Speech by Prof Tan Eng Chye
University Awards 2024
Friday 30 August 2024, 6.30 pm, Conrad Singapore

NUS Chairman Mr Hsieh Fu Hua,

Members of the Board of Trustees,

Award recipients,

Distinguished guests, colleagues and friends,

University Awards is a special event on the NUS calendar, where we celebrate with colleagues and members of the NUS community for the excellence they have achieved in research, education and service. Our award winners are trailblazers, and they inspire us to reach for the stars. I am proud of how they exemplify the spirit of excellence.

Positioning NUS for the AI Revolution

Excellence is an enduring core value at NUS. The eye to excellence should set us thinking of how we as individuals can be quicker, better and more productive in our pursuits. In this regard, I would like to speak about AI, which has emerged as a mega trend and game changer, and how NUS should respond.

In the words of Prime Minister Lawrence Wong, those who position themselves to ride mega trends like AI that will shape the world, will be in a good position for the future. He also challenged students to think of how they can use AI to 'superpower their abilities'.

For NUS to excel now and into the future, we too must position ourselves well for AI.

Approach to AI in Teaching and Learning

While we do not know exactly where AI will lead to in education - things are still evolving - what we do know, even now, is that **AI is transforming every industry, and with great velocity.** Our graduates will be moving on to jobs and industry sectors that are being changed and challenged with AI.

The advent of AI must prompt us to do two things in relation to our education mission:

First, to take a hard look at how AI will impact jobs and the industry sectors that our graduates will move on to, and the skills and knowledge they need to thrive. Are our courses building skills that are relevant? Do our students need exposure and engagement with AI, to work competently in a future which is AI-driven?

Second, AI is disrupting various sectors of the knowledge economy. AI can process information and produce content almost instantly. **How can we leverage on AI to 'superpower' teaching and learning?**

NUS' Swift Response to ChatGPT

From as early as when ChatGPT was released in November 2022, a group of colleagues at NUS knew that AI would be part of the new normal. They moved swiftly to craft an

Interim Policy, the first of its kind amongst Singapore institutions that was issued in February last year, to **address apprehension and misconceptions on AI, manage student use of the new technology in coursework, and lay down guidelines on teaching staff use of AI.** Beyond compliance, the policy encourages faculty to be transparent about the use of AI in their courses, and to explore how AI can be deployed to improve teaching and learning.

As a large and comprehensive university, NUS is made up of more than 60 academic departments. Each discipline has its unique characteristics and contributions to knowledge and to practice. Because we understand that there are different norms and disciplinary developments, departments are given the flexibility to experiment with AI, and to teach and infuse AI in their programmes and pedagogy.

AI Community of Practice at the University Level

NUS has also formed an AI Community of Practice to share the results of pedagogical innovations across the university and encourage a virtuous cycle. Each AI experiment adds to the collective wisdom and serves as input and inspiration for other departments to learn from and build on. While the needs and practices can be quite different across disciplines, the AI Community of Practice ensures that the whole university engages in deep conversations to exchange ideas and set community standards for the impactful application of AI in teaching and learning.

Since the beginning of the year, the Centre for Teaching, Learning and Technology (or CTLT) has been offering a range of AI workshops on topics such as using Gen-AI for course design, question generation and assessments. **I encourage faculty members to avail themselves to the support and resources at CTLT, as well as the AI Community of Practice, to infuse AI into pedagogy and curriculum.**

AI is 'Superpowering' Research

Apart from education, **AI can also potentially 'superpower' our researchers**.

According to a new World Economic Forum report, AI for scientific discovery is one of the top 10 emerging technologies of 2024.

At a broad level, large language models embedded in editing and other software can help to speed up the writing of papers and dissemination of research findings. AI can also help researchers by reading and analysing vast amounts of data and literature, extracting key trends and summarising findings. This can potentially reduce the time taken to conduct manual literature reviews and having to mine through research findings in a particular area.

Beyond machine learning, the new age of AI tools is more even more impressive. For science disciplines, AI can facilitate sophisticated simulations of natural and physical systems, interrogate forces and causality, and help with plausible hypothesis creation. For example, in developmental biology, AI is generating insights into the genetic processes that shape how cells develop and differentiate into specialist roles. In climate science, AI supports modelling efforts to reconstruct historical climate patterns and to predict future climate variability.

For researchers in Humanities and Social Sciences, AI has the potential to plausibly simulate human behaviours and conversations in social settings, offering opportunities to test theories and hypotheses about human behaviour quickly and at scale.

As the initial evidence shows, **AI is emerging as a powerful new general-purpose tool for research, with widespread applicability across disciplines**. It is this integration of AI with research domains that can potentially 'superpower' research.

NUS AI Institute Spearheading AI + X Research

We want to encourage our researchers to experiment with AI and to unpack its prowess. To this end, **the NUS AI Institute has been strategically set up as a university-wide platform where core AI researchers can interact with disciplinary researchers to create interdisciplinary impact**. AI + X, with X being different domains, opens many new possibilities and potentials to solving complex problems. AI researchers can conduct sophisticated simulations and modelling to enable domain researchers to interrogate data and complex phenomenon, connecting data-derived insights into existing domain knowledge. This opens new insights that can lead to a wide range of real-world applications.

I hope that this short discussion of AI has given us some ideas on how each of us can engage with AI in our journey of excellence, to be a better scholar, researcher or innovator.

Conclusion

This evening, we celebrate with winners of University Awards 2024, who have reached a high mark and have lifted our institution to a higher plane. We want to recognize them for what they have accomplished and for their sterling contributions in various fields. You will hear a citation of each of them as they are presented with their awards.

Once again, I would like to express my heartiest admiration and congratulations to all our award winners. You have reached for the stars, and this evening, you are the stars. Thank you.