NTU and NHG: Bridging AI Innovation and Practical Medicine

Alita Sharon | October 1, 2024

In a significant step towards integrating artificial intelligence into healthcare, Nanyang Technological University (NTU) and the National Healthcare Group (NHG) have established the Centre of AI in Medicine (C-AIM). Officially launched on September 30 by Senior Minister of State, Ministry of Digital Development and Information, Mr Tan Kiat How, the centre aims to close the gap between innovative AI technologies and practical medical applications.

Image credits: Nanyang Technological University

Hosted by NTU's Lee Kong Chian School of Medicine (LKCMedicine), C-AIM is set to play a pivotal role in transforming patient care and shaping public health policies through its cutting-edge research. The centre's efforts will focus on four key clinical domains: mental health, elderly frailty, medical imaging, and cancer screening.

By prioritising these areas, C-AIM hopes to lead advancements that align with Singapore's second National AI Strategy (NAIS 2.0), which promotes the deployment of AI-driven healthcare solutions.

The launch event saw several notable figures in attendance, including Professor Luke Ong, Vice President (AI & Digital Economy) and Dean of NTU's College of Computing & Data Science (CCDS), and Professor Joe Sim, Group CEO of NHG. Also present were Professor Joseph Sung, Co-Director of C-AIM and Senior Vice-President (Health and Life Sciences) at NTU, and Mr Lim Chuan Poh, Chairman of NTU Singapore's Lee Kong Chian School of Medicine.

Artificial intelligence is now woven into the fabric of daily life, driving technologies from voice assistants to personalised streaming services. Singapore's strong R&D efforts, backed by the RIE2025 plan, have made it a leader in biomedical sciences and digital technology, attracting biotech startups and promoting international collaborations.

As OpenGov Asia reported, At NTU, researchers are at the forefront of this drive, [expanding AI's horizons](), investigating both its vast potential and the challenges it presents. NTU's research into AI spans diverse applications, from improving sentiment analysis and video searchability to detecting DeepFakes and optimising energy usage in data centres.

Notable innovations include SenticNet, developed by Assoc Professor Erik Cambria, which combines machine learning with human-like understanding for sentiment analysis, and video search methods by Assoc Professor Sun Aixin, which treat videos as text to enhance accessibility.

NTU continues to drive medical innovation, including the development of a spider silk-inspired flexible electrode for biomedical devices and a new X-ray therapy for brain cancer, showcasing its leadership in AI, robotics, and biomedical research.

AI is transforming healthcare by improving diagnosis, treatment decisions, and patient outcomes. However, successful implementation relies on [trust from healthcare providers](). An NTU-led study found that 80% of gastroenterologists trust AI for diagnosing colorectal polyps, and 70% trust AI-assisted tools in colonoscopy. Less experienced doctors, however, perceived higher risks.

AI is also transforming sectors like finance, with Professor An Bo's machine learning models for better trading decisions, and education, where Assoc Professor Chen Wenli highlights AI's role in tailored learning, though concerns about academic integrity arise. In sustainability, tools like DCWiz and Singapore's CREATE Thematic Programme in Decarbonisation use AI to optimise energy use and advance green technologies.

AI's integration into society demands a human-centred approach, as shown by the DesCartes programme and Professor Shirley Ho's focus on public perceptions. Regulatory frameworks for data protection and intellectual property are also essential.

Despite its potential, AI faces limitations, such as biases and crisis management issues, underscoring the need for trust and effective regulations. NTU's balanced approach ensures AI benefits society while addressing these challenges.

C-AIM's establishment highlights the collaborative efforts between academia and healthcare institutions to push the boundaries of AI in healthcare. With its focus on key clinical challenges,

the centre aims to revolutionise not only individual patient care but also contribute to broader public health initiatives.