TOMORROW, TODAY 3: EXPLORING THE NATIONAL AI STRATEGY
VIDEO TRANSCRIPT

Oli Barrett

Today I'm joined by Mark Girolami, Chief Scientist at The Alan Turing Institute and Accenture's Fernando Lucini, to talk Artificial Intelligence. Welcome to this episode of Tomorrow, Today.

Welcome Fernando, Mark. I'm fascinated to hear more about The Alan Turing Institute Mark, I must say. Tell us a bit about the work that you're doing.

Mark Girolami

So, The Alan Turing Institute, first of all, is the UK's National Institute for Data Science and Artificial Intelligence. And so, it's a national resource for research and for innovation. Originally, it was established by five of the leading universities in the UK.

And now, however, we have a multitude of business partners, of partners from various government departments. It really is a National Institute and a national resource.

Oli Barrett

So Fernando, help us bring it to life. We are talking about tomorrow, today. I sense that AI may be hidden in plain sight, but what could we be looking out for right now?

Fernando Lucini

I always like the simple example, simple test, which is to wake up in the morning and start counting and writing down the amount of times you think AI has been part of your life in anything. From the watch that wakes you up at the right time, to the phone that tells you you better get in your car now because of this bit of traffic, to the phone itself - which is a marvel of AI.

And you start writing down any of those interactions with AI, or your perceived interactions through an entire day. You will write pages and pages, both in personal and in your business life. You'll see both come together and that immediately will give you a feel of how it's affecting you and you'll be surprised how much of it is.

Oli Barrett

The sense I get is that the UK is taking this incredibly seriously, Artificial Intelligence. To the extent we have a national AI strategy, why is that important?

Mark Girolami

AI technologies are probably the most important technologies that have arisen in the last 50 years. And so, the impact it's going to have on economy, on society and even on some of the existential crises that the globe faces, are going to be really quite significant.

The AI strategy has the bold ambition that the UK is going to be a global AI superpower in ten years' time. We would argue that the UK already is a global AI superpower. But within that strategy, there's a roadmap that describes what is the education, what is the infrastructure? What are the economic systems? What are the business support systems? What are the legal frameworks, the ethical frameworks, the finance models? All of that ecosystem is going to be required to enable us to realise the ambition within that strategy.

Oli Barrett
Yes, it's a massive ambition and Fernando, you're at the sharp end working with some of the world's leading businesses. How do we have better, clearer conversations about AI? What gets in the way?

Fernando Lucini
Uncertainty is never good for businesses and our job is to make businesses very successful in their ambitions. So, uncertainty doesn't help. Neither does the fact that they have to create their own roadmap. So, being guided in that roadmap and knowing that they have support from the government in those areas really helps.

Oli Barrett
Yeah. And that sense of backing, sort of camaraderie, fellow travel. Give us a sense of the grander challenges that you are setting yourself, you are both setting yourselves.

Mark Girolami
Let me give you one example. When we entered the pandemic, one of the big things within a big metropolitan area, such as London, was to understand what was the level of compliance to the lockdown and doing that on a large urban scale is something that's not terribly straightforward. And what the Turing did, was deploy a fairly large team that worked on developing AI technologies, taking data feeds from across all of the boroughs, including all of the traffic, video cameras and using certain AI technologies to be able to count the number of vehicles, count the number of people, identify the number of individuals and instances where they were not complying with the social distancing and so on. And that intelligence, that

information, was then being used by public health to enact interventions.

Oli Barrett
Yeah. Interesting, Fernando, it's very obvious from what Mark has said, how important the data is. But what if the data simply isn't there? Presumably, AI just has to wait for it to catch up?

Fernando Lucini
Well, maybe not. So we sometimes talk about AI synthetic data, AIgenerated synthetic data which is, I think, particularly important. And a simple explanation, to just make it black and white, is data that is generated from data. But it's generated in such a way that it can never be represented back to its originality. So, it's like entirely generated by an AI on the basis of the signals of other data. And this is the kind of data that we're going to need to help us in those cases where we don't have enough data, or we want to share data that we cannot share through privacy and for other good reasons.

Oli Barrett
This is a pretty massive concept, Mark, when you think about it, because how does that then end up playing out? You've got synthetic data, just help us understand where that continuum then plays.

Mark Girolami
Well, if you think of data as what is the history of purchasing in a store over a whole period of time, and then you can look at, how does that all develop? You can then take that to the extreme and think of a whole environment. Think of a whole city, right. We've seen these sort of computer games that date back to 30 odd years, but the notion of synthetic data, generating synthetic environments, generating synthetic futures and potential futures, you can see that continuum. You can see how AI technologies could allow us to start to play those scenarios out.

Oli Barrett
Talk to me about who else is around the table in terms of what is right, what is ethical? How is that being baked into the design Mark? Give us a sense of your perspective on that.

Mark Girolami
The broader issues are what are the ethics, what are the biases? And everything that we do, every algorithm we develop, every way in which we gather data to train these algorithms, privacy, security, ethics, justice. All has to be core to what we do. It can't be reverse engineered then.

Oli Barrett
Right so on that then, Mark. Fernando, with all due respect to your colleagues, this sounds far too important to be confined to the scientists, the machine learning teams. What is your advice to the world's leading corporations, about how to make this a bigger conversation? What does that mean in practical terms?

Fernando Lucini
In the very same vein, it is central. So for us, the starting point is that you really have to think very carefully about what your position on your responsibility towards the society you live in, the people that work for you, the customers you serve, all of these things and partners that you work with, to be very clear about what your position is.

Then you have to be well organised, so this is what Mark was well putting, as these things connect together and when we build products and we do things, they're very complex, they have lots of steps, that we very clearly understand as far as we possibly can, the consequences of our designs, the consequences of our actions. It's now the domain of data scientists, engineers, sociologists, very clever UX / UI designers. It is now a plethora of people that together bring in all the knowledge.
An algorithm is still just a bunch of mathematics that does something interesting with a bunch of data. And to make it work in a car, in a kitchen, in a boardroom, in a turbine, requires all of these other people.

Oli Barrett
And this is absolutely back to your role, isn't it, Mark? As the connector, as the synthesiser of so many of these conversations. Give me a sense of the size of the prize if the UK gets this right and I don't just mean for the UK, I mean the prize for the world, if that doesn't sound too lofty.

Mark Girolami
Clearly there are huge business opportunities. We are seeing the timeline from smart idea to actual business compressing. But there are bigger societal and almost existential challenges that we face globally. And AI technologies and these multidisciplinary teams that are giving rise to these products, to these services, are going to be absolutely essential in globally mankind addressing some of these, as I said, existential crises that we are facing.

Oli Barrett
So this is really interesting because this is a journey that you are on across different sectors together, we get a sense of what matters and what is possible today. What are the challenges you're setting yourself, Fernando? What needs to be possible, tomorrow?

Fernando Lucini
The challenge will be in the next three years, what I call the ecosystem of AI. So how do these things that now talk to each other depend on each other, work with each other. How do we live in a world of interconnected models?

Mark Girolami
As it happens, at the Turing, we have a number of research programmes that are looking at these ecosystems. Because once you start to connect these things together, they become what physicists would describe as complex systems that have their own emergent properties, which we don't know what they are and we need to understand what they are. So already tomorrow, today, these are the sorts of things in the UK that the AI research community is looking at.

Oli Barrett
Fernando, for leaders looking at this conversation. Easy to get bamboozled by some of the technology, you've done the opposite to that. You've given clarity to us. What would your advice be to them?

Fernando Lucini
I'll give you a sentence I give to them which is that they need a business strategy for the AI, not just have AI in their business strategy. It's a tool, right? It's a technology, as the strategy states very clearly. It's a technology, but it's a technology that has the potential to have massive multipliers of value. But you need to focus and think about what it means for you.

Fernando Lucini
So if you're a leader and you find rather than be bamboozled by the massive transformers and all these other things, all these other toys, we see out there, you really think back and think, what do I need this business to be like? With all the other things surrounded, and what's the role of AI making in that happen? Start there.

Oli Barrett
Thank you so much, both, for giving us such a clear sense of the challenge and the massive opportunity as well. Mark, Fernando, great to meet you. Thank you.

Fernando Lucini
Thank you.

Thank you.