



Nanyang Technological University president Ho Teck Hua (right) with the latest issue of campus magazine HEY! co-created with generative artificial intelligence technologies. The cover features a human persona, Hailey (above), who transforms into an augmented reality (AR) video when scanned using an AR app. PHOTOS: HENG YI-HSIN, NTU



NTU offering new interdisciplinary degree in AI, ethics

Students can gain maths, computational skills needed to develop AI solutions

Ariel Yu

Nanyang Technological University (NTU) is offering a new interdisciplinary degree programme in artificial intelligence (AI) and ethics to train a cohort of graduates to plug manpower needs in the information digital technology industry.

The four-year Bachelor of Science in AI and Society programme will welcome its first batch of 60 students in August.

The curriculum will equip students with essential mathematical and computational skills so that they can develop high-quality AI solutions. They will also explore the ethical complexities of AI, including how it can perpetuate inequality, bias and misinformation.

The course will allow students to choose some electives offered by non-science, technology, engineering and mathematics (non-Stem) schools in NTU, including the College of Humanities, Arts and Social Sciences, and Nanyang Business School.

Students enrolled in the programme have to study three essen-

tial modules in AI ethics and society, given the emphasis on responsible AI. They will learn various real-world AI applications with positive social impact that meet the United Nations' sustainable development goals, such as ensuring inclusive education and ending poverty.

Additionally, they will gain an understanding of ethical issues and measures to address potential problems in the conceptualisation, development and integration of AI systems. They will also learn about pressing concerns that arise when AI and society intersect, such as the amplification of misinformation.

The programme is the second AI-related course at NTU. It has had a Bachelor of Science in Data Science and Artificial Intelligence (DSAI) degree programme since August 2018.

This course includes modules such as software engineering and data analytics that are not offered in the new programme. Some overlapping modules are foundational courses in computer science and AI, including discrete mathemat-

STAYING AHEAD

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PROFESSOR HO TECK HUA, who stressed the need for universities to remain at the forefront of AI development by anticipating world trends to prepare students for the workforce.

ics and algorithm design and analysis.

Graduates of the new course can work in Stem positions, including as AI ethics and governance specialists, and as AI scientists in various industries such as banking and healthcare.

NTU is also offering a Turing AI Scholars Programme, which it said will provide a launchpad for AI talent to develop world-changing solutions.

Candidates applying for any of these three degree programmes – DSAI, Bachelor of Science in AI

and Society, and Bachelor of Engineering in Computer Science – can also apply for the scholars programme, but only 30 students will be selected for its inaugural intake in August.

Second-year Turing scholars will conduct cutting-edge research projects under the guidance of a distinguished professor in AI. Third-year scholars will immerse themselves in an international learning experience: one semester at a top university, followed by an industry internship with an AI leader. NTU is still working out the specifics.

To ensure that the broader undergraduate population will also succeed in an AI-driven future, a minor in AI programme will be open to them. Students can choose from a range of electives on top of mandatory modules that cover data science and AI fundamentals.

The university will invest an initial \$4 million in AI education and research in 2024, said NTU president Ho Teck Hua. It will also increase the number of faculty members in the School of Computer Science and Engineering to 150 from the current 90 over a five-year period.

With the development of AI moving at an accelerated pace, there is a need for universities to stay at the forefront by anticipating world trends to prepare students for the workforce, said Professor Ho.

“Because we are a technological university, we want to always be ahead of the technological curve,” he added.

Other universities in Singapore that offer AI courses include the Singapore University of Technology and Design, National University of Singapore, Singapore Institute of Technology, and SIM Global Education through the University of London.

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