

OUTLIERS PODCAST || SEASON 6 | EPISODE 6

Founder of Reflection AI | Ioannis Antonoglou

Ioannis: Good evening, Panagiotis.

Panagiotis: Thank you very much for being with us.

Ioannis: Thank you very much for the invitation.

Panagiotis: I'm very happy that we'll be having this discussion. First of all, artificial intelligence is a very interesting topic.

Ioannis: Yes, yes.

Panagiotis: But to give our viewers a little preview, we have in front of us one of the most successful AI startups in the world, which has a Greek co-founder. It might even be the most successful so far, but we'll start from the beginning and you'll tell us everything, we'll let the viewers draw their own conclusions. Before we get into the whole discussion, I'd like to set the context. Tell us a bit about what Reflection AI is.

Ioannis: Reflection AI is an artificial intelligence company. Its goal is to build what we call agentic models. Agentic models are models that have the ability to autonomously execute tasks from start to finish. The big difference with Reflection is that it wants to make these models available to everyone. We want them to be open source, as it's called, so that anyone can install and run them, and so that research can be done based on these models.

Panagiotis: You launched in 2024.

Ioannis: Yes, the company is about a year to a year and a half old, it's less than a year and a half.

Panagiotis: And it has already grown a lot; with a year and a half of life, mid-2024 you launched, and you have already reached—anyone following AI news can see—you have made two truly remarkable funding rounds, which have already brought you to half a billion.

Ioannis: Yes.

Panagiotis: Company valuation. I see a wave of Greek founders in artificial intelligence, all of whom are educated, raised and educated in Greece.

Ioannis: Yes.

Panagiotis: You were born and studied in Thessaloniki.

Ioannis: I was born in Thessaloniki, grew up in Thessaloniki, studied at the Aristotle University of Thessaloniki in the Department of Electrical Engineering, and then I left for postgraduate studies in Edinburgh, and then studied at UCL, where I did my doctorate in London.

Panagiotis: Tell us a bit about your childhood years in Thessaloniki. What were your school years like, what was your family like, how have all these things contributed to your journey up to today?

Ioannis: Yes, basically I think my family was a typical Greek family of the 1990s. My mother didn't work; she raised us. My father had a small workshop where he worked with his brother. Those were good years, they were innocent years back then, especially in Thessaloniki.

Panagiotis: What time period are we talking about? When were you born?

Ioannis: I was born in '88, in 1988. So, my childhood years were in the '90s, which I think was a good decade for Greece, no matter what happened afterwards. It was a good decade for Greece and it was nice to spend your childhood here.

Panagiotis: It was nice to be a kid in the '90s, I was a kid in the '90s too, I was born in '86.

Ioannis: Yes, yes.

Panagiotis: It was nice, it was carefree to be a kid in the '90s.

Ioannis: Exactly.

Panagiotis: You didn't have all these screens in front of you, you were outside in the neighborhood all the time, you had the time to get bored.

Ioannis: Yes, you ran around with your friends, played soccer, did different things. What I remember from when I was little is that, because my father had his own small business with his brother, there was always a tendency toward entrepreneurship. Or to do something on your own, which I think is pretty common. It's the joke we all tell, like you go to your grandma and say you work at NASA and she tells you to learn everything so you can come back and do something on your own here. Greece has very much this kind of mentality. And I also had a tendency, a stronger inclination, to do something on my own.

Panagiotis: It's interesting because, you know, I think that when one or both of your parents are entrepreneurs, that really influences your perception of entrepreneurship, and it can affect it from both sides. I mean, you can see your parents struggling, taking lots of risks, the balance within the family often gets disrupted, but you can also see them feeling fulfilled, feeling successful, watching them grow, seeing the family's financial situation change. What was your own experience like, and how connected is it to the fact that you yourself are now an entrepreneur?

Ioannis: Entrepreneurship obviously has its ups and downs. I think that especially in the 90s, entrepreneurship was doing well, the economy was generally good, so we didn't really experience many difficulties. What I can say is that my father always had this mentality that there are no limits to what you can do and what you want to achieve. You might, you know, tell your parents 'I want to become an astronaut.' Most parents will say 'oh, it's just a kid, they don't know, they don't understand,' and so on. My father was always of the mindset 'okay, if you want to become an

astronaut, let's sit down and figure out how you can do it and what's needed to make it happen.' So, he never put limits on how far I could go, or what I could do. He just always told me, "If you want to do this, just know that it's really hard and you have to sit down and figure out what steps you need to take." I think that's what made the difference for me, that I would say, "Ah, I want to go and do something important, okay, let me see how I can make it happen," instead of my first thought being, "Eh, this is too difficult, as if I, from Thessaloniki, am going to do that," and who knows what. There was also that mentality from my father, who himself worked very hard, so there was this idea that you have to work hard, and especially from my grandfather. My grandfather, my mother's father, was someone—he was a laborer all his life, a working-class man, but he was always very family-oriented, and he always believed that work is what you have, what elevates you in a sense. Even though we were Orthodox, I think there was something Protestant-like.

Panagiotis: That work is humanity's calling, so to speak.

Ioannis: Not that work is destiny, but that it elevates you, that it's important to work, and, honestly, idleness is almost a sin. So, even as a child, I always wanted to be kept busy, to work, and there was always a tendency that you have to work, you have to have a job, and you have to work hard. So, from both role models I had, my father and my grandfather, there was that sense that you have to work a lot.

Panagiotis: Was there another factor that led you to become an electrical engineer?

Ioannis: The reason was that I really wanted to learn mathematics and it was a field that opened many doors. So, the logic was that it would be a good start for anything I wanted to do, and I also liked technology. So, I thought I'd start with it and see how things would go from there.

Panagiotis: And you get accepted in your hometown.

Ioannis: Yes, I got accepted in Thessaloniki. Yes. I had scored well and I wanted to stay in Thessaloniki. I'm from Thessaloniki. So, I only listed Thessaloniki, I didn't even put any other cities.

Panagiotis: Tell us a bit about the university, tell us a bit about the opportunities you were given there and who contributed to the path you have followed up to today.

Ioannis: I think I have a rather unorthodox opinion about the Greek university.

Panagiotis: Please.

Ioannis: In the sense that many people, especially in Greece, believe that the Greek university is very good. I don't think it's that good. I have an unorthodox opinion. What I believe is happening is that it's difficult, it's very difficult. It's difficult because there's also a lack of organization, which makes it even more challenging.

Panagiotis: It's kind of up to you whether you make it or not.

Ioannis: Yes, it's kind of up to you whether you succeed. It's sort of that some people might teach you, some might ask you questions, there's a bit of that.

Panagiotis: Were there things that helped you keep going with this attempt? That kept you from losing your motivation, aside from who you are as a person—like, I don't know, a lab, a professor?

Ioannis: I basically have two professors whom I hold in high regard. One of them is Mr. Pitsianis, who is at Aristotle University, but he was also in America at Cornell and Duke, and he was the first to teach me how to write CUDA. CUDA is the programming language. These devices are called GPUs, graphics cards. These graphics cards are the foundation of artificial intelligence. If these graphics cards didn't exist, we wouldn't be able to be here. Everything that has been created, has been created because of these cards, and that's why Nvidia, which makes these cards, is the largest company in the world. By far. It has the largest capitalization of any company in the world, by a wide margin.

Panagiotis: Unbelievable, right? Unbelievable.

Ioannis: The basis for these cards to do anything, that's CUDA. And CUDA came out in the early 2000s, and in 2008-2009, whenever it was, that professor had us

writing CUDA, which was something unheard of, but he did it because he was working at the same time in America and had those influences, and he truly wanted to bring the same teaching methods he had in America to Greece. And he was, yes, a professor whose course was very difficult, but he was very... I hold him in very high regard.

Panagiotis: Should I assume that this professor is also a little connected to your decision in 2012 to go study artificial intelligence, while artificial intelligence...

Ioannis: In 2011 I wanted to do artificial intelligence because, basically, I was very interested in logic; I took two courses, one was called pattern recognition, and the second was called robotic intelligence. Both could be taken at AUTH and were very good courses, and for the first time they showed me how you can use computers and mathematics in such a way as to build a system that makes decisions on its own. I said, this is amazing. I want to learn more about it. And so, I decided to go to Edinburgh. Edinburgh has the oldest and largest artificial intelligence lab in Europe. They were the first to start it. That's why I decided to go there. I was torn between Edinburgh and UCL in London, and I went there, did my master's, stayed for a year, from 2011 to 2012. And in 2012, I moved to London and started working at DeepMind. When I joined DeepMind, there were 25 people. The research team was 6 people. I was the 6th member, I think, if I remember correctly.

Panagiotis: Alright, we need to pause here. You joined DeepMind when there were 25 people and their research team when there were 6 people.

Ioannis: Yes, it was very...

Panagiotis: So, you caught DeepMind, which is now part of Google, and we'll talk about that a bit because it's also the reason you're in Athens these days, but that's an incredible thing. Okay. And you're also doing your PhD at the same time.

Ioannis: I started my PhD later, within DeepMind, but with David Silver; we can talk about that too. But it was a very pleasant experience for me that I had gone to their offices at DeepMind and I went because they were looking for someone—anyway, a

recruiter told me to go talk to them. I went and spoke with Shane Legg. I was fresh out of university at the time; I had just studied artificial intelligence. Artificial intelligence sounded to me like the best thing in the world.

Panagiotis: Everyone else was sleeping, I should mention here. We didn't have a clue.

Ioannis: Basically, everyone in the world.

Panagiotis: Yes.

Ioannis: And I go there and they tell me they want to build a system, they say, that can do whatever a human can do, to be general artificial intelligence. And I say, seriously? And he says, seriously. And he says we're the only ones in the world doing this. And I say, seriously? And I say, look, I don't know, since this is just the first interview, I don't know if the interview will be successful or not, but even if it doesn't work out, I want to help and contribute in any way I can, because honestly, the company's mission really impresses me. And I remember Shane telling me, okay, do you have time now? And I said, I will stay, why not? So, I stayed from 12 until 7 in the evening and did all the interviews one after the other. And the next day, he calls me and says, you're hired. You start. So yes, honestly from the beginning I was thinking, this is the best company that could happen to me, I have to work here. Because when we started, we were very young, I was 23 years old, and I thought probably nothing would come of it, but it would be so much fun to get involved with this that even if I do it just for fun for two years and then go find what you call a real job, I don't care.

Panagiotis: And did you stay there for years?

Ioannis: Yes, I stayed. I stayed for 11 years.

Panagiotis: 11 years. I don't know how you'll manage to summarize this entire amazing journey. I know that the whole next part, and that you're starting your next

company, you're starting your own company and your co-founder is all connected with DeepMind.

Ioannis: Yes, yes.

Panagiotis: How can you help us understand what an incredible story DeepMind is?

Ioannis: DeepMind, I think, and that's why Demis Hassabis is a role model for me, is someone who—basically the two role models I have at DeepMind are, on one hand, Demis Hassabis for what he managed to achieve with DeepMind, and David Silver who was my professor and my manager for many years. We're in 2010, right in the heart of the financial crisis, artificial intelligence doesn't even exist as an idea for anyone, and along comes a person, Demis Hassabis, who says he's going to build a system that thinks like a human. He's not going to do it in California, where everything is, where everyone is in Silicon Valley, where all the technologies are. He's going to do it in London, because he's from London and wants to do it here. And he manages to convince global giant investors to give him the money to start the lab in London. He starts it and within four years, from 2010 to 2014, he manages to create what we call the first breakthrough in artificial intelligence with DQN, and I can mention it because I also worked on DQN. And to lead the company to acquisition by Google in 2014, which at the time was a massive acquisition for its era. It was close to 500 million dollars. But that was in 2014 in AI. It's nothing like how things are now.

Panagiotis: Maybe we should add another zero so we can grasp what...

Ioannis: Yes, nowadays the price would be even higher, much-much higher to buy it, but back then it was a unique success. And obviously for Google too, which in 2014 managed to see that things would develop like this over the next 10 years. So, they said, let's go get DeepMind now. I mean, considering how much DeepMind is worth now, Google got it for a bargain, they really got it for a bargain. But the fact that he managed to keep it in London and start it there.... In reality, DeepMind started the race for artificial intelligence.

Panagiotis: You know, what I find a bit more remarkable—and what probably sets Demis Hassabis apart from the others—is that he is one of the good guys. You actually feel that he is concerned.

Ioannis: He is truly a person who does it and advances artificial intelligence for the good of humanity. That is, his dream is scientific discovery—scientific achievements that can make the world a better place. That's why he has invested so much in AlphaFold. AlphaFold is a system that helps discover new drugs, which also led to the Nobel Prize.

Panagiotis: Exactly.

Ioannis: He really supports.... It's not artificial intelligence in the sense that we simply know how to invest money, it's about how we can achieve those scientific discoveries that can solve problems like global warming, health issues, educational matters, and so on.

Panagiotis: What do you do at DeepMind?

Ioannis: Basically, throughout my career at DeepMind, I worked on a field of study called Deep Reinforcement Learning. Machine learning with neural networks. I started out working on DQN. DQN is the first algorithm that shows you can actually do this with Vlad Nyi. And then I started working with David Silver, who was both my professor and my manager and, to a large extent, my mentor.

Panagiotis: Professor in Edinburgh or London?

Ioannis: In London. At UCL, where I did my PhD. And we started working on AlphaGo. AlphaGo is the first computer, the first computer program that can beat a human in the game of Go. For most people, this might seem okay and not such a big deal, but Go is what we call the holy grail of artificial intelligence for many, many years. The reason is that artificial intelligence has always tried to study how we can solve problems that are very difficult for human intelligence using computers. And to be able to study them, you need a problem that you understand and where you can

apply artificial intelligence methods. The big issue with this game is that there aren't any rules you can give the computer to tell if something is good or bad. The computer needs to have what we call empathy. It needs to have its own instinct. Its own instinct about whether something is good or not. How you can teach a computer the instinct that a human has is a problem that couldn't be solved. It hadn't been solved. It was a question. What AlphaGo did was to show that we can train neural networks which, purely through computational methods, can acquire this instinct. That is, you show a computer a Go game and the computer can tell you, "This seems good to me," or "This doesn't seem good to me." And to do this at a level that is better than the best players in the world. So, when it started, all the artificial intelligence experts believed that this achievement was at least 10 years away, and 4 months later DeepMind releases AlphaGo.

Panagiotis: And are you part of that team?

Ioannis: And I am part of that team. We have the match with Lee Sedol in Korea, where AlphaGo wins 4-1; there's even a documentary about it...

Panagiotis: I remember Demis Hassabis going there as well.

Ioannis: Demis Hassabis was there, the whole AlphaGo team was there.

Panagiotis: And there was huge interest from the global community.

Ioannis: Especially in Asia, Go has massive appeal. It's like chess in the West, but even bigger. There were giant screens in Korea, in the central square of Korea showing the match. The match was front page news every day. It was a very big event for Korea.

Panagiotis: And not only that.

Ioannis: It was basically what started a lot of investment in artificial intelligence by countries like China, Japan, and Korea. It was what we call the Sputnik moment for these countries.

Panagiotis: You did this. I mean, at that moment, Asia—and especially China—woke up and started investing.

Ioannis: Exactly, exactly. That's when they started.

Panagiotis: That was a wake-up call.

Ioannis: Exactly. It was what we call the Sputnik moment. Just like in America the Sputnik made them build the space program, in China it was similar—they said, "we have to start investing seriously here." We made AlphaGo, but AlphaGo relied heavily on human data. In other words, it learned in the way humans learn. So, we continued by making AlphaGo Zero, which simply learned by itself, it didn't need human supervision. It played games with itself and learned to play Go at a level far better than the best humans.

Panagiotis: And much faster, I imagine.

Ioannis: And faster. Then we continued with AlphaZero, where we used the same methods on other games, such as chess and Shogi, which is Japanese chess. We extended it to electronic games. In general, the final algorithm was called NewZero, and the idea was that it could be applied to any environment, so that it could learn and reach a level of success beyond human capabilities. And then, obviously, this had many real-world applications. Tesla, for example, used it in its self-driving cars. YouTube used it for encoding. Anyway, there were various practical uses after that. Before I left DeepMind—DeepMind, in 2022, basically in 2022, ChatGPT came out, the ChatGPT that we all know came out in 2022, I think it was...

Panagiotis: Our own Sputnik moment.

Ioannis: Our own Sputnik moment.

Panagiotis: For the average consumer.

Ioannis: Exactly. It's also the moment when people realize that artificial intelligence exists and is here. Like, what is happening, out of nowhere. And then at that point

Google had... Google is a huge company. It's a truly massive company with many teams working on artificial intelligence research. DeepMind, Google Brain, Google Research, it has many teams, and it decides it needs to form a team to build the biggest and most powerful model in the world. And that's how the Gemini project begins. And the Gemini project is really many different teams from across Google coming together to build this model. And I was assigned to run the RLHF part—that's what it's called—which is machine learning through human feedback. What people think about different results. It's the third of... There are three different training stages for these models. It's the third and final stage. So, I did that for a year and during that project, I also met my co-founder, Misha Laskin, who was working on reward models within the team. And in March 2024, last year, we decided to leave Google and DeepMind and start our own adventure by founding Reflection AI.

Panagiotis: And we'll get to Reflection AI and what the idea is and how you approach it with your innovation. What quickly stands out to me is it's a fantastic ride, what you experienced at DeepMind. How do you capture that experience in relation to how you are as a founder and as a leader? What did you learn over all those years?

Ioannis: That is a very good question. I think the most important thing when you have a company—which, when I first joined DeepMind, I didn't really understand, as time passed at DeepMind, I understood it more, and when I started my own company, I fully realized—that maybe the most important thing in a company is the culture. It is about what the company's culture is. And this determines everything. The culture and the mission, meaning the goal it wants to achieve. What is the long-term goal the company wants to accomplish? What is the company's mission—these are the most important things. Because these are what ensure that every employee and every person within the company knows how to make decisions and on what basis to make those decisions. So, you want to have the culture in order to know what we call the values, what the company's values are, so you can choose and know which tasks, which work you should do that aligns with the true goal of the

company. So, if you know you're not doing that, if you can do A or B, you should know whether to do A or B, depending on which one aligns more with the company's goal and mission.

Panagiotis: You make the decision to start your own company with your co-founder Misha.

Ioannis: Yes.

Panagiotis: Is the driver an obvious need or an obvious solution?

Ioannis: When I started at DeepMind, what was truly my calling was to build artificial intelligence and to create general artificial intelligence. When we started Reflection, the world was at a turning point. A lot of people believed that the way to build this artificial intelligence was simply to use more computers and more data. There were—especially in Silicon Valley—a lot of people who simply believed that all we needed to do was build a huge data center. Spend a trillion, build a giant data center, and artificial intelligence will just happen. Nothing else is needed. So, it's just a matter of time and simply about finding the money somewhere, guys, to build it. We did not believe that. We believe that reinforcement learning is an integral part of artificial intelligence and...

Panagiotis: You've seen it in practice first of all, in AlphaGo.

Ioannis: I've also seen it in AlphaGo. So, we believed that this was the way to build it, and we wanted, first of all, to build it and, secondly, to make it available to everyone. We believed it was good to have open models that could be made available to the world. But we truly believed it at a point where it felt necessary. It was something we had to do. We felt it. We felt the need to do it. And at DeepMind, you could sort of do it, but you couldn't really do it exactly the way you envisioned it and the way you truly wanted to do it. So, we decided that the only way to really do what we want to do is to start our own company.

Panagiotis: How long have you been working with Misha?

Ioannis: One year.

Panagiotis: One year. It clicked quickly, I mean...

Ioannis: It was quick, yes.

Panagiotis: You quickly realized that you were both passionate about the same goal.

Ioannis: Exactly. We found that we genuinely want to achieve the same thing and said, let's go do it.

Panagiotis: And you started?

Ioannis: In March.

Panagiotis: In March of 2024. Why New York?

Ioannis: That's a very good question. I was in London for many, many years, until 2024.

Panagiotis: Yes.

Ioannis: And the team I was running was mostly in London and California, and some people, like Misha for example, were in New York. One thing I had noticed is that it's very difficult to work from London with people who are in California.

Panagiotis: Yes, the difference...

Ioannis: It's very, very difficult. The time difference is 8 hours, which means you have very few hours during the...

Panagiotis: Overlap.

Ioannis: Yes, during the day to have overlap. So, we said that either we go to California, which would mean that afterwards we couldn't... I knew some really great people in London who would be amazing, incredible talent to work with us. Either we go to California and we can't work with London. Or we go to London and then we

leave California behind, but California is the center of artificial intelligence, it's where all the funds are. It's the heart. So, we said that if we go to New York, this gives us easy access to both London and California and we can work with teams in California and teams in London. So that's how we decided to go to New York. And from the beginning—right now we have offices in San Francisco, New York, and London, and we've only been around for a year and a half and already have offices in all three. Because from the start, the idea was that we needed to have offices—the reason we're in New York is so we can have the other two offices and be able to work.

Panagiotis: So, it's not something you would change if you went back in time and started from San Francisco. New York was something that worked.

Ioannis: It's something that has worked.

Panagiotis: Runway also has its headquarters in New York. I think that other companies have followed as well.

Ioannis: There are. There aren't that many, most are...

Panagiotis: Also Greek, Anastasis.

Ioannis: Anastasis, yes.

Panagiotis: Runway are also Endeavor Entrepreneurs. They've joined Endeavor and we have very nice things happening with them. Very exciting things are happening and I'm very happy because I'm very optimistic about the country, as the number of Greeks at the helm and on the cutting edge of this new technology and the changes taking place is much greater than at any other time when technology is shifting. We actually have a lot of Greeks there, and many in New York as well. What was the pitch you made to the first employees, if you put yourself in your mindset at the time—what was the pitch if someone didn't know technology? I mean, what was the...

Ioannis: Basically, all the employees we brought in were people who understood, they were in technology, in big labs, or at DeepMind. Many of them were at

DeepMind and we knew them, we'd worked together, and the pitch was that the way to build superintelligence is to use these very powerful models and then to use reinforcement learning. That the goal and ambition of the company is to build superintelligence. That's the goal.

Panagiotis: How can the rest of us imagine this? Is it a system that has...

Ioannis: The way we think about it is a system, a model that has access to its own computer and can perform on that computer any task a human can do. So, if you ask it to create anything, or to do anything on the computer, any task you request, it will do it on its own computer and you will get the final result. But it will do it in a way that's better and faster than a human.

Panagiotis: Very quickly, you raise an incredible round. You raised a round from Sequoia and a round from Light Speed. Correct?

Ioannis: Sequoia and CRV and then Light Speed and CRV.

Panagiotis: Which is 25.

Ioannis: And then 105.

Panagiotis: And 105. What was the pitch to them?

Ioannis: The pitch is that obviously we have extensive experience and an entire career where we've shown that we can truly train these models and create real artificial intelligence at the highest level. And the goal is that we want to build superintelligence and use it to solve real problems. And that was the pitch. That was the pitch. We know how to do it, that's how it will be done, that's the way the world is headed, this will happen, support us.

Panagiotis: Where are you at right now? What is the state of the company? First of all, are you about 50 people?

Ioannis: Right now, we are 50 people.

Panagiotis: 50 people.

Ioannis: We're at a turning point where we're really trying to increase the size of the company. It will grow a lot next year. The goal and all the focus and concentration of the company is to build the best models and make them available to everyone. We want to make them open source.

Panagiotis: But are the initial customer companies, are they large organizations?

Ioannis: Yes. The customers are very large companies that want to have their own models. They want to have access to their own models, and when you use a model from Anthropic or OpenAI, you don't actually own the model; you are simply given access to a server where you can ask something and get a response. But when you are a large company, like for example a big bank, you can't just hand over your customers' information in order to automate some check or whatever you want to automate. You need to have your own models, on your own server, and be able to control the entire system. And there aren't any models at this level that can be used by these large clients, and that's the target. These will truly be our first major clients.

Panagiotis: How do you see the competition?

Ioannis: The real competition is the big companies: it's DeepMind, OpenAI, Anthropic, XAI, but we have a different approach. We are the only ones who are truly following an open-source path, aiming to have the models available and for any customer to be able to purchase them. Obviously, if you want to use it for commercial purposes, you will have to pay, but you'll be able to buy it and have your own control over the models and what those models can do.

Panagiotis: A world that is changing very rapidly.

Ioannis: Yes, yes.

Panagiotis: And all of us are striving to stay connected to these developments. Where do you see Reflection reaching and being in two years? In how many countries, in how many offices, how many people?

Ioannis: I believe that in the next two years the company will be at a size similar to other large labs, a few hundred people. The offices will remain where they are. We have offices in San Francisco, California, New York, and London. These are the areas we really want to invest in. We have a culture where people go to the office. When you do research, it's very important to have a physical presence, because when you do research and you have an idea, you want to grab another engineer and say let's go into the office, let's go into this room to sit and discuss it, to sit down and write our ideas and have this...

Panagiotis: The interaction.

Ioannis: Interaction.

Panagiotis: Instant interaction.

Ioannis: Exactly. So that's why it's important to be physically present.

Panagiotis: Compare life and the company a bit between the three offices. Elsewhere, talent is more competitive, I imagine, elsewhere it's more expensive, there it's noisier. How do the three cities compare?

Ioannis: That's a very good...

Panagiotis: And what is it like living between the three cities?

Ioannis: Yes, that's a very good question. Well, I would say that if you look at where most of the talent is, it's by far in San Francisco, by a huge margin. The second place is London. Really, because Demis made sure that London became the second capital of artificial intelligence. And the third is New York, which is quite a bit smaller than the other two. As for talent competitiveness, San Francisco is much more competitive than any other market, because there are so many companies competing for the same talent. I would say that London is not as competitive, because there aren't as many opportunities for workers as there are in San Francisco. AI talent is very expensive everywhere. And you shouldn't see it as expensive or not expensive; it's more that these people join you to build something

together. So, you just want to make sure that, when you succeed, they also get the right share of the profit and the proper rewards for the company's success. So, you share the burden, but you also share the success.

Panagiotis: Artificial intelligence—how can we keep up with this fast, with this rapid pace of development? And help us be a little more prepared for the future. What's coming?

Ioannis: Yes. Artificial intelligence is currently at a stage where it is developing very rapidly. There are huge investments being made. There is still a long way to go for it to improve significantly. The frontier of artificial intelligence is what we call agentic, the agents. And agents are systems to which you assign a task, and they can accomplish it and are supposed to deliver the final result to you.

Panagiotis: An example to help even those who might not be familiar with agentic AI understand.

Ioannis: It can be anything.

Panagiotis: Imagine it answering your emails by itself.

Ioannis: Yes, answering your emails for you, or you could tell it, "I have these meetings, go and check my calendar, see how I can fit them in, and talk to the right people to move meetings around." Or you could say, "I want someone to build me a page," and tell it to go create the page and bring it to you when it's ready. These are the agents. The way it's good to think about it is artificial intelligence, the tasks it can perform, and how long it would take a human to do them. So, we can say that now artificial intelligence has reached a point where it can autonomously perform tasks that would take a human 15-20 minutes. From there you move on to tasks that would take a human a few hours, a few days, a few months, even a few years. To the point where you can have agents who simply take over entire functions in a company and these just happen in the background. For example, there's an agent who always makes sure that everyone's calendars in the company are optimized.

Panagiotis: Exactly. Optimized.

Ioannis: Optimized, exactly.

Panagiotis: Or all the invoices, all the payments, all of that.

Ioannis: Everything, exactly. So, you would assign an agent and say okay, I don't need to deal with this program anymore, the agent will handle it from now on. So, this will happen within the next 5 years. 3 to 5 years. The way, what we can do to be prepared for this, is what people say—and it sounds a bit cliché, but it's true—that we have to learn to use these models and learn to use artificial intelligence in a way that increases our own efficiency and boosts the work we produce ourselves. What I believe will happen is that all people will work at a level of abstraction. At a level of thinking higher than what we do now.

Panagiotis: So, we won't be dealing with trivial things. We won't be dealing with simple procedures. We'll be freed from those, so all our attention can be focused where it truly matters.

Ioannis: Exactly, exactly, that's what will happen.

Panagiotis: Which professions do you think are the most vulnerable as this technology develops over the coming years?

Ioannis: I think all professions will change. I don't think any profession is generally vulnerable as a whole. I think what's vulnerable is specific functions or specific tasks within a profession. For example, if your job is to be, as we were saying... We were talking about the calendar, about calendars, if your job is to be someone's personal assistant, just setting up their calendar, if that's the only thing you do, obviously a robot will come and do it better than you, so you won't be needed. But I don't see it that way. You'll still need a personal assistant, a PA, but they'll have to think on a different level. They'll need to think as a thought partner with the person they work with. And it won't be just mechanical, like going and doing things with the calendar, but more about what should be prioritized, when it should be prioritized, what the

context is, what should go on the agenda, what shouldn't go on the agenda, which is a big part of what happens here. So, this person will have much more time to think on a strategic level, rather than having to sit and send those emails and play Tetris with someone's calendar. That's an example.

Panagiotis: I was just recently in a taxi, going somewhere, and I was on the phone talking, and because we do a lot around artificial intelligence, I was talking about something the taxi driver overheard, artificial intelligence, he heard a couple of names, big companies, all that stuff, and as I hung up the phone he turned and said to me, if you have access to Elon Musk, tell him to delay the robotaxis for 4-5 years so we can work a little, and then bring them so we can rest.

Ioannis: Yes.

Panagiotis: And I wonder what you'd say to him? Or what you'd say to a person who is...

Ioannis: There are some specific professions, like taxi drivers, truck drivers, that will be automated along with the vehicles. If you go to San Francisco, you see the Waymos, they're everywhere, and they...

Panagiotis: If people don't break them or just leave them alone.

Ioannis: Generally, usually... The hardest part for me is again when I'm driving myself and you see a Waymo opposite you, and when it's a human driver, you can gesture, say I'll go, you won't, but when it's the robot you think, what is it thinking, who knows.

Panagiotis: Exactly.

Ioannis: Look, yes, there are certain professions like that, and especially with robots, there will be other jobs that will be fully replaced by machines. But usually when this happens, other professions are created, and those people need to see which other field they can work in. Obviously, governments and the system need to be designed to help these people. Society can't just leave them like that. Clearly,

there has to be... When you start with artificial intelligence, AI will increase productivity to unimaginable degrees. These are new resources. It's very important that the state, and every country, makes sure these new resources are distributed properly. So that we don't just have a handful of people who reap all the rewards, while the rest gain nothing. It's important that all this extra produce that will be generated is used to improve humanity as a whole. And this is very important to us, and one reason we truly believe that models should be open, is because that means everyone will have access to artificial intelligence. It won't be, 'Only Google or OpenAI or whoever has it.' Everyone will have access to it.

Panagiotis: It reminds me a bit of Universal Basic Income, like, you know, all of us...

Ioannis: That's one way.

Panagiotis: Are there any such concepts or ideas you've found interesting?

Ioannis: I think everyone in Silicon Valley says the future is UBI, Universal Basic Income, which is actually—what is it? It's the idea that the state will give every citizen, regardless of financial status or anything else, enough money so that they have a basic standard of living. And various experiments have been conducted, many of them funded by Silicon Valley, which have shown that this generally works, because it also frees people to become more creative. That's good, and I really like the idea of helping people as much as possible so that we don't end up with a two-tier society because of artificial intelligence. Big changes are coming, and we really need to see how this new society will be shaped so that everyone, since so much wealth will be created, there will be so many opportunities, so that we all ensure a better standard of living. And it's not just about money—it's money, but it's also about people feeling like productive members of society, which could be anything from volunteering to whatever, but you can't just tell someone, I don't know, 'here's some money and that's it.' It also has to have some meaning.

Panagiotis: So, I think it's time to play a nice little game, in which we'd like you to give us the definition of a word that you'll pick at random.

Ioannis: Okay.

Panagiotis: And it should be your own definition.

Ioannis: What does it say here? Strategy.

Panagiotis: What does strategy mean to you and how...

Ioannis: Basically, I think there are two levels when it comes to strategy. There is strategy that is the plan, the scheme with which you'll approach solving a problem. And then there's the level above strategy, which is maybe a bit of meta-strategy, meaning that plans are necessary but useless, in the sense that they ultimately change. It's the same, that you also need to have a strategy for how you'll change your strategy when the available data changes. So, strategy is both the plan you want to implement and the way you think about how to approach the problems you need to solve.

Panagiotis: In front of you is the owner of one of the 20 largest companies in Greece.

Ioannis: Yes.

Panagiotis: Listed on the stock exchange, huge, and faces the same challenge, has the same difficulty.

Ioannis: Yes.

Panagiotis: What do I do, how do I use artificial intelligence, how do I keep my company on top of it? How? What's the advice you'd give him?

Ioannis: What I would say is that, in any case, he should look at how he can use artificial intelligence within his company. One thing I see in America, and this really helps both the American ecosystem and American companies remain so competitive, is that they constantly run pilots. Every year they have a budget, an allocation that goes toward collaborating with companies, startups, to see how their product can become co-designed, as we say. That is, in the sense that a startup

comes along wanting to solve a problem, doesn't know exactly what it is or how to solve it, and a large company has a problem, and these two work together so the problem gets solved. And this then leads to the creation of a major startup, and you become a pioneer in the solutions you've brought to your company. So, I would recommend that everyone take these risks, because often in Europe we say, "Oh, well, once it works in America, we'll bring it over here." Take those risks, work with people, especially in Greece, who genuinely want to build something and see how artificial intelligence can be used for their own issues, for their own systems, so that they stay competitive and optimize their systems.

Panagiotis: Let's do a quick rapid-fire round of questions, to make sure we've covered all aspects and understood everything about you. Are you into books or podcasts?

Ioannis: I'm always into books. I always prefer reading books.

Panagiotis: Are you a morning or evening person?

Ioannis: I always thought I was an evening person, but lately I've become very much a morning person. In recent years, I've become very much a morning person.

Panagiotis: Coffee or tea?

Ioannis: Coffee, only coffee. Even though I lived in London for 14 years, in Britain, I'm definitely a coffee person.

Panagiotis: If you could have dinner with a historical figure, alive or not, with a person of great stature, who would it be?

Ioannis: There are so many people I would like to have dinner with, and for different reasons. In the scientific field, I would like to have dinner with Turing, who, in reality, was a great mathematician and the founder of Computer Science, and is known for Turing... Basically, he is known for many things, the Turing Machine, but there is also the Turing Test, which is the test of artificial intelligence, to see if you have achieved artificial intelligence or not.

Panagiotis: Okay.

Ioannis: Which, in very simple terms, what it says is that if you are in a room and communicating by messages with an entity, with someone, behind the room, if you can't tell whether this "someone" is a human or not, then you have passed the Turing Test of artificial intelligence.

Panagiotis: Okay.

Ioannis: And in fact, we have passed it. That is, there have been experiments that have shown that we recently passed it, which is huge.

Panagiotis: Huge.

Ioannis: Achievement.

Panagiotis: What technology can you not live without?

Ioannis: I think my mobile phone. I think my mobile phone is essential now, because everything is done through the phone.

Panagiotis: Your favorite city, and not just from the three, but I'd like to hear from all three which is your favorite city. Which is your favorite city to travel to for work?

Ioannis: From the three cities I live in?

Panagiotis: Yes.

Ioannis: New York. New York is my favorite. Even though I lived many years in London, and it's the city that feels like home, because I was there for so long. New York has a different energy. It has a very different energy, which is... it's that, it's what we call aspiring, meaning it gives you an energy, it gives you a...

Panagiotis: I agree. Is there a book that has really stayed with you, changed your life, you know, left its mark on you?

Ioannis: That's a very good question. I've read a lot of books and in general I'm really into books. I mean, I will definitely read a book. There's always a book I'm reading. A book that impressed me is one I read when I was young, and especially in America it's very well known, everyone reads it in college, it's called "Guns, Germs, and Steel." What it actually says is it explains why Europe was the one that made discoveries and colonized America and Australia, and not America colonizing Europe, or Australia colonizing Europe. It explains that even though all these regions had people and anyone could have done it—it wasn't clear who would win—geography and what was available on each continent really determined how human societies would evolve. And what it makes you think is that when you see something, your first instinct is always to say this is the obvious solution, that, you know, this happened or that happened. But there is always a deeper logic behind why something happened. Everything has a trajectory, meaning there is a reason why anything exists in the world, why we have banks for example, why we have organized society in the way we have; there is a historical reason and there is continuity. In other words, people really use the resources available to them and try to make the best possible choices at every stage, and this leads to continuity. But there is always a deeper reason why things have happened the way they have.

Panagiotis: Everything is connected; it's all a continuous line.

Ioannis: Exactly.

Panagiotis: Very interesting. What is the best advice you've ever received?

Ioannis: I think what I had mentioned before, that perhaps the best advice—which isn't exactly advice but more a way of thinking—is the one my father gave me: when you want to achieve something and when you dream of achieving something, don't think about whether it can be done, but think about how it can be done. And remember that everything is possible, that there are no limits to what you can achieve. The only thing that changes is the steps you have to take, and while the steps may be very difficult, there are steps, and you can achieve whatever you want.

Panagiotis: If you weren't an entrepreneur, what would you be doing?

Ioannis: I would be doing what I was doing before. I would be a researcher.

Panagiotis: One last question. What do you think makes someone an outlier entrepreneur?

Ioannis: What I would say is very important is to truly believe in your goal. Because when you want to achieve something, there will be a thousand people—including many people you really trust and whose opinions you really value—who will tell you that you shouldn't do this, you shouldn't try this, or even if you want to do it, it can't be done, or even if it can, it's better not to. In other words, they might discourage you. But you need to find something you really want to do, and every time you encounter an obstacle, think about how you can overcome it. How you can overcome every obstacle.

Panagiotis: Ioannis, thank you very much.

Ioannis: Thank you very much.