

Tech spin-off slashes clinical audit time by 90%, signs deals with Roche and ST Engineering

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An artificial intelligence (AI) platform piloted in Singapore has helped to cut the time taken to do labour-intensive clinical audits by as much as 90 per cent.

Following the successful pilot, the locally based company behind the AI platform signed agreements on May 27 to expand its reach and capabilities with biotech giant Roche and engineering firm ST Engineering.

The memorandums of understanding (MOUs) were signed at the ATxSummit technology conference held at Capella Singapore.

Enigma Health, established in 2024, is a health tech spin-off from SingHealth Duke-NUS Academic Medical Centre.

Its flagship product, Enigma, is an AI platform developed by a team of clinicians and AI scientists. It is a small language model, which,

when compared with the more commonly known large language model, uses less computing power, works faster, and is usually not connected to the internet, making it safer in protecting sensitive data.

Enigma was piloted at SingHealth institutions, including at the Singapore National Eye Centre (SNEC), KK Women's and Children's Hospital and the SingHealth Duke-NUS Institute of Precision Medicine.

At SNEC, the pilot took place from January to June 2024. Enigma was used to conduct clinical audits for cataract surgery. Clinical audits are mandatory processes to check if healthcare was delivered well by comparing cases and results with expected standards.

During the pilot, Enigma analysed more than 7,000 cataract surgical operations and 1.2 million data points such as consultation notes, clinical summaries, diagnosis entries, physical examination notes and visual acuity test results.

It slashed the time needed to



Enigma Health CEO Dario Heymann and Roche Singapore's general manager of pharmaceuticals Yeoh Ying Ying signed a memorandum of understanding on May 27, witnessed by (standing, from left) SingHealth AI Office director Daniel Ting, Minister of State for Digital Development and Information Rahayu Mahzam and Swiss Ambassador to Singapore Frank Grutter. ST PHOTO: GAVIN FOO

complete the audit from 528 hours – if it were done traditionally by administrators – to just seven hours. The risk of human error was also significantly reduced.

Associate Professor Daniel Ting, who is the director of SingHealth's AI Office, said that the AI model also freed up valuable time for healthcare professionals to focus on patient care, especially when there is a manpower crunch in the sector.

"Instead of hiring more people to come in, this is a very good technology for us to use to leverage existing manpower, and transform their job scope," said Prof Ting.

With the MOUs signed, the small language model can help in other healthcare use cases in clinical trials and building AI-powered healthcare apps.

Under the MOU with Roche, the AI model will be able to help accelerate clinical trial recruitment.

Enigma Health chief executive Dario Heymann said the AI model will be able to go through a large database of patients to highlight the ones who are eligible for clinical trials based on certain exclusion or inclusion criteria.

"When you look at a clinical trial, 40 per cent of the cost is actually on the recruitment side. If you take away some of the time it takes to

recruit a certain patient cohort, you can save a lot of money. You can also bring the drug earlier to market, and give care to a patient significantly earlier," said Dr Heymann.

In its collaboration with ST Engineering, Enigma Health's small language model will be integrated with the AGIL® Genie Studio, which is a platform to build apps. This will better allow those with no coding experience to build better and more precise AI-powered healthcare apps – they can simply type in their instructions.

Announcing the collaborations, Minister of State for Digital Development and Information Rahayu Mahzam said healthcare transformation requires collective effort and shared expertise.

"No single institution can tackle the complexity of healthcare AI alone. We need to collaborate across sectors and stakeholders, between the public and private sectors," said Ms Rahayu.

"Collectively, these efforts to solve real problems, scale responsibly, and collaborate widely enable Singapore to leverage AI to augment human expertise in healthcare, thereby delivering better outcomes for Singapore and Singaporeans."

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