

Fireside Chat - AI x Healthcare

Artificial Intelligence (AI) first captured the world's attention when it was used to play chess with grandmasters many years ago, eventually being able to beat its human opponents. AI technology has since raced ahead and the concept is viable for a wide range of industries. Healthcare is one of them, and the collection, storage and distribution of data in a methodical way is becoming increasingly significant in the sector.

Moderator Mr William Gee introduced the speakers and described his own role in PwC China and its Digitalisation Office. He said the department is fairly new as the company explores various digital technologies, such as AI and its impact on a number of industries, including healthcare.

Prof Michael Kuo, Professor and Director of the Medical Artificial Intelligence Laboratory Program, Department of Diagnostic Radiology at The University of Hong Kong, draws on his experience from Stanford University and UCLA in fields that include genetics, tissue and radiology to see how best to make the most of AI now that the concept has gained in maturity within the healthcare field.

"Our mission at the University of Hong Kong is quite straightforward," said Prof Kuo. "It is to enhance patient healthcare through the development and deployment of Artificial Intelligence. We are particularly focused on development and partnering with industries and institutions to develop new tools that would be of benefit to the healthcare industry."

Mr Danny Yeung, CEO and Co-Founder of the Prenetics Group, said his company sees major potential in using AI technology to enhance diagnosis and speed up treatment.

Mr Yeung asked the approximately 120 people attending the Fireside Chat how many of them had undergone a genetic test. Four people raised their hands. "What that tells me is that there is significant opportunity and potential to revamp the entire healthcare spectrum via genetic information," said Mr Yeung.

"We can transform healthcare, and not just through treatment. What a lot of people don't know is that a significant majority of chronic diseases and cancers can be prevented. How can you prevent that? Understanding our genetic makeup is one factor, coupled with environmental factors.

"Our commercial name is Circle DNA, which allows individuals to purchase genetic test kits online and through some clinic partners. So one saliva sample

can have a genetic sequence – all 20,000 genes – and identify what risks you have.”

He said it helps patients know what their risks are and seek swift and correct treatment, avoiding the possibility of receiving the wrong medication. Mr Yeung added that around 25,000 people have bought the genetic test over the past six months.

Prof Kuo said AI’s first wave was largely computer vision based, and practitioners see huge market potential in healthcare and radiology and think they can produce an image, apply the technology and that will solve the problem.

Responding to Mr Gee’s question as to whether AI will completely replace human beings in key roles, Prof Kuo said “AI trying to at least equal humans is, to a degree, a daunting task. Our skill sets evolve with technology and it has grown quite a lot and AI is chasing that. The field is advancing; we are learning quite a bit.”

Both Prof Kuo and Mr Yeung agreed that the collection of data is crucial to the success of AI within the healthcare industry.

“Data is a critical component,” said Prof Kuo. “There are a couple of components, and big data is one of them. It’s just like learning any skill. For us, it’s a difficult balance, having a sufficient amount of data and high quality data. Even data sets that are supposed to be extremely hi-fidelity — information data can decay as it moves downstream. This has a tremendous effect on the patient and the costs.”