Aalto-yliopiston podcast

(00:00:01 - 00:00:22) ALEXIS

Yeah, just to keep the doors open and like the mind open and yeah, you might actually end up in a different career path, who knows, but just to not be closed in a box and just keep your options open as well.

(00:00:24 - 00:01:05) MEERI

Welcome to WAT Career Bubble. In this podcast, we explore the study and career paths of the alumni of Aalto's Water and Environmental Engineering Master's Programme, which we call the WAT Programme.

In this episode, Alexis Awaitey shares his story that includes many turns from a university of applied sciences to doing WAT master's degree, working in the industry, and finally to starting a PhD.

Warmly welcome to WAT Career Bubble, Alexis. So nice to have you here.

(00:01:05 - 00:01:06) ALEXIS

Yeah, thanks for having me.

(00:01:07 - 00:01:12) MEERI

So it's been a while since you graduated from WAT, right? So when was that?

(00:01:12 - 00:01:28) ALEXIS

Yeah, it was in 2021. So quite a while ago. Yeah, I started at WAT in 2018. So it feels like it's been a long time, even though time has gone by quite quickly. But yeah.

(00:01:28 - 00:01:44) MEERI

Yeah, it's easy to believe that. Yeah. So you actually came to what program outside of Aalto? Yeah. So what was again your bachelor's degree from and what made you to apply then to Aalto University and our programme?

(00:01:44 - 00:02:51) ALEXIS

Yeah, so my bachelor's was from Mikkeli AMK, so University of Applied Sciences there. Now I think the name has been changed to XAMK. There I did my bachelor's in environmental engineering and more like in the general level. And after that, I always knew I wanted to do a master's degree, but I didn't know which option yet. So after my bachelor's I was just looking at different options in Finland and also outside Finland and within Finland I found this water and environmental engineering programme here and that was a very good option for me and I wanted to specialize more in in water related.

I also had some other offers from Netherlands and Sweden, so it was hard to choose because they were all in English. But in the end, because I was more comfortable in Finland and I've lived here for quite some time now,

so it felt more comfortable to go with Aalto and specialize more in the water side of things.

(00:02:53 - 00:03:24) MEERI

Yeah, nice to hear that you decided to choose us. I will actually get back to this language in Finland topic later on, but let's focus on something else first. So... I'd like to hear how you found it in the beginning because you came outside of Aalto and not from a university, but the University of Applied Sciences. So how was it to join our programme as a newcomer and to study in a university?

(00:03:25 - 00:04:22) ALEXIS

I would say it was different in the sense that when I came to the university, it felt that it was very theory-based because I was used to more practical approach from the applied sciences side of things. and personally I like to be more like to apply more than read the theory side of things but of course like it was a big learning curve and i'm actually glad I went deeper in the theory part because now that's also helping me in my current uh job which we'll probably get to that in in a bit but um yeah the main difference I felt was the university was more theory based and.. And that was like challenging for me in the beginning, but I went through it and I persevered and it turned out well.

Yep.

(00:04:24 - 00:04:40) MEERI

Yeah, it really did turn out well because you actually went to work for industry after your graduation, right? But then you have actually, quite recently, you returned to the crime scene, right? So you are back to our water building.

(00:04:40 - 00:04:42) ALEXIS

Yes, yes, that is true.

(00:04:45 - 00:04:51) MEERI

Yeah. So you are doing PhD now.

(00:04:52 - 00:06:14) ALEXIS

Yeah. So basically, I was working before in the electrical vehicle battery industry, so nothing water related. And well, right after the Watt program, I was like applying for water related jobs. It was quite challenging at that time. And a lot of um a lot of companies also were quite strong on the Finnish language skills um.. so that was a bit of a challenge but I knew that okay if I don't get any job in the water field I'll still like to like try something else if I could have an opportunity so and I also like to learn a bunch of different things it doesn't necessarily need to be in the water field so I was applying and then I got an interview for this health safety environmental engineer job in my previous company so and that was in English the whole like working language so I got into that company and it was yeah it was quite interesting and I also learned a bunch of new things, even though not water related, but I've still been able to apply some of those things in

my current PhD. So it's also a good like interdisciplinary experience, even though you may not work in the same field, but you can always apply some, some different skills you learn.

(00:06:15 - 00:06:46) MEERI

That's a very important message because I think many are struggling with kind of what can I do with this degree and what's the working life like in different sectors and you have kind of showed that being flexible is okay and you can still apply any of those things. But I'm actually interested in hearing a bit more about this health and safety engineer. So what was your kind of typical day? Was it a typical day?

(00:06:46 - 00:09:20) ALEXIS

Yeah, so basically as a health safety environmental engineer, so this was in the industrial setting, so in a factory. And basically you'd have to... A typical day was going to the production floor and inspecting... inspecting the machines and also seeing how people are working, interacting with the operators and hearing their concerns about any safety related topics. And for the environmental side, it was more about looking into the environmental risk assessments and KPIs of the company in that sense. And yeah, I would say it involved a lot of social interaction that I wasn't so accustomed to, but being in the WAT programme here also helped me with the social skills and being open or being able to open up more and interact with people. So that was also one example of a transferable skill.

And actually I did the health safety engineering role for one year and then after that I got another role in the same company as a quality engineer and that took a different um like rhythm of of like tasks so basically as a quality engineer I was focusing on ensuring that the electrical vehicle batteries were made according to the customer's specifications. So that involved like going to the production floor, checking the defects of the batteries and seeing sort of like troubleshooting what went wrong in that production process and correcting that. So quite a varied like different tasks that I had to do there and

And yeah, after that, I saw this chance to apply for this PhD position that I'm currently in. And well, during the last three years in the industry role, I was on the lookout for these water-related jobs because I was still interested in applying what I had learned. So yeah, I saw this PhD position. I was like, this is a good, good chance. And I also knew the supervisor. She was my master thesis supervisor at the time. So I also felt very comfortable applying. And in the interview too, we already knew how both of us work and, and now it's been a good, it's been a good team I've been in.

(00:09:21 - 00:09:40) MEERI

Yeah, but that's interesting that you kind of first want to kind of leave and then get this research would be nice idea. So was kind of doing a PhD an option for you already earlier on or how did it kind of came?

(00:09:41 - 00:11:01) ALEXIS

Yeah, so basically, as I mentioned before, I like to be more practical in tasks and all that. But so basically for this PhD position, first of all,

with the PhD, you're always at the forefront of the technology because you have to read on what's the latest advancements in the field. So that was also interesting that I would get to improve my expertise in that sense. And also with the PhD, I can get to be more in control of the methods I use in my research. So that also was very tempting in the sense that I could control my own path and how I work towards my PhD degree and it's also very flexible and all this you don't get in the working life in industry or maybe you might depending on the company you work for but all these combined was a very tempting offer and I don't regret like starting and yeah I'm done with my first year and I have three more to go and but the time has really been going by fast so Yeah, I'm quite happy about the situation.

(00:11:02 - 00:11:05) SPEAKER_01

So what's your PhD about?

(00:11:05 - 00:11:49) ALEXIS

So currently I'm developing a digital twin model for Helsinki wastewater treatment plant with this idea that we would be able to predict like effluent, like quality And also as a tool for operators and the treatment plan to be more proactive in their decision making rather than reactive. And this digital twin would help them in this regard. So with the predictions and scenario analysis. Yeah, that's maybe not to go too much into technical details, but that's the whole idea of the PhD topic.

(00:11:49 - 00:12:00) MEERI

Yeah, yeah. So is there anything in your kind of industry positions that kind of prepared you also for this type of like modeling or?

(00:12:01 - 00:13:07) ALEXIS

I would say one thing that helped and also sparked the interest for the modeling part was that when I was a quality engineer in my previous job, I had to do this, they call it Six Sigma belt. It's this course where you go a lot into data analysis and how you can apply that to improve processes in the company. So with that course, I actually got the interest in data analysis and was reading a bit more into that. And that's actually what I'm applying now in my current PhD, because with the modeling side, you receive a lot of data and you need to, you need to analyze them and like apply, for example, some like machine learning methods as well. So yeah, I would say that was pretty applicable in my current PhD. And it also sparked the interest to go into modeling or digital twin modeling and any other data analysis tasks. So I'd say it was a good combination.

(00:13:07 - 00:13:23) MEERI

Yeah. Beneficial experience in many ways. Yes. So you already kind of described your typical day or tasks in the position in the industry. So how is it as a researcher? Is it very, very different, like how your days go by?

(00:13:24 - 00:15:18) ALEXIS

Yeah, I'd say it's different in the sense that there's more fluctuation, which could be, I mean, depending on the person, it may be a good thing or a bad thing. And by fluctuation, I mean, in the sense that you could have a phase where it could be very stressful, that you have a lot of tasks to complete. And then once that phase is over, there's more like a relaxed time that could be also scary in the sense that if you're too relaxed then it's also a bad thing so yeah there's a stressful side and then there's a relaxing side but with the relaxing side you should also be aware that you need to plan those like days and and spread out your tasks so that you don't meet another stressful phase again where you've not been doing anything.

So the first few months required some adjustments because I was used to this steady routine in industry where it's like, okay, you start your day at 8, you have the meetings and then you go and you work to this time. But with the PhD, you're more like your own manager. So you need to really structure your time and try not to be in the situation where you've pushed your tasks to the very critical point. And then at that phase, you're like struggling to get them done. Yeah. I would say in a typical day, I try to list out what I would need to do for the week, so not necessarily the day. And then once I know what I need to do for the week, then I sort of, based on my schedule, just fit them in somewhere. So I would say the main difference is the flexibility and how you plan your day.

(00:15:20 - 00:15:25) MEERI

What kind of skills and knowledge are essential in your work as a researcher?

(00:15:28 - 00:16:17) ALEXIS

That's a good question. And I'm still figuring that out. But basically, the ability to summarize information because you you're going to be reading a lot in the phd like work and applying methodologies from different studies so basically how to concisely summarize information from a text and I'd say that's the main thing I've learned so far. But of course, I still have three more years to learn more skills. But to begin with, that's a very critical because you're going to be doing lots of literature reviews and tasks like that. So if anything, I could say that one skill.

(00:16:17 - 00:16:40) MEERI

Yeah, you really need to learn your topic. Yeah. Well, there's still kind of three more years, as you said, intensive work before you graduate and get your PhD. But do you already have some plans for your kind of postdoc life? Are you interested in maybe continuing academia or maybe returning to the industry?

(00:16:40 - 00:18:02) ALEXIS

Yeah, so after the PhD, I plan to return to industry. Well, I don't know the whole future yet. But as I said, I like to be more practical in my tasks. And I mean, the PhD is a good base for the theory. And since I'm also doing the PhD with the Helsinki wastewater treatment facility, so

there's already the application sense in that topic. So I would like to build upon that and work with other wastewater treatment plants or industries in the future. And who knows, that could also be a postdoc position or it could be more like moving towards and working in the industry itself. um so yeah I'd say that's my current like plan it's also interesting when people say like what you want to do in the next five years or so because it's for me it's good to have the idea but not to like limit yourself in the sense that okay uh in the next five years i need to have this this specifically but you can just have the idea where you want to go and when the time comes I'm sure you would have a good feeling what decision to make as long as you have your path in mind.

(00:18:02 - 00:18:37) MEERI

Yeah, I think this flexibility in plans is quite a good idea. You still have time to think about the next move. Sorry, I'm going maybe back and forth, but I think it's evident from what you say that you are maybe more comfortable now that you have kind of returned to your own field. So how was it when you still were like three years in this electrical vehicle battery topic? So how was it to be in that very different kind of environment?

(00:18:37 - 00:21:07) ALEXIS

Yeah, it sort of felt like I was a fish out of water. If I'm not intended. But basically it's because I had no experience in the electrical vehicle battery field. Although I did have some internship experience as a health safety engineer. So that helped in the first part of my tasks. But yeah, there was this like imposter syndrome that... I don't have the background or maybe sufficient knowledge in this industry and also people expect that you have a master's degree that you should know things engineering-wise but I mean some concepts sure but even though you have a master's degree from a different field, doesn't mean that you know everything about engineering per se. And maybe that's one misunderstanding that people have.

But yeah, I had this imposter syndrome and it took a long time to get out of that. And it's slowly disappeared with more confidence that you get from understanding the processes more and and also researching more on your own and and just asking a lot of questions at work and and yeah some maybe stupid questions but okay there are no stupid questions That is true. So yeah, just, just constantly asking at work for help. And, but there's also a fine line when, like not to, not to be over, like, not to ask that many, or too many questions. But I mean, there could be some questions that you could check on your own and not necessarily asking your manager or supervisor every single thing. And also in some meetings, it's also good to like read the room a bit when asking questions because there were some situations where the meeting could be very heated and maybe it's not the right environment to start asking some basic questions when there are bigger topics on the table.

But yeah, that was mainly my experience and mainly the imposter syndrome, but that went away with the more... with the more I understood the processes and the more confidence I gained from the whole job.

(00:21:08 - 00:21:29) MEERI

Yeah, this is kind of comforting for everybody because I think, well, not everybody has the imposter syndrome, but some symptoms in the early career, you know, they think that people expect something even though they maybe wouldn't. But still you have this feeling that, do I really know enough and do enough?

(00:21:29 - 00:21:50) ALEXIS

Yeah. yeah and it might even get like worse if you get your PhD degree and you go and work somewhere that's like even higher level of like hey you have a PhD you should you should know all this yeah and then it's hard to say like oh but I actually don't know all of this yeah this is also you know

(00:21:50 - 00:22:18) MEERI

When you do research and get these degrees, you realize this basic dilemma that the more you know about something, the more you realize that actually you know nothing. Exactly. Yeah. Yeah, but hey, I promised to get back to this language thing. So you've been living in Finland for quite a few years. So when was it when you came to Finland?

(00:22:19 - 00:23:07) ALEXIS

Permanently I moved in 2014 so it's already been 11 years and I grew up in Ghana mostly. I had visited Finland as a kid a few times because my mom is Finnish but I never really used Finnish in my everyday or Finnish language in my everyday life because my dad wasn't from Finland and the language we used at home wasn't Finnish. But yeah, the main reason I actually came to Finland wasn't even for studies. It was, I was sort of forced to come here because in the beginning it was because I got this military service invite and they had sent it all the way to Ghana saying like I should come to Finland to do it.

(00:23:07 - 00:23:09) MEERI

Yeah, so you had a citizenship.

(00:23:10 - 00:24:30) ALEXIS

Yeah, from birth. And so I was like, oh, no, I don't want to go. And my mom was like, no, you have to because they're going to take your citizenship from you. I was like, okay, then. So I went to Rovaniemi, like up north there. What a start. Yeah. And they didn't speak Finnish. And in the military, everybody uses Finnish or Swedish. Swedish didn't help me either. so um it was sort of like a crash course in the military trying to like understand the language more and use it more frequently but yeah that took six months and then after that I was like okay where do I go from here because I had two options to continue studying back in Ghana or then in Finland so I was like okay let me just look at the opportunities in Finland and and that's when I found um I was looking for engineering bachelor's programmes and I think back in 2014 there weren't as many options as maybe as you'd have like now in universities per se. So the English options were more in the applied sciences. So I was looking and I found Mikkeli Applied Sciences and I applied there and yeah, from there my path led me here.

(00:24:32 - 00:24:40) MEERI

So I do know that you speak some Finnish because we have changed emails in Finnish, but you prefer to have this in English, right?

(00:24:41 - 00:25:27) ALEXIS

Yeah, I feel like it's, I mean, I can have conversations with people, but when it comes to maybe the writing part and the grammar, of course, it's not like fluent, but I feel most important that I can speak with people and like, they can understand what I'm saying and I can understand what they're saying so I think that's the most important at the moment. Of course to work here and in the future I know I need to develop also the writing part and the grammar but at the moment it's sort of like hard to motivate yourself to improve when people understand what you say and you understand what they say but you know like you have grammar mistakes here and there.

(00:25:27 - 00:25:41) MEERI

Yeah, I bet. You already mentioned that the language maybe was an issue when you first applied for the first jobs. So how was it really?

(00:25:42 - 00:27:04) ALEXIS

Um, yeah, so like after graduation, um, I did apply to some, some few companies and some, I got like far in the interview process, but yeah, some of them, um, I mean, they made it clear that the language was an important thing, which I do understand, um, in the sense that if, if there are meetings with clients who are like Finnish speaking and don't really speak English, then then I understand where they were coming from in that sense. So yeah, in that situation, my Finnish language skills were not maybe as good as they are now. So this was about five years ago, four years ago. So yeah, that was a big thing. And then after that, I got the job where I was working before. So then I didn't think too much about it. But it would be interesting to hear what the current situation is in the country regarding this. I know it's been challenging. I have a lot of friends that have mentioned the same thing that they apply and it's mostly the language that is the issue. But yeah, I would say that was one of the main obstacles and yeah. Yeah.

(00:27:05 - 00:27:22) MEERI

Yeah. Well, at the moment, I think the situation is challenging for everybody, but I bet it's even more challenging if you don't know the language. Yeah. Yeah. Yeah. Then it's good to be flexible as you were, like check what opportunities there are and grab one if you have.

(00:27:23 - 00:28:33) ALEXIS

Yeah, because I mean, I feel, I mean, people are different. Some people wait until they get like the job that they want and then they're like, okay, they go for it, which I sort of respect in the sense like, yeah, they don't want to settle for less and they shouldn't. At the same time, too, in like engineering fields, if you have this skill set that you can also apply to other fields, but you want a job in your own field, I mean, you could also just like start if you are given the chance with another

job like start with that apply those skills and learn also something from that job and then when the opportunity arises in the field that you do want then you can make the switch and and you'll be able to transfer those skills you learned from your previous job because in the sense too like if you're waiting for the perfect job uh all the time that you're waiting I mean you may be taking courses here and there but You could also be learning on the job in a different engineering field and then later transfer those.

(00:28:35 - 00:28:55) MEERI

Yeah, very good tips. But if you now think about the Watt program and maybe to the time when you were a Watt student, so would you improve something or do something differently? Or was there something that kind of felt was missing from the program?

(00:28:56 - 00:31:40) ALEXIS

Yeah, it's a very good question. And I sometimes think, is it more like maybe based on my bachelor background when coming to Watt? But one thing I noticed was that I was, at least personally,I was lacking a lot in the coding side of things. So I remember in the WAt programme in the first few courses, we had a lot of coding with MATLAB and For example, our studio and I had zero background in all those in my like bachelors, we hadn't gone through them. And I was sort of, I didn't know if others were having the same issue that me because some people didn't know how to code. So then I was like, okay, maybe this is something they teach in the universities, in the bachelor's that everybody knows this. And maybe I'm the one that doesn't know anything.

So, I would say that, um at least personally I would have benefited from like more coding experience but then again, I don't know if the situation now has like changed or if it's still the same course formats but um It's also like maybe good if the students can like read on their own too on the coding. I know we have some websites in the department that we can like learn personally on our own time coding and other topics. If at least the courses don't offer that, I mean, we have, or there could be some platform that I think we have already that the students can learn by coding. I don't remember the name of the platform it was, but anyway, I think we do have some websites that were in there when I was studying. So I would say one thing is the coding side of things, because if we think about it in the current age, we have a lot of these machine learning, topics and I mean those are mostly implemented with coding and I have been using some of them in my current tasks and I'm still not fluent in coding but I also get help from these LLMs um which of course is good to also go through the code that you get from them but at the same time it seems more logical and you don't need to like be very fluent so it seems the world is like changing in that sense like you could still get along if you don't know coding fully but back when I was studying it wasn't the case you didn't have all these like chatGPTs to help you generate codes and yeah

(00:31:40 - 00:31:42) MEERI

Yeah, it's been kind of evolving so quickly.

(00:31:42 - 00:31:51) ALEXIS

It's also interesting how to see how the future of the education side of things are going to be in this context. But yeah.

(00:31:53 - 00:31:59) MEERI

Yeah, the AI is also maybe affecting our work as researchers.

(00:31:59 - 00:33:16) ALEXIS

Yeah, yes. And it sometimes feels like the information is too available. And with a few clicks and prompts, you can just ask anything and it sort of removes the the experience of like looking and yeah like looking for the information yourself and like getting that sense of like oh yes you've you've worked for this information yeah maybe even understood something understood yeah but now it's just like oh the chatGPT just summarized it for you but I also want to like advise the students to also be more like critical and independent thinkers I mean of course the LLMs are there to help but like maybe not to rely on those for like the basic conceptual understandings like for example how I use it it's just. For my code generation and to debug my code, that's my main purpose of using ChatGPT and all those. But for getting other information, I would advise to be more independent and be more of a critical thinker and not rely on LLMs for everything.

(00:33:17 - 00:33:19) MEERI

Yeah, also emission-wise.

(00:33:19 - 00:33:23) ALEXIS

Yeah, that's a good point too, emission-wise. It's quite high, yeah.

(00:33:24 - 00:33:32) MEERI

Yeah. Is there something kind of final tip that you would like to give to current and maybe future what students?

(00:33:33 - 00:34:25) ALEXIS

Yeah, I would say not to be too scared about the future and it's also fine not to know exactly what you want in the next five years, as long as you have the general idea of the path that you want to take and in which field you don't necessarily need to know the specific role itself. But yeah, just to keep the doors open and like the mind open and yeah you might actually end up in a different career path who knows but um just to just to be just to not be closed in the box and just keep your options open as well yeah.

MEERI
I think that's very good ending, it's been very nice and inspiring discussion so thank you Alexis so much that you joined this podcast and all the best with your research

ALEXIS
yeah thank you very much for having me thank you

(00:34:27 - 00:34:34) MEERI

Thank you also for the listeners. I am Meeri Karvinen, and this was WAT Career Bubble podcast.