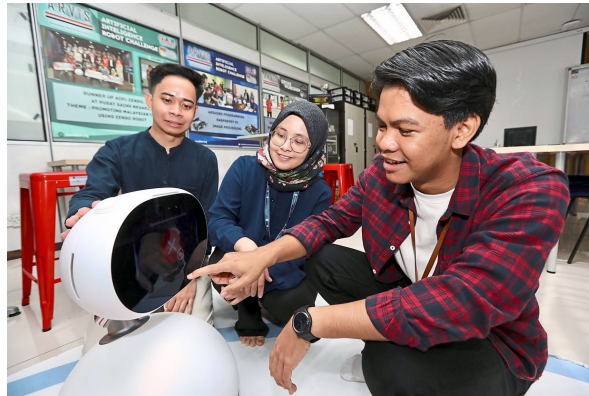


Building our own AI talents

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(From left) Shahrizal Ibrahim, Sahira Sofea and Muhammad Haikal inputting codes into a robot at UKM. — LOW LAY PHON/The Star

Investing in artificial intelligence (AI) education will play a significant role in Malaysia's goal of becoming a high-income nation.

This, said Universiti Kebangsaan Malaysia (UKM) Faculty of Information Science and Technology senior lecturer Dr Lailatul Qadri Zakaria, is because AI can contribute to the country's economic growth, innovation and competitiveness in many different ways.

The adoption and deployment of AI technologies, she added, drive innovation and productivity across various economic sectors; transform manufacturing, healthcare, finance, agriculture and logistics industries; and address many of the social challenges we are currently facing.



“Countries with a skilled AI workforce and supportive ecosystem are more likely to attract foreign investment and talent.

“It also presents opportunities for Malaysian entrepreneurs and startups to develop innovative AI-driven solutions and create new businesses,” she said.

Lailatul Qadri

The Academy of Sciences Malaysia, in a reply to StarEdu, said integrating AI into education and training programmes is vital for developing a skilled workforce capable of thriving in the digital economy.

“This not only addresses unemployment challenges but also positions Malaysia as a competitive player in emerging AI-related fields.

“Moreover, leveraging AI in public services, such as healthcare and transportation, can significantly improve efficiency and enhance the quality of life for citizens through smart city initiatives,” ASM said.

Lailatul Qadri, who does research with AI, said those possessing a degree that specialises in AI will find it very easy to find a job upon graduating as they are part of an important talent pool for Malaysia.

AI, she added, opens many career opportunities across various industries.

Indeed, such a degree can lead you to creating your own social media filter, a chatbot to answer texts automatically or even Malaysia’s own version of ChatGPT.

“There is a high demand for AI experts globally. Data analysts, software developers, and AI ethics consultants are just some of the vacancies to fill,” Lailatul Qadri said, adding that many multinational companies and research institutions actively recruit AI talents from around the globe, offering opportunities for international collaboration and experience.

The country’s efforts to develop research in the field of AI and to become a national and global research hub led to the conceptualisation of the UKM Centre for AI Technology in 2005.

Lailatul Qadri said research groups at the centre focus on different areas such as data mining and optimisation, pattern recognition, knowledge technology, and vision system and mixed reality.

The centre, she said, had also contributed to the drafting of the Malaysian AI Roadmap. Showing how serious the country is in growing our AI talent, Prime Minister Datuk Seri Anwar Ibrahim had also announced the establishment of Malaysia’s first AI Faculty in Universiti Teknologi Malaysia (UTM) when tabling Budget 2024.

The faculty will begin its academic programme this October at the university's Kuala Lumpur campus, said UTM vice-chancellor Prof Datuk Dr Ahmad Fauzi Ismail.

"Some 120 students will be the faculty pioneers (and) start their lessons for the 2024/25 academic year in October.

"The duration of their course will be about three years," he said at the Skudai campus in January.

Talent critical



Asia Pacific University Of Technology & Innovation (APU) vice-chancellor Prof Dr Ho Chin Kuan said big tech companies like Tesla and Telekom need AI talent to design and build the applications.

Ho

Besides big tech companies, he said banks were also using AI for fraud detection and customer loan disbursement.

It is also being used to optimise field logistics, he added.

While some jobs are becoming obsolete, Prof Ho said those with a degree in AI will always be in demand so long as there is automation.

"Now, they are even looking into using AI to generate other AI," he said.

Prof Ho added that studying AI was not a top choice for school leavers a decade ago.

"Back then, courses such as data science and software engineering were more popular," he said, adding that today, the enrolment in AI programmes is shooting up across the board.

"More are realising the need to learn AI which will lead to a continued rise in enrolment demand.

“In fact, it is now a challenge for many universities to get good talent to come and teach AI,” Prof Ho said, adding that one needs passion to learn AI.

He said the university started its AI programme back when there was a boom in cloud computing.

This, he said, was necessary for AI as a normal computer would not be able to handle an AI workload.

While interest in AI has been growing over the past few years, Prof Ho said it is not a recent innovation.

“What’s happened now compared to 20 or 30 years ago is that the computing power has grown so much and it’s easier to achieve more functionalities for AI today,” he added.

Prof Ho said APU offers a bachelor’s degree in computer science with a specialisation in AI.

“Once students have mastered the basics (of computer science), we teach them how to incorporate intelligence when managing different modalities.

“For example, we teach students how to incorporate intelligence for recognising images just like what humans do. We teach students the technique of getting machines to understand text, image and sound data,” he said, adding that upon graduation, these students would be able to incorporate AI into all sorts of modalities.

“The whole idea of the programme is to produce engineers who can design, develop, deploy and maintain AI systems,” said Prof Ho.

Ultimately, he added, the idea is for the graduates to be technology developers.

The university, like many other higher education institutions around the world, also incorporates AI-based subjects into its other degree programmes to create graduates who are technology users.

This, said Prof Ho, is crucial as technology has a presence in a myriad of industries from engineering to finance and accounting.

At UKM, there are two AI tracks offered to undergraduates as part of the Bachelor's Degree in Computer Science (Hons) programme, said Lailatul Qadri.

They can choose between Data Science and Intelligent Machines which will be taught in their second year, she said.

She said the number of students enrolled in the programme have been increasing over the years.

Currently, there are 234 students in the programme.

"The demand is very high and we have added seats but due to resource constraints, we cannot increase the spots by too much.

"We cannot compromise quality for quantity," she added.

Lailatul Qadri said the faculty provides certain courses, such as Introduction to Information Technology that talks about basic AI, for students outside the faculty.

Other faculties, such as the Faculty of Medicine and Faculty of Social Sciences and Humanities, also conduct their own AI-based courses.

"AI can be used across multiple disciplines, from computer science and engineering to healthcare, business, and social sciences.

"Integrating AI into courses across faculties can provide students with interdisciplinary knowledge and skills relevant to various career paths.

"UKM is paying more attention to including AI into other programmes which aligns with global trends and the changing needs of the job market, research community, and society as a whole," she added.

Lailatul Qadri said that AI learning is very open nowadays.



Even the government has launched "AI for Rakyat" (see infobox), a free module for Malaysians to learn the basic use and ethics of AI.

"The resources are all available on the web for free," she said, adding that what is needed is interest, patience and a strong foundation in mathematics.

Rahmita

“Awareness of AI is so important right now so that people do not get scammed,” she said.

Universiti Putra Malaysia (UPM) Faculty of Computer Science and Information Technology Department of Multimedia lecturer Prof Dr Rahmita Wirza O.K. Rahmat said graduates who possess AI skills can expect to see their career prospects become even more promising.

“As the demand for AI continues to increase rapidly, so does the scope for job opportunities in this field,” she said.

However, she advised students not to “become so obsessed” with AI that they indirectly ignore the importance of fields of science other than AI.

“Also, ensure that existing AI systems or applications are not misused by emphasising ethical awareness,” she said.

Futureproof talents

I initially didn't know much about AI except that it was a new thing in IT. It was only after taking classes during my computer science degree programme that I realised how broad the field is and learnt about the many opportunities in AI. What I found attractive about AI is that it's a new technology. So we are still learning through trial and error when we encounter problems. Even when you search for solutions online, sometimes there are no answers. It is stressful but at the same time, it is very interesting and fruitful when we are able to solve a problem. I still need to learn a lot more about the field because it is so vast. I am planning to pursue a master's in AI when I am done with my degree. Only then will I join the corporate world. – Nur Sahira Sofea Azizan, 21

AI is rapidly growing so I'm interested in how this latest technology can help solve real-world problems and ease the burdens of humanity. I have an interest in problem-solving and I think AI is the future. Nowadays, we use a lot of technology to help in our jobs. For example, in the medical field, there is medical imaging to help diagnosis. This is just one of the ways we can use AI to mimic human intelligence and to help society. I see myself going down this path. I want to use AI to contribute to the community too.– Shahrizal Ibrahim Jamaludin, 23

I chose to study AI as it has become so important in our daily lives. AI technology is exploding with so many new things. Youths nowadays are already moving away from using search engines. Instead, many prefer keying prompts in generative AI tools like ChatGPT to search for something. I want to be a part of this growth. Maybe I will join a startup company after graduating to gain more skills and experience in this fast evolving field.– Muhammad Haikal Abdul Razak, 22

Malaysia and AI

> AI adoption is at an early to nascent stage at the national level with many companies already using AI to innovate their operations and business services.

> In 2021, the government launched the Malaysia AI Roadmap 2021-2025, which contains plans for funded innovation projects, talent development, and AI enculturation.

> To manage AI's impact on the science system, the Science, Technology and Innovation Ministry (Mosti) established the National Blockchain and Artificial Intelligence Committee (NBAIC) to coordinate and monitor the implementation of the action plan planned in the roadmap.

> Key sectors like agriculture, healthcare, finance, advanced manufacturing, smart cities, and education strongly focus on AI.

> Every state in Malaysia has its own digital transformation strategy.

> States like Selangor, Sarawak, Terengganu, Penang and Melaka are showing robust AI adoption due to digital labour and growing R&D awareness.

> The Economy Ministry's recently launched Padu is one of the early moves for AI in Malaysia.

> The DigitalID application by Mimos would also catalyse various AI initiatives.

> The Malaysian Standards Department (JSM) has also established a National Mirror Committee to come up with national AI standards, chaired by Mimos, to develop national AI standards with representatives from various sectors.

> The Mosti code of ethics and governance for AI is expected to be ready by this year. Source: Academy of Sciences Malaysia

AI for Rakyat

- > A self-learning online programme, crafted to enhance public understanding and awareness of AI.
- > Designed to be accessible and engaging for Malaysians of diverse age groups, backgrounds and geographical locations nationwide.
- > Available in four languages – Bahasa Malaysia, English, Mandarin and Tamil.
- > Covers the basic understanding of AI, its applications, and myths and misconceptions around it.
- > Focuses on the key domains of AI – computer vision, natural language processing and statistical data and their impact on various industries; AI ethics, and the principles of responsible AI.
- > Part of the MyDigital initiative, which aims to transform Malaysia into a digitally-driven, high-income nation and a regional leader in the digital economy.
- > Public servants must complete the programme.
- > Public institutions of higher learning students are encouraged to complete it.

Source: MyDigital and Dr Lailatul Qadri Zakaria