Participant 12 and TE Study - Cleaned

Livia 00:00
 It can start about your we can start with your individual story. So if you can share a little bit about your personal journey of how you got involved in your field of work,

Participant 12 01:02
So I'm a computer scientist. But I won't go before how I became or decided to go into that path but also interesting maybe, but rather than I pretty soon into the studies I really fell in love with Yeah, automation agent on multi agent systems, and then the communication protocols like peer to peer protocols, and that's what I specialized in. And also, we're early started working beside my studies at $name$ and that's basically the automation, engineering and automation giants out of $name$ but a global firm and went into research and development. They're, like really good funding you can apply what you're researching directly into physical automation systems. We started with communications, but pretty early on. I went into energy, energy automation, decentralized energy, and that's basically most people know me as my background in solar storage and how do we apply distributed communication and control coordination mechanisms for automating that system, those systems and in 2016 when I saw that blockchain and energy meet, that's when I thought okay, this is me something I want to apply and I also see that cannot be applied behind firewalls. So I went out of $name$ created this research, open innovation org, $name$ and that is when I then entered and also got to interact with various super interesting people among which was also $name$ and basically he was one of two people who really got me interested in token engineering, because coming from similar to my background, [the Baltic Sea] could actually make it very accessible to me, that there is the social coordination layer that needs to take into account and that's what tokens actually also embed. And that's when a whole new dimension opened up for me coming from automate all the things, yeah, mindset and actually into coordinating human and machine systems. That's how I ended up in token engineering.

Livia 03:57
Wonderful, collectively, for everyone. How would you define token engineering?

Participant 12 04:08
That's a good one. I would define it as a transdisciplinary art. Definitely. And again, this was a sense when I met $name$, so all his actual social background applied to these cyber physical systems, but then also with the work through $name$, also you like from $name$, the mindset that you brought in into the token engineering community that opened up and made those layers much more accessible and interesting to me. So again, I have a difficulty to describe it very succinctly because also currently the layers that interests me most are not the engineering heavy sides of these many disciplines, but actually the whole psychology, the social science, you know, we used to think very mechanically, and mechanistically it's all about incentive mechanisms. You just take cryptography and start with game theory and do that and into it. And that's token engineering. That was what I was thinking and fitting in. But since it's

incentives, those incentives apply in the human brain. Then the whole other layers of how people actually find motivation are motivated, why and how punished by rewards all these aspects that actually play into this human machine. Actor networks. That is super interesting. So definitely transdisciplinary and I would say, it's not the engineering heavy part that makes token engineering, interesting or extraordinary fields to get into studying.

Livia 06:18
And what would you say that token engineering is solving the other fields are not solving.

Participant 12 06:31
I'm not sure that I have definite viewpoint or understanding of that question, or I quit or but again, I don't know if it has been ever done that does. Shorts, cycles of applicability. That we really have a sense though, where we are actually researching and applying things and then in real life, get to analyze what is happening that experiment. So it's yeah, it's more like maybe some pharmacological research or experience. But then in computer based systems or compute and human based systems. Yeah, not a good answer. But again, I think the difference is that this whole social and humanistic human humanities merged with the engineering heavy automation and optimization part.

Livia 07:49
What are some examples you can share about your daily work routine? What are some examples of typical tasks, rituals process that you handle daily?

Participant 12 07:59
That changes a lot, and I think I understand the difference now there is token engineering on the research or more science side that you can actually go into into theorizing and that type of research and then creating maybe projects or applying token engineering on projects more from the research side, but now that I'm back into decentralized energy systems I see that it's much more pragmatic, what I'm doing. And also, there's this gap between what we think and work on in token engineering when we are industry research and r&d phase or space, and that nonetheless, less if it's crypto native, is almost no different. But when I now work on actually, you know, solar funding solar, then I have to deal with solar asset managers that are just coming and having a digital platform and handling their data appropriately finally, but then still, the business in itself is a handshake business where you put panels on people's roofs. So that whole side and this is again, my origins where you have cyber physical systems automation and process is pretty well understood. And then you have the blockchain space where you have smart contracts and so on. That's also actually pretty well understood. If you want to build a system that works. You just do what is known well, where you have the requirements gathered well, and anything that is not well understood you don't implement, especially if you want to connect that to the to the real world assets like solar and you are interacting with energy regulations and financial regulations. And actually people who have companies and jurisdictions and pay taxes and so on, so back to that reality. I am informed from what is possible in the token engineering research, but then what I apply as pure software engineering, and then also legal engineering, meaning the system that we want to create, it creates this type of value or financial

flows. That's the only thing they're interested in and that makes it this type of financial instrument and that's why we need those licenses and then it's very, very down to earth and the only thing that shines through is this, you know, all these token engineering ethical principles and so on that we are and have been researching in just this past few years, in my view. Yes. And maybe one thing to mention, and I appreciated $name$ a lot and possibility there was also this frame where we could basically have this free research when almost like the $name$ cannot like you did well. You know, you are you did or you ask the right type of question. So you were in this community, and then you had the courage to actually ask some pretty weird questions and had really interesting minds follow those questions as long as they could afford to. So that type of research, experiencing that coming from $name$ research and so on, that was something super special. Just to mention that side.

Livia 12:31
and can you give examples of two polar opposites token engineering projects that you have been involved with?

Participant 12 12:42
Like many, many polar opposites. Interesting to most polar, I work almost at the same time, was $name$ and $name$ protocol where it's just about shipping and basically how you incentivize people to do commerce and on the other hand, the $name$ is how do you actually incentivize or create, protect the creative spaces where this whole trend, purely transactional interactions actually harm or can potentially have this creative space?

Livia 13:35
What are some of the tools that you use and those two projects it would be nice to understand the spectrum of what it's possible

Participant 12 13:44
so in those two my role involves actually was more on the systems analysis. Alright. So understanding the domain understanding the needs, and then it was pretty clear like "Okay, now that we have these assumptions or the model, how it would work". Can we get data or a good model that we can show that these mechanisms or or incentives were created those outcomes, and I worked with the data science heavy engineers, are talking to engineers that are more interested in data science and creating models from that. But we also collaborated with people who use game theoretic models so that was also the first time where I interacted with game theoreticians for first time and so their models and so on, and yeah, and maybe one insight there is like everyone has their tools. And   And then basically, my job is to either feed insight from the system into both of these rows and get and connect the insights from those both worlds basically. Nice.

Livia 15:28
You mentioned a few already but which areas of knowledge do you consider essential for the token engineering field? Can you repeat, which areas of knowledge do you think are essential for token engineering?

Participant 12 15:45
Again, when I say essential, then I would go back to the basics and definitely cryptography that is itself. For example, I can compare to peer protocols and computer science and I had all these years, almost no interface to these cryptographic concepts that are at the essence of blockchain and distributed ledger's, for example. So cryptographic computer science. Yes. Incentive mechanisms and as rewards, game theory, yes. Like those two definitely connect and that's where we're built. But I would add two things to it. From the other opposite side. One is this whole optimization data driven, that we don't just have models, but actually because you're on on chain, and this assessment that we get the data into the room. And the other part is also that we don't ignore or assume only rational agents because the whole psychology of Decision Science definitely shows we are more than that. Yeah, like I would add those two petals to the to them a sense? Sure. Awesome.

Livia 17:10
Thank you. And now we're moving to the second part, which is challenges and needs. So what challenges have you faced in your work as a token engineer personally

Participant 12 17:21
so actually, the biggest challenge was that I shouldn't be working as a token engineer. But I had to. So I'm, again always on the domain side and there's you know, to do like, this whole usability access and then execution, but the first mentor and then funding because I got an electricity [bill]. I got to onboard two people. One is from energy and renewable energy is like having all that domain side knowledge. And the other one was from data science, operations, management, so perfect match, and, but it was super hard for me and for for me to point to any resources to learn for them and then for them also to get their wrap their heads around this whole token engineering and sense of mechanism design and how to make apply it so the biggest challenge was and still is actually getting people have the right background to quickly understand how they can use and apply the engineering principles, knowledge tools that we do have. Now I'm in 2018 and 19. It was very very new within like the first thing was cadCAD before that there was some Python and Excel but that was it. But now that we have these tools, we have educational resources and so on that is getting better. But since one year I'm looking for one year, one year now I'm looking to onboard actually token engineers. And there are just a few people that we, I might start out, get into the field and so on and the one that I'm currently working with is also um, basically onboarded or educated, I want to say educated but mentored through $block science$. So it's still very few pathways. To get people into it and then up to speed so they can add value to a project or or venture that applies token system. Yeah, that is the biggest biggest point but maybe it doesn't turn right I mean, aside now recounted actually, there is so much better but it still might not that we could say okay, I have two new employees go through this type of courses, talk to them, make two weeks of internship here and then you will be able to know what to do in this project or answer or not. Yeah, that's a very valuable perspective on the difficulties to onboard someone. Could you share more on that? What are the points where people have the biggest challenge when integrating into a token engineering process? Or if someone has some of the skills that you mentioned on the areas of knowledge

and they want to work with token engineering? What is what is the challenge there? I'm not quite sure if it's also maybe on the side of the person like you, you immediately understand, okay, what I know is just a tiny part of this. And now I'm actually taken aback or confused or I dread that I have to learn about all of these things. I remember that feeling. Like every time was like what did I do have to learn about law? Once was psychology, then again, those learnings actually have the most life changing and mind expanding. So not sure quite there. If it's just about the availability of resources or not, I think it's also on side of the person that maybe that can be helped us these study groups like the peer groups, that you know that other others who are brainiacs in another field that you don't have any experience and actually feel the same way like you do. And the beauty is actually when you two can exchange your knowledge and learn together what token engineering means coming from your both perspectives. And still understand that if there are six other potential areas, you are absolutely blind and that are nonetheless going to impact what you're putting out there. I think that's the biggest part. So you kind of try to make it just a financial instrument, but then what you have is just a financial instrument that has built so and not what token engineering can enable.

Livia 22:45
Well, what are the common pitfalls when practicing token engineering?

Participant 12 22:51
I think that also depends on the practitioners. My pitfalls are, for example, to go too abstract or sometimes also to go too deep. Into this overlap of many like the into the complexity. And that's when, for example, two of my favorites see the beauty in the simple worldviews. That's one trend. And $name$ from $name$, like both of them has different views on why you shouldn't try to understand the entire complexity, but actually what is the pattern they're off or even try to simplify it to a pattern that might work for all the complex layers? So my pitfalls is to fall in love with this complexity. To spend too much time in there, maybe philosophical sides, too much and then understand two months or three months that okay, all of that was wonderful, but absolutely not applicable here. In the next hour. I have to deliver.

Livia 25:20
Okay, so um, what do you see as the most pressing needs for the field to address?

Participant 12 25:39
again, I think from actually many like from a practical point of views. Yes, this helping people become practitioners so they can join projects. And mentors and make them assure that ethical design and implementation on one hand, but then also having that another big area where we should and could be more active is actually the perception of token economies. I mean, because again, like defi, it has proven so many mechanisms, but also at the cost of, you know, that people who should and could make use of these mechanisms, having aversion and then also that aversion coming from regulators, for example, trying to block and make the essence of crypto economics illegal, for example, that's happening in Europe with and hosted wallets. I think that's a huge issue that we need to face at some point. And that's because yeah, it's like, um, hosted wallets making that illegal. It's the same as the discussion would happen in the in

the 70s or so rare cryptography, cryptography was trying to be regulated as a kind of thing. Or make it illegal as well. But ultimately, it's it's information information and tech, and that piece of tech that makes you Yeah, that protects freedom and self sovereignty. That's super important that I believe token engineers with the background knowledge and some are very well suited to actually make a case. Why we need to keep that freedom and then also because regulators are a [bit] of money laundering and so on, and that we also can show solutions that keeps individual freedom themselves or entity but at the same time actually use blockchain and these global distributed, Ledger's that are open to use them to do [forensics] and so on to actually be able to better follow transactions globally, and so on. So I believe there would be great because, yeah, like the projects that I'm doing now, we are more or less grounded. And there are some solutions coming in but you basically ask everyone to spread their personal data all over the place. Yeah, and they're opening up cases for sandboxes and making clear that, that freedom and application and research of these technologists to create solutions that are not just bans on crypto, that is definitely important everywhere. I think token engineers could have a big impact.

Livia 29:34
Yeah, thanks for bringing that legal perspective. We haven't heard of it so much. So far. And now I'm so excited to ask you about this since your reference in the field around ethics. So can you describe the role of ethics and token engineering?

Participant 12 29:58
Again, this goes back to what opened for me and what I had, thankfully freedom in 2020 21 to explore the name. Actually. And that goes back to decision making and knowing or the capacity to know the impact of your decisions as a token engineer, right, and then also the impossibility to know or control that impact. So and again, I love some experiences and insights we have and we had these extremely open exchange on what that means not just with token engineers, but also with artists, philosophers. Yeah, the basic do you use to start understanding or asking or appreciating what it means to be human? Individual the collective, you understand the learn and appreciate the bonds, these socio technologies, which then your token or token systems are such social technology. But again, ethics when we need to get practical. Again, then I would definitely connect to other areas like civil engineering, or medicine, where you also have this type of ethics where you need to be aware that what you're doing is affecting human life and that's different than if you have damage to a bridge or damage to transformer. Yeah. And then on the other hand, again, because these systems are about self sovereignty and participation that same thing applies them to you as a participant and you can just say, Okay, I just [apped in] and then or is okay, you know, I know this is the offer, I understand and beside my reasons by entering my own token holder, and actually will also need to ask that level of participation, not just ask the engineer to be ethical about only design decisions and so on. But also the participant to actually participate and be part of because otherwise not more, the token system can can be instilled this can appear and participatory system but I'm, I'm using a service kind of thing. Which talking actually or not. And the other insight also very recently is also seeing that it doesn't start and these decisions that they do that have ethical aspects and going through incentives, and actions and decisions. It doesn't start at the smart contract but actually already on the user interface level, basically, even front end and UX. You can make ethical or unethical

decisions that lead people certain ways. Without them knowing like this aspect of manipulations forcing versus getting rid of information as much as enabling participation. I think that's the different views like ethical design versus make people do things and use the power of them thinking.

Livia 34:16
Yeah, can you share more on this ethical concerns? Um, if there's something that keeps you up at night,

Participant 12 34:27
not actually not anymore. I think when I started exploring that question was more like oh my god. This was ethical, token engineering. But again, I think the other questions about self sovereign participation knowing also knowing your own incentives. That's a much more interesting question that we should be asking. And then again, also the puts forth the participatory aspect of this token economies and I think those are better questions to ask. So no concerns, just the realization that actually, if every participant could open these layers up for themselves, that might be a real game changer for humanity.

Livia 35:21
yeah. Do you have thoughts on how to increase diversity and inclusivity within the field?

Participant 12 35:31
Again, I believe name was or is still amazing with respect to that and I would maybe that's a good question to ask, to understand how it came about. I think it has a lot to do with this whole mini culture hack, which was gratitude. And then also the openness like how would you say you because it was really the $name$ soft gov, like something for example, [utility coming from engineering]. That was definitely your contribution, which I think made the difference. The inclusivity pies, appreciation, showing that appreciation. And I remember like $name$, for example, one of the aspects was he entering and really being surprised about how inclusive or how welcomed he felt, and he always used to explain also, it will being on a spectrum. It's not what he is used to. normally we're trying to get in, but then actually being welcome and finding a way to contribute, of course, I mean, that's the coordination question. Anyways, but I think in the name, there was a base culture or this little, I don't know if it's tech, but definitely that was a component that made the difference. And that's also something I mean, coming from tech and working as a woman, as a $name$ working in engineering heavy statements. Like that question was always around. And I would say I haven't seen a more effective hack than praise for example to actually allow for that to happen naturally. That inclusion so.

Livia 37:57
amazing. Yeah, I'm glad to hear that it was really beautiful and it still is a lot of what happens under TEC for sure. So moving a little bit to finances and and just incentives in general and your perspective, what are the incentives to be a practicing token engineer

Participant 12 38:22

actually, entirely intrinsic definitely also pays off. And not just in web 3, and token engineering. I believe the skills that we are gathering through this complex field and application and ability to actually work in the strength disciplinary field gives a person a lot of skills and insights also with respect to negotiation right. Out there in the in the normal world, I would say. Yeah. Was that the answer? To your question?

Livia 39:13
Yeah, they ate there. What are the rewards in terms of value and form that someone receives?

Participant 12 39:25
This is forms of wealth cannot I think it's for me it takes every every level like the circle of genius, the people with whom you interact and learn from was and has been amazing. And then again, like, intrinsically being able to research apply some of those crazy research and very beautiful projects like $name$. That's life changing and transforming for me personally. So these are things like there is no measure, priceless literally and and then again, on the very pragmatic side, on the financial side also, I believe, like as a token engineer, you can or should be definitely an are typically remunerated very, very well.

Livia 40:30
Yeah, on that, on that note, what do you think is the average salary of a token engineer?

Participant 12 40:38
What they are earning or should be earning? Yeah,

Livia 40:44
maybe maybe you can share both if they're not the same.

Participant 12 40:49
Yeah. So it depends because most are asking or are freelancing basically more or less. And then also depends whether they're asking or they're accepting the token that they are and helped engineer by but I believe very well that's it can compare to a yearly salary 1000 Hundreds 50,000 or more? Definitely like a Yeah, better, or at least, at least comparable to data scientists. And then also, depending on where you are, I found that I mentioned that's the German and not the American level.

Livia 42:18
Okay, we're almost there. There's just a couple more questions. So one is on the future of what do you wish were what do you wish for the field in the future and how do you see it in the last in the next three years?

Participant 12 42:38
I think more but there's also now that I'm more on the back to real world real world assets connecting real world assets. I would wish for more publications and so like, getting more into mainstream that what we know is possible with token and token economies and establishing

that like, maybe more through universities, peer reviewed publications and so on. That might help I think we definitely did well and succeeded and in $name$ and token engineering to be established, and that we all have a common sense of what it is and the impact that we can have. But then again, to carry that out into into outside of crypto, that would, for example, help a lot with applied projects like ours and in the solar business.

Livia 43:59
Is there any specific developments or innovations that you would like to see beyond the publications?

Participant 12 44:12
Interestingly, no, but that's just me. Like, that's my limits. When I set out to say okay, tokenizing is what we need and like this should be the pipeline for actually making use of it in, in these solar and decentralized energy systems, defi for decentralized panels for decentralized energy and then also capturing values beyond financial value of solar, but environmental value, being able to embed that and so on, all my wishes since 2018, are there and I have actually tools to use or we have tools to use, I have people we have a process how to collaborate and like even if they're just one person that I did not have to, you know, teach pay for education or whatever, but actually say okay, hey, you were you can now apply this expertise in this project or part and we know what tools to use for communication. So that works. So I guess with respect to the applied side, we're fine other than again, without I wish for now with more on the legal, legal engineering side.

Livia 45:48
And, as AI technology continues to advance in the potentially has to significantly impact the development and implementation of token engineering. In your opinion, how do you see AI affecting the field and what is your role in this evolving landscape?

Participant 12 46:08
So again, since the beginning, or when I entered also with a more research heavy solution right after $name$ it was more about still energy automation. That adapt to that little machine learning algorithm that actually interacts them using the data learning about how power system on that level, were and are useful and should be optimizing the energy efficient way, actually, then use the smart contracts to interact: that was the crazy back then, research, but that's how I got into contact with $name$ and $name$ as well through that scenario. I would say it is natural. So I'm not saying it's impacting in any way like mostly because you know, "AI and Optimization" is one petal of the crypto economics flowers like yay, another one area where actually useful tools are coming our way. And I must say it came again on a level that I was not expecting like this language models actually coming from the humanities side to be heavily usable now. Right. What does that mean? And there again, just today I had a session with the new project. And that was actually pretty clear in that discussion that now in the whole token economy or DAO space or in the coordination space, we appreciate that we have the smart contract and so on and the blockchain, but then all like as long as it's not as simple formula like maximize profits and all that profit action or all the other actions leading to profit also happen on chain like this.

You're in finance or so. Beyond that. The actual value attribution happens in the human space, where we have the forums, the discussions and all that language space. So having and then you also know how hard it is to actually navigate that space to be knowledgeable enough to make a good decision, the right or the ethical. So I can imagine that this now tools that are becoming is super useful can help us navigate that space. Better and maybe connected better to what we know works underneath like wants to know the decision you can establish the execution of that in a transparent and trusted or consented way. That seems to be the most obvious but seeing at the pace, how it develops. That's really amazing and like, okay, they actually don't know what's gonna happen or what it will look like next year, what's possible in that domain, so super exciting times.

Livia 49:29
Yeah. Yeah. So let me ask a question is whose work do you admire and the token engineering space and who do you recommend we talk to?

Participant 12 49:42
I mean, you know, the my three sources in the order of appearance, I think $name, name and name$, I believe, also have them covered almost the entire domain was $name's$ way of narrating making sense or making creating a story that makes sense. I like most, but there have been also, like high tech right that I think works that I have not time or capacity to pull out that have been in the past two years. Definitely around knows, from $name$. And then also people from $name$ like $name$ and I dont know if you have talked to him before already. $name$ and the whole $name$ coming from they're super interesting.

Livia 51:19
You mean $name$ and $name$, and

Participant 12 51:26
then again, and then of course, I'm going to get a chance to $name$ or $name$ from $name. I think they have a super very differently integrity, view on the possibilities and limits also, limitations of tokens and token engineering. This could be also an interesting topic and $name$, like the whole $name$, in that we also went into like what are the limitations of token and token engineering? And those are also interesting aspects but [multiples of pika] Yeah, but in $name$ actually just [be how]. And then also this $name$ like different systems that go beyond the transactional metaphor, that they can also establish value networks that are not dependent on like this game theoretic optimizations but can still help or create coordination games.