexey

**People who are asking for your LinkedIn, I already shared it.**

60:56

Sara

Thank you.

60:57

Alexey

**Yeah. You like connection requests, right?**

61:05

Sara

[chuckles] Yeah. Yeah.

61:06

Alexey

**Okay. Then that's all we have time for today. Thanks, everyone. Have a great rest of your day, of the week, and see you soon!**

61:17

Sara

Thank you. Take care!