



## **PODCAST TRANSCRIPTION SESSION NO. 188 / ZOR GORELOV**

Welcome to the Lend Academy Podcast, Episode No. 188. This is your host, Peter Renton, Founder of Lend Academy and Co-Founder of the LendIt Fintech Conference.

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Today's episode is sponsored by LendIt Fintech USA 2019, the world's leading event in financial services innovation. It's going to be happening April 8th thru 9th, at Moscone West in San Francisco. We're going to be covering digital banking, blockchain, financial health and, of course, online lending, as well as other areas of fintech. There will be over 5,000 attendees, over 250 sponsors and registration is now open. Just go to [lendit.com](http://lendit.com) to register.

**Peter Renton:** Today on the show, I am delighted to welcome Zor Gorelov, he is the CEO and Co-Founder of Kasisto. Now Kasisto is a fascinating company, they've been around not that long, but they have developed a conversational AI platform for banking. So we talk about exactly what that is, I didn't know, and I learned a lot in this conversation actually.

We talk about how it actually works in practice, we actually go through an example of a bank that has implemented Kasisto's technology into their bank and the difference it has made for them. We talk about how these products learn, what makes them just really dedicated to banking, how they're able to focus on that particular sector, we talk about the future of interaction. We obviously have voice and text and how that's playing out and what is also coming down the track shortly at Kasisto. It was a fascinating interview, hope you enjoy the show.

Welcome to the podcast, Zor!

**Zor Gorelov:** Thank you, Peter, happy to be here and thank you for having me.

**Peter:** Okay, no problem. So I'd like to get these things started by giving the listeners a little bit of background so maybe you could tell us some of the things you've done in your career. You've had a pretty interesting career to date so why don't you share with the listeners some of the highlights.

**Zor:** Yeah, I'm a software engineer by training and I worked in software companies, In the mid-90's or so, I decided to fulfill my life's dream and start my first software company which I did. The company was called BuzzCompany.com and at BuzzCompany we built enterprise messaging software, some Fortune 500 companies using that software and then from there, I moved on and I started a company called SpeechCycle and at SpeechCycle built a speech recognition activated virtual assistants for telcos.

I started doing this way, way back, you know, Telstra, Time Warner, Cable Vision, Cash Communications were all customers. Both of these businesses were venture-funded, were



successful at this and then in 2013, I started Kasisto, I was Co-Founding CEO of all these ventures.

Before that, my interest was speech recognition natural language technology goes back many, many years when I worked at Bell Labs, one of the early speech recognition and natural language projects that were sponsored by Darpa and we were running the systems on super mini computers that were larger than the size of the conference room that I'm sitting in now (Peter laughs) and this technology in the past 20 to 25 years made tremendous progress and enabled us to get to where we are here and enabled companies like Kasisto creating really amazing humanlike conversations between AI systems and computers.

**Peter:** Right, right, yeah, that's interesting. So what was the idea that led to the founding of Kasisto?

**Zor:** So first of all, Kasisto is a spin-off from Stanford Research Institute or SRI. That's a very famous research lab that has decades of Artificial Intelligence experience. I think they started working with some of the systems in the 70's so one of the largest independent R&D labs in the world. SRI also has a very efficient and well known venture licensing program and was the IT that just created SRI, gets commercialized and licensed to other companies and sometimes they create ventures.

Many of your listeners probably heard of Siri, Apple Siri. Siri was created at SRI before it was sold off to Apple, and actually, the history of Kasisto goes back to Siri. There was a team of scientists at SRI that stayed on and continued to work on next generation virtual assistant system which ultimately became KAI and then, of course, we're using KAI in banking. So in a way, in the Artificial Intelligence way, Siri and KAI are related, well I can say that, Siri is KAI's older cousin, not as smart in banking, but, you know, part of the family nonetheless.

To answer your question on what led me to this, well KAI has been fascinating with speech recognition and natural language at AI systems for most of my career. Like I said, I worked early on at Bell Labs and I believe that conversational user interface will continue to become more and more sort of main way users interact with computers, same way we interact with each other, same way you and I are communicating now.

What led to Kasisto idea is this basic premise that as banks go through a digital transformation, the relationship between consumers and banks become very transactional, you know, people check balances, transfer for money, they look things up and they move on, and I think oftentimes there's an emotional connection that gets established between brands or banks in this case and customers, consumers is getting close. Our belief early on was that humanlike conversations was a way for banks to continue to engage with customers on digital channels and help them better understand their money, help them make better decisions about their money, all using humanlike exchanges.

**Peter:** Okay so then what is the difference between, you know, Siri or...obviously, there's Alexa and Google's got a product, I mean, there's lots of these voice assistants now so what's the



difference between KAI....I mean, you said KAI is really for banking and finance so how is it similar and how is it different to these other main stream voice recognition systems?

**Zor:** Well first of all, KAI is the conversational AI platform, banks use KAI to build virtual assistants and chatbots that interact with their customers. So think of KAI as a banking brain that banks has made their own where they can create their own conversation, they can present those conversations that are on Waze, on mobile devices, on their websites, on Alexa, on Facebook Messenger and KAI knows how to have these conversations.

What makes KAI unique and different is that it is trained on banking and it knows and understands, banking, it knows, you know, debits and credits and withdrawals and deposits, it knows the current accounts, the same thing as checking accounts, it knows about FDs and CDs, it knows about account opening. You know, that's what makes KAI unique plus it comes with the infrastructure that allows banks to rapidly deploy these systems and customize and brand those systems.

**Peter:** Right.

**Zor:** The other thing that makes KAI unique, KAI is not a search-like experience where you go on the website, you search and you get ten responses. KAI is not a search engine, KAI is a do engine, it actually can ask a question and not only does KAI answer the question, it will help you get things done. Like for example, you can go to KAI and say...hey, I'd like to make a payment on my credit card and KAI will come back and say....okay, I see that your balance is \$1,000, do you like to make a minimum payment or you'd like to pay off.

You may say...well, I'd like to pay it off, but do I have enough money in my checking account, and KAI will come back and say...well, you know, you don't have enough money in your checking account, but I see that you have enough money in savings, would you like to transfer? So it enables this humanlike conversation and helps consumers get things done and ultimately it helps consumers make better financial decisions about their money.

**Peter:** Right, right. So, you know, I can ask my bank through Alexa what my account balance is and what my credit card balance is, but, I guess, it's pretty rudimentary, What you're saying is if you've got an engine that can really do a whole bunch of different things so maybe we could start with an example. I know you've got some high profile banks that you have signed-up, why don't you just take one of those, something that's publicly available information and just tell us how they're actually implementing your technology in their bank.

**Zor:** Of course. Before I do that, let me explain a little bit about what conversational AI is.

**Peter:** Okay, that's probably a good idea.

**Zor:** Yes, conversational AI is really about enabling human and humanlike conversations between humans and machines. Conversational AI is not about having voice recognition or



natural language to enable some of the features that users already do in their mobile banking apps on their websites.

**Peter:** Right.

**Zor:** That is not that interesting, right, you know, you know how to transfer money in your mobile banking app, you don't need to go and voice-activate this feature. Some banks may choose to do that, but that's not in our stuff. Where conversational AI becomes interesting... where users can start interacting with banks using their own language like for the first time, KAI allows banks to go to a microphone or give a text back for their users when their users go in and tell banks what they want. Think about the power, but, you know, what people say are thousands and thousands of different things that they want from their banks.

So conversational AI is really creating that new experiences, in other words, conversational AI is about enabling users to do things that they are not able to do on their mobile apps or on banking websites which tend to be very transactional. What did I spend on Uber last week, right, can we go quickly get an answer to that question in your mobile app, right, probably you can. Not only can you really do that in your mobile app, you probably want to call your bank to ask this question so think about calling your bank and say...hey, I want to know what I spent on Uber last week, they'll probably hang up on you, right.

**Peter:** Right.

**Zor:** So conversational AI is really about creating that new experiences for users that they can get from their banking services. Some of these experiences...they didn't exist before, you know, can I afford to go on vacation or should I buy a car? There are so many things that people express that are just simply not doable through any other means.

**Peter:** Okay.

**Zor:** So I'll give you a story from one of our customers to answer your question. DBS, Development Bank of Singapore, is one of the largest banks in Southeast Asia. The CEO of the bank decided to build their international expansion strategy around this new mobile only bank that they call Digibank and they decided to launch this bank in India first. So this is mobile only bank, no branches, no call centers.

When they launched their mobile app, it had two unique features; one was a 90-second paperless account opening that was enabled through India's Aadhar Biometrics Identification System and a virtual assistant called Digiba (?) that was powered by KAI. We trained KAI to answer thousands of different questions about banking. Today, the bank has 2.5 million customers, KAI is handling 80% of all interactions between consumers and banks through Artificial Intelligence, only 20% of these sessions go to the live chat agents. That enabled the bank to run Digibank in India at 1/5 of the cost of a traditional bank.



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KAI, today, supports everything from customer on-boarding, how do I open an account, what documents do I need to open an account, where is the nearest biometrics identification center to customer education, which products I have, what interest rates do you charge, how do I upgrade my account to customer service, you know, I'm traveling to England, do I have to pay ATM fees when I get cash.

So this is the power of KAI that allowed a major bank in Southeast Asia to launch completely new digital mobile only offering and run it at a very cost effective manner. We believe that virtual assistants for both traditional banks as well as challenger banks is becoming a must have to enable any kind of true digital transformation.

**Peter:** Okay, so then how's it actually being implemented? You're answering 80% queries from customers, is this through virtual chat like a chatbot type thing or are there other delivery mechanisms for it?

**Zor:** That's an excellent question that you asked. So KAI is built into a Digibank's mobile app and users go in and they all kind of interact with it. All interactions, or 99.9% of all interactions that are handled by KAI today, are handled by DBS Digibank are handled through text.

**Peter:** Okay.

**Zor:** Now generally speaking, voice adoption in banking is interesting. We have customers running Alexa and then the demand continues to grow, but we are not really seeing massive adoption from the consumers on our own systems of voice as a preferred modality for interactions. Majority of our interactions across all of our systems are KAI-based.

**Peter:** Are you sort of agnostic on whether it's voice or text as far as....is it the same behind-the-scenes engine that drives this or are you really geared up for text?

**Zor:** No, we're actually agnostic. We view voice as another modality and consumers can choose to interact this voice, text or touch from that perspective. The industry lingo calls this multi-model system. KAI is also an omni-channel system, you know, you can start interacting with KAI on Alexa and then log-in to your mobile app and continue those interactions so it supports and it knows...we channel you on and it knows how to optimize interactions for your channel.

So, you know, you mentioned your bank in Alexa, I don't know who your bank is and I know how Alexa's permutation is done, but, you know, some banks continue to build syslog channels. They build something from Alexa and they go and build conversational experience for perhaps their mobile app or Facebook Messenger....you know, our vision for KAI is a brain that can interact with users and optimize those interactions independent on the channel they're on.

For example, if you ask Alexa, show me my last ten transactions, you probably don't want to sit in the kitchen and, you know, hear ten cryptic names for your transactions.

**Peter:** Right.



**Zor:** You know, when you ask that question of KAI, KAI is smart enough to know that this question is coming from Alexa and you'll get a response that says, okay, well over the past ten transactions, you spent \$582, would you like me to send the list to your mobile app and then it can initiate the transaction and you get a list of transactions on your mobile device which is much more meaningful customer experience.

In addition to that, we set up the ability to handle multiple channels and optimize your experiences in wherever channel. You know, you kind of start with voice in Alexa, you can continue with text or touch on mobile device; KAI can also personalize your interactions with any of the user type or user segment. In other words, if you say, you know, I'd like to get a credit card or a life supply fuel gold card, depending on the use of KAI, if you are a high net worth individual versus millennial, you may get different behaviors from KAI.

**Peter:** Okay, okay, that's really interesting. So I guess one of the things I'm interested in is how is KAI learning... like obviously, it's conversational AI and it's extremely complex to be able to have a detailed conversation. How is it getting better? What are the things....just because it's learning from all the interactions...maybe you can just tease out a little bit about how it is able to improve itself.

**Zor:** So that's another good question that we often get asked. To be frank with you, there are a lot of hype around AI. You know, we hear some people talk about self-learning and it's a very popular topic, KAI uses a combination of supervised and unsupervised learning. Supervised learning is when KAI training is done by people and unsupervised learning is where we use machine learning technologies to improve KAI over time.

The process of training, actually, is shared by Kasisto, but also our customers. You know, these systems when they get deployed, it's just like hiring people in a call center, they require some monitoring, some training, some performance improvements and we give our customers tools where in real-time they can monitor behavior of KAI-powered virtual assistants and they can actually effect that behavior and train KAI. Of course, we have our own teams looking at KAI and KAI interactions in improving KAI perform this as well.

I often get asked by banking executives about KAI and self-learning and I always go back to an example of a Microsoft bot called Tay. I don't know if you've heard the story, 2016, I think Microsoft launched tutor bot and it allowed the users to train Tay and then the users trained Tay and they created a bot that was sexist and racist and Microsoft was not pleased with the results and the outcome of this experiment.

The banking world is very, very different, it's a highly regulated industry and banks are very, very careful about what their virtual assistants are trained on and how they interact with their users, what they say, what they shouldn't say so it's a very tightly controlled and optimized process that relies on combinations of both supervised and unsupervised learning as well.

**Peter:** Right, right, okay, I got it. So it's interesting to me that with this explosion of this voice interaction at home and then.....I was actually a bit surprised to hear you say you've got 99.9%



of interactions with the one client, DBS, that's doing....it's a chatbot type text messages. Are there other examples of banks that are really moving more towards voice because it feels like voice is really becoming this sort of way we interact, but where are you at like with this journey from text or voice? Are there some banks that are doing a lot more voice than text?

**Zor:** I think banks that are doing voice are mostly doing Alexa-based implementations with us.

**Peter:** Okay.

**Zor;** With that, now the issues of data privacy are obviously of consideration like when you're talking to your Alexa, your banking data is going to the Amazon cloud and banks have different perspectives on that. Some banks are more open to this, others are not as open, but I think the voice implementations are mostly...but, of course, Bank of America's virtual assistant, Erica, you've heard Bank of America launching it...I think they are on the record saying that text and touch are by far two popular modalities for their interactions as well.

The question is why, right, and most people on their mobile....it's one thing when you're sitting in your kitchen and you're asking Alexa about your balance, however, when you are on public transportation, subway or bus, you probably don't want to get your phone out and start talking about your finances. I think there is a social factor that needs to be considered, and of course, most consumers in public settings like that are also worried about privacy. Of course, privacy is not what you say to a banking app, the privacy is really what you hear back.....

**Peter:** Right.

**Zor:** ....because you can ask your banking app what's my balance, what you don't want to happen is people in New York City on the subway to hear that you have \$10,000 in your checking account.

**Peter:** Right, that is true,

**Zor:** But there are ways to manage that as well because the smart assistants will actually detect that users have headphones and they can play it back. However, if you are on your speaker phone, you probably just want to display it on your device and not sound it out for the users.

**Peter:** Right, yeah. Okay, so then there's other companies pursuing AI-powered products in financial services, I mean, there's IBM Watson doing some things, Google's doing some things, do you see these companies as competitors to you or are you kind of working together with them. How do you interact with the big tech companies?

**Zor:** Well we focus on banking and we do have competitors, obviously we see them in our accounts. Our focus is also on what our customers are asking us to do and our customers are asking us to build virtual assistants that are knowledgeable about banking, that can help users get things done in banking that are secure and are easy to manage. So that's been our focus and we're doing it in banking, KAI is trained on millions and millions of banking specific



variances. You know, if you start as Google or IBM, you probably need to have enough data to make a virtual assistant smart from day one and that requires time.

**Peter:** Right, right, for sure. So then are you working with any of the online banks and the online financial services firms that ....there's lots of online lenders out there that would really benefit from a service like this. So are you focused purely on the banking sector?

**Zor:** We are primarily focused on working with large banks, however, we are also engaged with challenger banks and some fintechs as well, you know, depending on their maturity cycle and how many customers they have and the kind of customer acquisition goals. We are definitely looking at their market and is of great interest for us.

**Peter:** Right, right.

**Zor:** And then when you think about our customers, right, I mentioned Digibank. Digibank effectively a part of DBS, that is it's version of online bank so we are working with both, with traditional banks and also we're engaged with online banking. In fact, I think two weeks from now, we'll be making a major announcement about KAI being implemented at one of the largest online banks in the world.

**Peter:** Okay, okay. We are recording this in early February and it will actually be published more than two weeks from right at this moment so I will make sure to link to that in the show notes when we actually publish that so people can know what you're referring to.

**Zor:** Yeah.

**Peter:** Okay, so we're running out of time, but just a couple more questions I'm really interested in. Let's look out five years, how are we going to interact with our financial institutions, do you think it will still be this sort of mainly text with a little bit of voice or is there going to be a shift?

**Zor:** Well I think consumers will choose whether they want the voice or text and I think there will be natural progression. Voice as it matures will become more secure, I think there will be more voice usage naturally, it's a major convenience of our feature, but I think it will be more interesting in five years.

AI systems will help democratize and personalize financial advice. I think there is a unique opportunity for conversational assistants to capture best knowledge, best practices that exist today, the best minds in finance and deliver that advice, deliver that guidance and help consumers, help investors make better financial decisions, help them improve their financial well being. I think over the next five years, that's where the value in the conversational systems will start out.

**Peter:** Right.



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**Zor:** And the voice and text, I think consumers will choose whatever channel is more appropriate for them. I do expect to see more voice. For me, most interesting part is really enabling these conversations to democratize and personalize financial advice and guidance.

**Peter:** Right, right, now that makes sense. It's going to be super interesting and I feel like there's a wide open space there that is yet to be occupied by anybody for what exactly you're describing. Okay, so then last question, what are working on today? Let's sort of bring it back a little bit into the near future, what are you working on today that is most exciting at Kasisto?

**Zor:** Well, we're doing a number of very interesting things. First of all, our rules were in the retail banking and now we have customers applying KAI, deploying KAI for business banking and corporate banking use cases. In other words, we're taking KAI and expanding its capabilities in finance in new areas, whether you're a small business or you're a CFO of a Fortune 500 company, now you can interact with KAI, not just about your personal bank account, but about the wires and tails or some other things so that's the expansion to a new area of finance is of interest for us.

The other areas that we're looking at ...we are developing more tools and more infrastructure and more API's to make it even easier for banks to deploy, manage and improve KAI. So these are the two initiatives that we are focused on; creating the systems that are broader in their knowledge about finance, but also create systems that are enabling banks to deploy KAI more wisely and make it easier, more efficient to manage and expand KAI.

Ultimately, we see KAI as the fabric, conversational fabric, that is used across all financial institutions to communicate with their various constituency using humanlike conversations powered by AI, of course.

**Peter:** That's fascinating. You've got a really interesting company, Zor, and I appreciate your coming on the show today.

**Zor:** Great to be here, thank you so much for having me.

**Peter:** Okay, see you.

**Zor:** Bye.

**Peter:** You know, I think Zor is the third guest in the last six months that has talked about the same thing, about this intelligent assistant that has a wealth of financial knowledge that can help us navigate our financial lives. We're not there yet, but, you know, with all of the technology that Kasisto is building, all the voice-powered devices that are out there, it doesn't take much for us to see, whether it's five years or ten years, but, certainly, in the near future, we are going to have an assistant that will be virtual and it will be personalized to us and it will gather the world's knowledge of finances, specifically pertaining to your situation and allow you to make better financial decisions.



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I actually think this is super exciting, it's a way to really help you make better decisions and do things that are beneficial for their lives and not necessarily honing themselves because one thing that I've learned in the last few years is that it's difficult for people to really embrace what is best for them and they really need a personalized guide, I think, to help them along the way.

Anyway on that note, I will sign off. I very much appreciate you listening and I'll catch you next time. Bye.

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