1:03

Alexey

**This week, we'll talk about being a research scientist at Amazon, and transitioning from being a research scientist to doing freelancing and consulting. We have a special guest today, Verena. Verena has strong expertise in NLP and machine learning, with more than seven years of experience. Her background is in statistics, and she recently quit her job as a research scientist at Amazon to work as a freelancer. Today we will talk about that. Welcome to our interview!**

1:34

Verena

Thanks, Aleksey. Glad to be here.

1:36

Alexey

**Thanks. The questions for today's interview were prepared by Johanna Bayer. Thanks, Johanna, for your help.**

# Verena’s background

1:46

Alexey

**Before we go into our main topic of being research scientists and transitioning to a freelancer in machine learning, let's start with your background. Can you tell us about your career journey so far?**

2:00

Verena

Sure. Well, [chuckles] it was really pretty much a step-by-step thing. I originally studied economics, because I always liked learning languages. But I didn't kind of see a career path if I just studied a language, so I decided to do an economic study in combination with Chinese studies. [chuckles] I also spent some time in China, which was pretty interesting.

After some time, I kind of found out that I didn't really like economics that much – I found it was a bit… Arbitrary, in the sense that you have some assumptions in one model, and then you arrive at a result. But if you change the assumptions, then you arrive at a different result. I think, in economics, it's kind of hard to verify your assumptions and I found that to be more straightforward in statistics. Basically, in the economics Bachelor, you also have a lot of statistics, and there was a possibility to focus on statistics more, which I then did.

3:08

Alexey

**Econometrics, right?**

3:09

Verena

Yeah, econometrics, time series – all these kinds of things. Then I also did my Bachelor Thesis in statistics and went on to do the Master in statistics. Back at the time, data science was not that much of a hype yet, so I was really doing a lot of classical statistics. But I did have some machine learning and data science courses during my Master's. I really liked that a lot better than traditional statistics, so I decided… [cross-talk]

3:37

Alexey

**Did you study in Berlin?**

3:39

Verena

I did the Master's in Berlin, yeah. This was a joint statistics program from the Free University, Humboldt University, and the Technical University. They have this Joint Master Program. Basically, I discovered data science and machine learning during that program and decided, “Okay, this is what I want to work on.” I was trying to find a job in Berlin and data science after finishing the Master's, but in 2017, there were almost no data science positions in Berlin. Also, Zalando, at the time, was not hiring data scientists in Berlin – only in Dublin, but I didn't want to go to Dublin. [chuckles]

So then I decided to go to Deloitte, which is a consulting company. They were just building up this Deloitte Analytics Institute, which had a focus on engineering and data science. So I basically started out there as a consultant and stayed there for about two years, which was quite interesting, because you could basically look into different industries, but I also had the chance to work with very different machine learning use cases. I worked on image recognition, NLP, but also time series anomaly detection – so a very broad range of things, but it was usually more on a “proof of concept” level. I wanted to go a little bit deeper into the topics and then decided to move on from Deloitte.

I then moved on to Oetker Digital, briefly. It was like an in-house consultancy for the Oetker Group. I did some forecasting and time series there. But then I felt like, “Okay, I actually want to work with bigger datasets and really do machine learning.” That is why I then moved on to mobile.de, which, at that time, was part of eBay, and is a platform where you can buy or sell cars. Yeah, they definitely had more data. [chuckles] I was working on causal inference – we were looking into whether certain purchases were made because the customer received an advertisement beforehand, or a certain marketing campaign.

And then, I actually moved on to Amazon, because I had the chance to join the Amazon Alexa team in Berlin. Since my passion has always been in natural language processing and working with language, again, this was the perfect opportunity to combine this.

6:33

Alexey

**And then, after Amazon?**

6:37

Verena

After Amazon? [chuckles] Yeah, now I'm working as a freelance Generative AI Consultant, enabling small and medium businesses to prepare for the GenAI revolution that we're going to witness in the next few years.

# Getting hired at Amazon without a Phd

6:56

Alexey

**I have a lot of questions about that. But first, I was curious to learn more about your transition from a data scientist to a research scientist, because I remember… When I was working as a data scientist, I kind of missed doing a bit of research. Usually you work on industry problems, but you just take XGBoost or logistic regression, you apply it, and then roll it out to production. Then you spend most of the time either preparing the data or deploying the model, while the machine learning part was only like one day of work, and the rest – the entire six months (or whatever) – is some other work.**

**I was kind of missing the research part – this algorithmic part. I once tried to apply to a research scientist position – I think back then, it was at Zalando – and they told me something like, “Hey, you don't have a PhD. Maybe get a PhD first, and then we'll talk.” But you don't seem to have a PhD. How did you actually convince Amazon to hire you without a PhD?**

8:09

Verena

Yeah. Actually, I think it's changing a bit. I mean, of course, there are still a lot of research roles where you must have a PhD, but it also depends on the company. Amazon, in general, is a company that doesn't have pure research roles, like DeepMind or Google Brain or something. So it's always a bit more with a focus on customer problems and application and how to bring it to production. I think now, they also changed it in their job descriptions, where it says something like, “Okay, you either have a PhD or relevant work experience.”

Then I think another reason why I got the job was because I think the team was kind of young, and they were looking for people to join. In the beginning, it's always a bit easier to get in. And then, I think, for our team specifically, we had a mixture of people with a PhD and people without a PhD, so I think that is why it worked. Because then you can also really learn from the people who have a PhD, some things that you might miss or some skills that you might lack. Yeah, that's how it worked. [chuckles]

9:31

Alexey

**I guess this requirement comes from… The reason that exists is because the companies are interested in knowing if you can do research or not. And if you have a PhD, then clearly you know how to do research, right? Because you published at least three papers and you've defended the thesis – you clearly know how to do research. If you haven't done that, then it's not clear if you can do this or not. Because it requires patience, it requires a sort of research mindset, which not everyone has.**

10:05

Verena

Yes, I think so. But then, I also think that research at Amazon in this role is not exactly like research in academia, where you work three years on one topic. I think maybe they also realized that, “Okay, people with certain industry experience also bring some qualities to the table.” And I think maybe they found out that, “If we mix the teams, we have a good combination of the two, and we can actually leverage both skill sets.”

# Research at Amazon

10:41

Alexey

**You said that research at Amazon is not the same as research in academia. So what does research at Amazon look like? What do you actually do there?**

10:49

Verena

Yeah, I mean… [chuckles] The way that I heard from my colleagues in terms of how research works in academia – I only did my Master thesis, I didn't do a PhD. But I have a rough understanding of how it works there. But let me explain how it works at Amazon, because I definitely have a better understanding there. Like I said, there's this principle at Amazon that you always do research with a focus on the customer’s problems. You never just do research to solve any kind of problem, but it always has to be a customer problem. And you always have to focus on the application and how to bring it into the production system afterwards.

11:33

Alexey

**So, from the very beginning, before you even start the research project, you know how it will be applied. Right? You have to know before you start.**

11:42

Verena

Yeah. Basically, before you start, there's three things you need to look into. First, “What is the customer problem? How do we define the problem clearly?” Then, second, “What are the possible solutions?” and, “How are they going to solve the customer problem?” So, really, we also did some estimates on impact and all these kinds of things. And then, “How can you bring it into production? What's the effort to bring it into production? Is it feasible to roll out to production?” I think that what kind of differentiates from this normal data science role that you talked about is – you work with cutting-edge machine learning models. You don't learn with XGBoost – you don't work with XGBoost, like you mentioned. You really work with state-of-the-art research.

You look into the papers, you look at the existing approaches, and then you adapt them to your problem at hand. This is really cool, because Amazon also really promotes this strong link to academia, where you really rely on cutting-edge research to solve these customer problems. Of course, also, the models that we worked with were already quite state-of-the-art. One part that I also didn't do in any other job before was publishing papers. We had a goal each year to publish papers in academic conferences – for example, ACL or EMNLP. We also attended academic conferences. Whereas, in my previous role as a data scientist, I usually went to industry-oriented conferences.

13:30

Alexey

**That's interesting, because I know that publishing papers in these top-tier conferences is already hard enough. But in addition to that, you also have to think, “How am I going to put this thing into production?” So you kind of have two jobs in one, tight?**

13:46

Verena

Exactly. It's challenging. [chuckles] It's not easy. But I also have to say – there is not only the research track anymore, but these conferences now also often have industry tracks. So there, it's not that much about the novelty of the approach. What's especially important is that you also don't necessarily have to publish results on open-source datasets. Because sometimes we didn't have the time to really run experiments on an open-source dataset, but, of course, we couldn't release the dataset that we were using for experiments. I mean, there are also teams and scientists who publish at the research track, but we also published in the industry track a lot.

14:37

Alexey

**Because, for these conferences – for this industry track – what is interesting is the applications of these state-of-the-art methods. Right? One thing is – yes, you can develop this state-of-the-art algorithm and then test it on the usual benchmarks, but what about applying it to real-life problems? And this is what you do, right? Then you publish research on that, “We had this problem and this is how we used the state-of-the-art to solve it.”**

15:11

Verena

Yeah. Sometimes we also extended the state-of-the-art thing – it's not like there was no novelty at all, but it's maybe not as much novelty as it would have to be for the research track. Also, there was less overhead, let's say, when publishing in the industry track. Because usually, we run experiments on internal datasets, but running experiments on public datasets is extra work, which you don't always have the time for.

15:38

Alexey

**Yeah, When it comes to novelty, I remember eight years ago, when I was doing my Master’s at TU Berlin, one of the criteria for the Master’s was novelty. And I'm like, “Okay, I'm a student. I don't know much. And now you’re asking me to work on novelty? How is that even possible?” And what my advisor told me was that, “Taking existing things and applying them to something (to a dataset or a category or a domain) that nobody has applied them to, and seeing what the results are, is already super novel.” So you can… [cross-talk]**

16:14

Verena

Yeah, exactly. That's also one way to go. That's also something that we did – I mean, taking something from image and applying it to NLP. Yeah.

# Publishing papers and solving customer problems

16:26

Alexey

**I'm curious – so, the goal was to actually solve customers’ problems but yet, you had another goal, publishing papers – which was more important? Was publishing papers the main KPI?**

16:40

Verena

The main KPI is customer problems, because that's the first thing that you do – that’s the work that you do, and then afterwards you publish the paper. It's not in parallel.

16:56

Alexey

**So you have two KPIs but the business metric is more important – that you solve the customer problem – and then papers are more like a “nice to have,” right? Or is it still important? If you don't publish, then you're not a researcher, right? [chuckles]**

17:13

Verena

[chuckles] Yeah. I mean, it's still important. There are internal goals for papers. I mean, Amazon also has an interest in people publishing because it helps their reputation, it helps them attract talent. But then, also, for you as a research scientist – you are intrinsically very motivated to do that, because it's a nice way to sum up your work and to showcase it and to also go into that exchange with other people. But, of course, the first one is always the customer problem and the business, and then the paper.

17:49

Alexey

**As we speak, I'm looking at your LinkedIn profile and I see that you worked at Amazon for three years, nine months – so almost four years. How many papers (research projects) did you get a chance to work on?**

18:04

Verena

So, there were more research projects than papers. We didn't always have the time to publish. For research projects – I think four or five. Usually, you have like one… [cross-talk]

18:16

Alexey

**So, one per year, approximately. Right?**

18:17

Verena

Exactly. You have something like one focus project per year. And then for papers – I think it's four papers? [chuckles] Yeah.

18:25

Alexey

**In your Google Scholar that I have open right now, it’s four.**

18:30

Verena

Yeah, it’s four.

18:31

Alexey

**That's like one paper per year as well, right? So, five projects, four papers.**

18:36

Verena

Yeah. I mean, the project… it depends. I mean, I definitely had more than five projects, but then the question is, “What is your role in the project? Are you the leading scientist on that one or are you just contributing or giving feedback?” But yeah, I think it was like five or six, where I was the lead in the research project. But then we also have other projects. I also have a more software-oriented project. You don't only have research tasks.

# What it means to be a leading scientist on a project at Amazon

19:07

Alexey

**What does it mean to be a leading scientist on a project?**

19:11

Verena

That means you are the owner of the project. You're responsible for defining the problem, trying out different solutions, communicating with stakeholders, giving the initial approaches, – you can, of course, work with other people and go collect feedback and ideas and input, but you're the main responsible person to successfully finish the project.

19:46

Alexey

**Must be difficult. If you come from industry without much research experience, apart from writing your Master Thesis, and now, all of a sudden, you have to lead a data science project. That's probably not the easiest thing to do, right?**

20:02

Verena

Well, I didn't find it that difficult. Actually, I really enjoyed it because I really missed this research part, and this part of reading about new approaches, and learning, and trying out new things, instead of just going to the standard solution that you already know and have in the back of the mind. I mean, of course, you also kind of grow into that. I think my first project was about labeling – how to label data efficiently.

This is, of course, a bit easier than maybe later on, when we looked into how to generate adversarial attacks with a T5 model. This has more technical complexity. Then, of course, what I have to say is that you also have a lot of support at Amazon. This is really great. You have a lot of competent people around you and you really have this culture of collaboration. So whoever you reach out to, they will always be happy to support you. And I really enjoyed the challenge to kind of catch up on this.

21:14

Alexey

**And also prove that you don't need to have a PhD to be a scientist. Right?**

21:19

Verena

Yeah. I mean, for me, it was not really about proving something. Yes, of course, there was this topic of, “Okay. Do I need a PhD? I don't need a PhD?” But I was just happy that I finally could do the tasks that I enjoy.

# Does having a PhD give you an edge in industry?

21:36

Alexey

**The reason I brought it up was because there is a question from Atita. The question is, “How does having a PhD help getting some leverage over those who don't?” I guess the reason she's asking is, as I see from the question, “Do you really need to have a PhD? Does it really give you an edge when it comes to doing research at industry companies like Amazon?”**

22:03

Verena

Well, first of all, it definitely can be. It depends on the team. It depends on the hiring managers. There are teams and managers who have that as a first requirement. So if you want to go to one of those teams, then you definitely need it. Once you're in? I don't know. I think it depends a lot on you. It also depends on what kind of PhD you did, maybe? But it's also a bit hard for me to say, because I don't really know what the benefit is. I mean, what do you really take out of it? Because I didn't do it. [Alexey agrees]

I think, yes, it can be an entry ticket, and you probably learn some skills that are useful. But then on the other hand, you can also argue it the other way, right? I think it really depends on where you want to go and, if in that environment, you really need it and if you want to do it – yeah.

# An example of Verena’s published paper

23:11

Alexey

**I'm looking at your Google Scholar, and there is one paper with six citations that you published in 2021, which is, “Is it better to verify semi-supervised learning with a human in the loop or large scale NLU models?” It’s a long name. [chuckles] Can you maybe tell us more about this paper?**

23:33

Verena

Yes. [chuckles] Basically, let me give you a quick introduction of the setup that we were working in. My team was in charge of the natural language understanding models for German and French and we would have to update these models on a regular basis. We would retrain them every time before we release them. Well, among other things, we also added new training data in each update. And this training data would… some of the training data would come from a random sample of live traffic. The old process was that, basically, this training data gets annotated by human annotators before we ingest it into training.

As you can imagine, this is quite costly and time-consuming and, of course, not something that's desirable for business. So we thought about, “Okay, how can we save some costs, speed up the process?” and so forth. The solution that we describe in the paper is, basically, instead of showing the annotator just the simple request (without any hints on how to annotate or anything) we run this request through the NLU model and show the annotator the output from the NLU model. Then the annotator just has to understand, “Okay, is the NLU model right?” If yes, they just take it off and send it right into the training set. And if not, they only have to correct it – they don't have to annotate the full utterance from scratch.

25:18

Alexey

**So it saves time. Right?**

25:20

Verena

It saves time. Exactly. But it also reduces the annotation volume a lot. I mean, if you imagine – Alexa was launched, I think seven or eight years ago now – and German was one of the first languages that came after English. So the model already has some kind of maturity – it already has a certain level of accuracy. So the annotator actually doesn't have to make that many corrections. Another thing that we found that's quite interesting (that we didn't expect) was – it also leads to more consistent annotation.

If you can imagine, you just show the utterance to the annotator and then they just annotate as they think – they don't have a primer or some kind of bias, which sometimes could also lead to the same utterance being annotated in a different way. This gave us inconsistencies in the training set. Through this approach, since the model gives you one interpretation, then another annotator gets biased into one direction. You have more consistency in the training data.

26:33

Alexey

**You might have my voice somewhere in the training data because I have an Alexa speaker. We use German because my son speaks only Russian and German – he doesn't speak English. We thought, “Okay, I will practice pronouncing in German and we'll see if Alexa understands me or not.” [chuckles] So maybe you have that in the training data, too.**

26:58

Verena

Maybe. Yeah. [chuckles]

27:00

Alexey

**But overall, the product problem was – you wanted to improve the accuracy of Alexa, right?**

27:08

Verena

Yeah. The customer problem for this is example accuracy, yes. But then, sometimes the project will also end in improving our internal processes and reducing costs.

27:22

Alexey

**So in this case, it was mostly driven by cost reduction, but in the end, it also impacted accuracy because you have a better dataset. [Verena agrees] There was already a process where you bring in more data to improve the model, and you just want it to make this process cheaper. Right?**

27:42

Verena

Cheaper, faster. Yeah.

# Evaluating models and high-performing Alexa utterances

27:47

Alexey

**How do you evaluate the performance of these models? I guess, you send it to the annotators – they say “Yes, no.” Right?**

27:58

Verena

Usually, we just have test sets – we have a bunch of different test sets. After training, the model is just run on different test sets and then we just look at certain kinds of metrics. Sometimes, for very high-performing utterances, we would also do some extra checks to make sure that they still work after retraining the model. That was actually one of the other projects I worked on – to reduce the effort.

It was to really make sure that all the high-traffic utterances still work after retraining. We worked on an approach to make the model more stable. So basically, when you retrain it, you put more weight on utterances that have high traffic such that they get interpreted correctly.

28:54

Alexey

**I remember, for me, the main problem with Alexa was – when I asked it to play a song, I said it in German, and then the song name was in English. It didn't always get the song name correctly. I don't know how these models work when you mix two languages.**

29:21

Verena

It should actually work because the song name is an entity, and we keep those entities in English (if it's an English song). It should work. But it could, of course, also be an ASR issue. The ASR model didn't properly transcribe the pronunciation. That could lead to ASR issues. But sometimes, if the song is not very popular, it can be that it just didn't work that well. [chuckles]

29:51

Alexey

**Songs by Queen – most of the time, it played the song I asked. If it's popular, like Queen, or something like that. Less popular, yeah. You're right. I guess it depends on how much traffic you get for a particular song. Right?**

30:09

Verena

Exactly. If something goes wrong, the more often it goes wrong, the higher the probability someone else will notice.

30:18

Alexey

**If it’s a song that somebody asks to play once a year, then – okay.**

30:23

Verena

Yeah, you're not gonna find that in the traffic? It’s just too much loss. [chuckles]

30:30

Alexey

**I see. Maybe this is internal data, but what's the most popular request to Alexa?**

30:34

Verena

I don't know. I also would not be allowed to share, I guess. [chuckles]

30:39

Alexey

**Okay. [chuckles] For me, it was mostly the timer. So I was using it to set timers for stuff.**

30:45

Verena

Yeah, the most popular domains are probably music, timer, weather – those are used very often.

30:52

Alexey

**I was also checking her up. It's “her” right? Because I can use different voices, but it was speaking with a female voice to me. I guess it's a difficult question – What's the gender for this AI model?**

31:09

Verena

I would just say “her,” probably. Just because the name is already female. [chuckles]

31:12

Alexey

**Because it’s “Alexa,” right?**

31:13

Verena

Yeah, exactly.

31:14

Alexey

**But also, it's kind of similar to Alexey. There is a funny story. I was talking to my colleague, who had an Alexa in his room – and every time he said my name, Alexa would activate.**

31:35

Verena

Yeah, of course. [chuckles] It’s close, yeah.

# Verena as a freelancer

31:43

Alexey

**[laughs] Okay, yeah. Recently, you decided to focus on something else that's quite different from what you were doing, right? Now, you're a freelancer. Can you maybe tell us more about that? What do you do now and how did you make this decision to change your career and start freelancing?**

32:07

Verena

Yeah. I don't know if it's… I mean, it is different in the sense that I'm not working on one model anymore. But, of course, there is still going to be quite some overlap in terms of topic. As I said before, my goal is to support companies in the adoption of AI, especially generative AI with text, and keep them competitive in the long run because that's going to be crucial to enhance productivity. There's a lot of overlap there, in the kind of technology that I'm working with. Also, since I worked at Deloitte before, where I was already in this technical consulting role, there is some overlap there. Of course, the working mode is very different because it's the first time that I'm not employed anymore. [chuckles] This also means you have to take care of everything now. You have to get new clients, get new projects, you have to market yourself, you have to promote yourself – you also have to send out the invoices in the end and you have to take care of your taxes. [chuckles] That is, of course, different.

I think the second part of your question was how I made this decision, right? [Alexey confirms] In general, I think you can have a lot of impact if you support these smaller to medium sized businesses in adopting AI. I think in Germany, this is especially important because we're lagging behind with adoption of AI digitalization and innovation. So I see that I can make a contribution there. But, in general, I just also wanted to think and work in a more entrepreneurial way – have more freedom in the way of how you work, what you work on, who you work with. Another thing, actually, that really led to this decision was that I wanted to have the possibility to also venture out in new areas. Doing several things in parallel I think is easier if you're self-employed versus if you're working full time or even, let's say 80% or 75% in corporate.

34:46

Alexey

**So you can consult on projects in different domains (in different areas) and then understand, “Okay, maybe I'll like healthcare more than food tech (for example).”**

34:55

Verena

Yeah, or maybe also just doing something completely different on the side. It’s kind of having different things that you do – not just doing one thing five days a week.

35:07

Alexey

**You mean not doing just data science and research, but also doing something else, like working on your own product.**

35:17

Verena

Exactly. Yeah – working on my own product, and other projects as well. Yeah.

35:26

Alexey

**Like personal projects or professional projects?**

35:32

Verena

Yeah, one…

35:33

Alexey

**Or both, right? [laughs]**

# Verena’s goals to support women in IT

35:35

Verena

Yeah, both. And maybe also have a bit more overlap between the two. One of the things that I want to do is support women in AI. Maybe you know about this study from Kinsey digital, that [says] half of women leave the tech industry at the midpoint of their career, which is double the rate for men.

36:02

Alexey

**You mean leave and then not come back?**

36:05

Verena

Exactly. Leave for good – they just leave the industry behind. This is, of course, detrimental.

36:11

Alexey

**Do you know why? Is it because women need to give birth to kids and they stay longer with kids, usually, than men? Is that the reason? Or is the reason something else?**

36:25

Verena

No, I think that's not the only reason. I mean, yes, part of it is that – because they don't feel like they have enough flexibility to combine the job with the family. I think the article also said that a lot of women still feel like they have to do more to be successful – they feel isolated, they don't feel recognized, they think it's hard to get promoted. I think they also just get a bit frustrated with these things that are, at least to some extent, due to a lack of diversity in the industry.

37:15

Alexey

**So you want to support women. There was research, and I interrupted you.**

37:19

Verena

Yeah. So that is one of the other projects that I want to work on. I'm not exactly sure what it's gonna look like – I'm still working on the concept of how I'm gonna do that. [chuckles] But it's definitely something I want to spend more time on. That is, of course, easier in a freelance role. I'm gonna share updates on LinkedIn. So if anyone is interested, you can follow me there. [chuckles]

37:46

Alexey

**Yes, we should make sure we follow you, right?**

37:54

Verena

Yeah. [chuckles]

# The challenges of being self-employed

37:55

Alexey

**When I became self-employed this year, I was very surprised by how expensive health insurance is in Germany. Maybe it's less expensive than in the States, but still, when all these costs (all these taxes) are hidden and being a full-time employee, you just receive your salary, you don't worry about all these taxes, health insurance, pension – all that.**

**You just receive a certain amount of money in your bank account and you go spend it. But now, you receive some money, then you need to set aside some money for paying taxes, and then, all of a sudden, it turns out you have to pay 900 euros to health insurance every month. For me, it was surprising. [chuckles] Now you have to deal with all that yourself. Right?**

38:48

Verena

Exactly, yes. That's also the part that I don't enjoy as much. [chuckles] In general, what I like is really that I have more variety of tasks now.

# Verena’s pitch deck

39:03

Alexey

**Can you tell us what you’re working on?**

39:06

Verena

Currently, I'm actually just working on my positioning – my pitch deck on my website on this Women in AI Support Project. I actually consciously decided to not take any projects this year, at least not bigger projects – because I think this initial phase of setting yourself up and also, frankly, taking a bit of a break [chuckles] after Amazon, I think is quite important. So then you really feel prepared and recharged. I could imagine that once you really get into projects, you might not have the headspace anymore to think more about strategic things.

39:58

Alexey

**Can you tell us a bit more about this positioning pitch deck? You probably have started already. Let's imagine that I’m working as a full-time employee and now I think, “Okay, I want to be a freelancer.” So what do I do now? How do I position myself? How do I come up with this pitch deck?**

40:23

Verena

I think it's a combination of, “Okay, what are my skills? What are my strengths? What value do I bring?” And then you kind of look on the other side, “Okay, what is it that potential customers need? What is my target group there? What are their problems? How can I support them?” And then you try to find this intersection and you basically define the problems that they have and that they want to solve. So you kind of put yourself in their shoes and imagine, “Okay, what is it that they really want to tackle and how can I support them with that?” What I also did (now in my specific case) is all this transformation that's going to happen with generative AI.

Basically, I looked into, “Okay, what are some studies that underpin or show how Gen AI is going to transform the way we work?” And then you just showcase your skills, your experience, and you define certain offerings. For example, in my case, it's something like a generative AI discovery workshop, where this can be something in between half a day to two days and it can be just an introduction to generative AI – or it can already go more into use case definition for that certain client. So you set up or you define certain offerings – to showcase how you can support them.

# Finding your audience and identifying their pain points

41:59

Alexey

**So with skills that I have – with the strengths and values that I can bring – it's more or less clear. Maybe it's not always… I always know that these are my strengths. I know, more or less, what I'm good at, what I'm not good at, if I work full time. But when it comes to knowing what potential customers want, and who these potential customers are in the first place – it's more problematic, because I might have no idea.**

**Yes, I know that I'm good at, let's say, machine learning deployment (deploying ML models). I know that I can do this. But, with the knowledge of the skills that I have and the values I can bring to the company, how can I find potential customers (identify the group) and understand what they’re struggling with?**

42:55

Verena

One thing could be just finding people in your network that work for companies that you might want to work for, and then talk to them. Ask them, “What are you struggling with? Is there anything you struggled with in that area where you bring those skills?” I mean, one thing that I do now is – I'm a mentor in the Data Action Network Mentorship Program. This is a program where startups can book a call with mentors – they pay a subscription fee, and then they can book a call with mentors, and they just talk to you about some of the problems that they have.

Of course, this also helps me to understand what problems they are trying to solve. Another thing is, sometimes you just say that you work freelance – you introduce yourself on LinkedIn as a freelancer and on certain networks, and so on. Then sometimes people already reach out to you, and then you just talk to them and try to understand what they're looking for, what the problems that they're trying to solve are. This also gives you ideas. Of course, it's only a starting point and once you do your first project, you can always iterate and update – second project, and so on.

44:18

Alexey

**Okay, so I know what my strengths and skills are – then I should have some network and some companies where I want to work, and then reach out to people in these companies saying, “Hey, I'm a freelancer. I can help you. Maybe we can talk?” And then I start asking what they need help with. Right? And then I see, “Okay, these are the problems. This is how I can help.”**

44:43

Verena

Yeah, or you just ask the people that you know. Maybe it's a bit easier in the beginning.

44:48

Alexey

**Right, instead of going like this…**

44:52

Verena

Cold calls on LinkedIn. They’re not gonna immediately share the problems with you, so you can ask people that you know. Or you can go to events. I think there was this event called Seamless, which was about the payment industry. I mean, if you just look up “events in Berlin,” “tech events in Berlin,” you can also find quite interesting, helpful events where you can meet potential clients or learn more about the industry and what they’re struggling with.

45:25

Alexey

**Yeah. You also mentioned mentoring. This is actually an interesting thing. So people come to you to tell you about their problems, right? You can take notes on what kind of problems there are. I guess the volume is like a few people asking for a short mentorship call and then you can summarize and you can see patterns there. Like, “Startups come with this sort of problem.” And then you can see “Okay, interesting. I can help them.”**

45:55

Verena

Yeah, exactly that. Also reading market research. Now, if you Google… Of course, I'm in a lucky position that this generative AI topic is now very much the hype, so you have a lot of reports on how this is going to transform the way we work and what new problems companies will have to solve with the adoption of that. So you can also just go and find market research from consultancies or banks.

46:29

Alexey

**The approach with mentoring is pretty interesting. I spoke with a few people – I spoke with one guy who is doing courses and I asked him, “How did you come up with these courses that you offer?” And he said that first he did not offer any courses. What he offered was mentorship. He got a few students who he would mentor and then he would ask them what they struggle with. Then, from 6-10 students, he was able to understand that most people (at least from these ten) struggle with these problems, and then based on that, he developed a course. I guess it's sort of similar, right? You take a few short-term clients, these people that you mentor (mentees) – then you speak with them, you understand what they struggle with, and then, based on that, you shape your offering, or your position. Right?**

47:27

Verena

Yeah, exactly. Or at least you have a first stance on it. Then you do the first project and then you iterate. Eventually, this can also lead into creating a product if you see that, “Okay, almost every client has the same problem,” then maybe you can think about, “How can I create a product to provide a solution for that?”

# Why Verena chose generative AI

47:51

Alexey

**Why did you decide to go with generative AI?**

47:56

Verena

This is very close to what I did at Amazon. Of course, like I said before, natural language processing has always been the area that I'm most passionate about. I really like it. Now the recent developments, of course…

48:11

Alexey

**It’s mind-blowing. Right?**

48:12

Verena

[chuckles] It's really very easy to make the decision to focus on that. Yeah, it's very mind-blowing and interesting. I like this intersection of human and machine and this is exactly what language is – what these big, large language models are.

48:30

Alexey

**You probably cannot comment on this, but I was always wondering what happens if we plug Alexa into ChatGPT. That would be awesome, right? [chuckles]**

48:39

Verena

[chuckles] Well…

48:42

Alexey

**You don't have to say anything. [both laugh] So where were we? Now, you’re working on positioning yourself and your pitch deck. Right? So what comes in the pitch deck? What we discussed right now, but in a short deck?**

49:08

Verena

Yeah. What I'm doing first is building a long deck that has a couple of slides that really have everything in it. Basically, some slides show, “Okay, why do you have to act on this generative AI revolution? What are the facts? What can generative AI do? What is the potential? What are the risks?” And then some slides on who I am, what my experience is, why I'm in a good position to take on or support clients in this task.

Some slides regarding my offering, some slides… I actually have a list of reference projects from my corporate career there. And then, also, the daily rate and how to get in touch. So this is a very long presentation. But then once I have this long pitch deck, I can just shorten it based on the audience or on the need. I can also build the website based on that – it’s just a different kind of display format.

50:26

Alexey

**I guess it's needed for an interview, right? When I'm being interviewed for a full-time position, there is a process. First, I need to talk with recruiters and the hiring manager, then there is a set of technical interviews. But for freelancers, I guess this is an interview where you present this pitch deck. Right?**

50:47

Verena

Yeah. Well, I don't think you can get a project if you don't have a pitch deck. I already had some requests, and could have started working on a project, even without a website (without a pitch deck). But I am choosing to do that because I think it helps me position myself because I want to work on certain topics. I want to be standing for certain topics – not just anything and everything. It's also an interesting thing, because as I said, I want to think more entrepreneurial, and this is part of that. It's fun. [chuckles] I also like venturing out in a new field where I don't have that much experience and learning something new.

51:42

Alexey

**So even without this pitch deck, you already have some potential projects. How? Is it because people from your network already know that you are a freelancer and they came to you before somebody else took you?**

51:58

Verena

Yeah, it's basically my network and also posts on LinkedIn. Posting, “I'm a freelancer now.” Definitely posts with machine learning content. Like I said before, I'm in this lucky position that currently, this generative AI – there's a need for a lot of experts, so the demand is higher than the supply. So this, of course, makes it easier for me.

# Verena’s LinkedIn posts and sound baths

52:34

Alexey

**What do you post about, typically, on LinkedIn?**

52:37

Verena

[chuckles] I post about very different things. I mean, I post about machine learning and how to… I post about my papers, of course. I posted about how to deliver value with machine learning. I will post about how to combine design thinking with machine learning to tailor to the user's needs. But I also post a lot about the things I learn, things that helped me – I also really like personal growth topics. So basically, anything that I find interesting. [chuckles]

53:12

Alexey

**Yeah, I'm looking at your feed right now and what caught my attention is exactly not a post about machine learning. There's a picture where you’re sitting on the floor, and there are different things… I don't even know. What is that?**

53:33

Verena

Crystal balls! [chuckles]

53:34

Alexey

**Crystal balls? What is that?**

53:35

Verena

Yeah, yeah. [chuckles] It's crystal balls – they’re balls made of quartz. You basically play them, and then they make a very soothing, calming sound. Usually, people would just lie down, close their eyes, you would play the balls, and then the sound waves have a very physical effect on their body. They slow down their brainwaves and you also can feel the sound in different areas of your body.

This helps people to go into a relaxed and calm state. I discovered that for myself like two years ago. Yeah, I really, really love doing sound baths. Now, sometimes I also give sound baths. It’s one of my side projects that I mentioned before. [chuckles]

54:30

Alexey

**Mm-hmm. Interesting. Now you have more flexibility to actually do this. Right?**

54:36

Verena

Well, I also did that while I was working at Amazon. Sound baths are something you do for an hour. It's not like another full-time job. I actually also did one at Amazon, which was pretty cool. [chuckles]

54:51

Alexey

**In the office?**

54:52

Verena

In the office, yeah. [chuckles]

54:53

Alexey

**Do you have any of these balls somewhere near you right now?**

54:59

Verena

No, no. Sorry. Not here. I can send you a YouTube video if you want to. [chuckles] I have a recorded video.

# The importance of building a foundation based on formal education

55:06

Alexey

**Yeah, please do. Okay, that's very interesting. Let me check if we have questions. Yeah. A question from Taras. Taras asks, “What role did your formal education (school and university) play in your career?”**

55:25

Verena

What role did it play in my career? I mean, it was definitely the foundation. I think coming from a technical background is important if you want to work in machine learning. Statistics and probability, of course, are closely related to the field. So it was the foundation. Also, I think, being able to read technical papers, being able to read mathematical equations – I mean, of course, you can always learn things later, but the earlier you start with that, the easier it is.

56:07

Alexey

**You studied machine learning during your Master’s, right?**

56:14

Verena

Yeah, exactly. But then, of course, it didn't stop there. You always have to keep learning. [chuckles]

56:19

Alexey

**Of course. Did you also attend machine learning courses from Technical University or was it some other university?**

56:28

Verena

No, actually. I attended the one at Humboldt University.

56:34

Alexey

**At the Technical University, there is the quite famous Professor Muller. [Verena agrees] He worked on support vector machines and this is what he taught, mostly, because he did a lot of research in this area. In many of his classes, he was teaching support vector machines and all these things. I learned that, but when I graduated, it turned out that SVMs aren’t that common [chuckles] to my surprise. And then I was like, “Okay, now I need to learn about other methods that are more common, like neural networks.” Of course, the education didn't stop there.**

57:13

Verena

Yeah. I attended the course with my professor, Dr. Lessmann. He works at the Institute of Informatics at Humboldt University. And what was really nice was that he gave us a very good overview of all the different methods and already included neural networks there. I think one of his courses that he did during COVID, is now also on YouTube. That is also a good starting point, if you want to get started with NLP, for example – he has a couple of lectures on NLP, which are pretty nice – for a beginner. [chuckles]

57:48

Alexey

**Did we cover everything we wanted?**

57:52

Verena

Yeah.

# Verena’s resource recommendations

57:53

Alexey

**Okay. Well, maybe one last question before we finish, “Is there any book or other resource that you can recommend to our listeners?”**

58:02

Verena

Yes. So, books – there are actually two. The one that I recently read is Entrepreneurial Revolution by Daniel Priestley. I really enjoyed that one because it's a very practical step-by-step guide on what you need to do to become an entrepreneur and how to approach getting customers, to finding your offerings and all this. So I really liked that one.

And the other one that I recommend is Mindset by Dr. Carol Dweck. Something that I read, I think, two years ago. It really changed my view on… Basically, now I'm convinced that you can learn anything and everything [chuckles] if you are dedicated enough. And I find that very powerful.

58:57

Alexey

**Do they only convince you that you can learn everything, or do they also show how in this Mindset book?**

59:05

Verena

Yeah, it's more about how to approach it and why it's important to have this mindset first. Then, I think, it's also easier to put into practice. Another thing that I can recommend, which is a bit more technical – there's one podcast that I recently listened to… Unfortunately, it's only in German. But if you speak German, it's an interesting explanation of how large language models work. You also don't need to have a lot of prior knowledge. It's called [speaks German] – so, basically, “How does an artificial intelligence learn how to speak?”

59:45

Alexey

**I will use this as practice tomorrow before my German lesson. Let's see how much I will understand.**

59:53

Verena

I mean, actually there’s a lot of German and English, because the guest who is being interviewed is German, but he moved to the US many many years ago. So it seems like for him speaking English is also easier for him than speaking German. [chuckles]

60:09

Alexey

**Also if you work in an English-speaking environment, then many terms (machine learning terms) usually come up in English.**

60:20

Verena

Yeah, true. I also find it easier to speak in English, at least for machine-learning-related topics.

60:25

Alexey

**Exactly. For me, it would be difficult to speak about machine learning in Russian.**

60:32

Verena

Yeah. Also, when I speak about it in German, I have this tendency to use a lot of English words as well. [chuckles]

60:39

Alexey

**Exactly. Okay. Thanks a lot for joining us today, for sharing your experience and telling us about things you plan to work on and things you worked on. That was really great. Thanks! And thanks, everyone, for joining us today, too.**

60:51

Verena

Thank you! Yeah, if you have any further questions, you can find me on LinkedIn. Just reach out there.

60:56

Alexey

**We need to follow you because we want to know what you will work on. [Verena agrees, chuckles] Okay, well – bye everyone! Bye Verena!**