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THE practical uses of generative artificial intelligence applications or Large Language Models (LLM) still seem out of reach for most companies and firmly in the domain of larger companies with deep pockets.

But Tunku Abdul Rahman University of Management and Technology (TARUMT) is trying to change this by helping smaller local businesses build LLM tailored to their specific business needs.

These companies, or “collaborators” as TARUMT puts it, need the university’s expertise with building LLM to aid their business operations ranging from marketing to human resource services.

At the same time, by working on these projects, TARUMT Faculty of Computing and Information Technology students get a chance to gain real-world industry experience before graduating.

Malaysia is racing to train professionals to meet the country’s needs for AI and big data analytics workers as only 4.8% of private sector demand was met in 2021.

Meanwhile, budding data scientists also need the exposure by working on real-world projects that these collaborators can provide, opportunities that the university hopes will increase.

“Last quarter, there were many requests from small and medium enterprise (SME) companies with strong interest to adopt LLM in their businesses,” says TARUMT business incubation and entrepreneurial ventures director Prof Dr Lim Tong Ming.

“The acceptability of LLM technology in recent months by many SME operators is amazing.”

“They have viewed the models trained as superb assistants for their businesses and operations. This helps to reduce staff recruitment challenges. It also helps to increase sales, productivity and quality of services.”

The collaboration benefits both parties. The client company gets the tools they need while TARUMT students get the chance at an internship with the company during their final year and even get hired as full-timers upon graduation.

“The client receives the source code and documentation for the proof-of-concept model or app

Collaborating for the right code

TARUMT is hitting the right language note in its academia-industry cooperation efforts on AI.

software development. Our talents train as employees to our collaborators,” says Prof Lim.

In simple terms, generative AI is a broad category of AI that can create original content including text, images and music. LLM is a subset of generative AI that does specific language-related tasks, such as text generation, translation, and analysis. LLM needs to be ‘trained’ with vast amounts of text data to be able to generate human-like language that users can use.

TARUMT’s collaborators come from diverse industries including retail, banking security, education services, telecommunications and insurance.

Using very large amounts of advertising data from many sources, TARUMT has helped an electronic and smartphone retailer improve their sales and marketing advertising using generative AI to creatively generate promotional advertising taglines on social media and conventional billboards or flyers.

A Singapore-based education services provider now has a tool that allows teachers to generate large numbers of high-quality questions for their students’ exercises.

For a telecommunication company’s human resources department, it has a virtual HR assistant that can answer most employees’ questions when asked in ‘natural’ language like how one would speak to another human being.

“For instance, if the employee goes on holiday and gets injured, they can use the smartphone app and ask in natural language for things like where to get treated or the exact procedure needed without referring to a human who needs time to look up information,” said Dynafront Holdings Bhd chief executive officer Chan Eng Lim.

Nonetheless, there are several challenges that both TARUMT and their collaborators must overcome.



Productive pact: Prof Dr Lim and participating students from TARUMT Faculty of Computing and Information Technology.

In their attempts to build truly effective LLM, companies often are limited by insufficient data to ‘train’ the models to perform properly. Sometimes staff resignations or business disruptions also make the project untenable.

Projects done by TARUMT are also dependent on the students’ schedules and sometimes, the students involved just need more experience to work on the projects.

“Since outcomes are proof of concept work, it still needs time and resources to fine tune, debug and polish up if a software is to be rolled out as a marketable product,” says Prof Lim.

As only 13% of Malaysian organisations are fully prepared to deploy AI-powered technologies, according to MyDigital, the government and groups like Small and Medium Enterprises Association (Samenta) have prepared resources to help companies address AI needs.

“This started when the government launched the Malaysia AI Roadmap, the ambition of making Malaysia the AI Hub for the region under the New Industrial Masterplan as well as the soon to be launched AI Governance Framework. We in MyDigital Corporation did our small part in launching the AI Untuk Rakyat self-learning programme in January this year,” MyDigital

chief executive officer Fabian Bigar tells Sunday Star.

Samenta have conducted four AI workshops for their members last year alone with selected government agency partners to enable them to utilise cloud-based AI models.

But both Samenta and the Small and Medium Enterprises Association of Malaysia say the government should also provide matching grants through the Digital Ministry to aid smaller players.

On the ground, corporate technology officers say it is not cost that is the issue but finding the right resource partners that can build custom LLMs for their needs.

Rather than resorting to off-the-shelf AI software that do not fit well, companies prefer to hire professionals that can build in-house applications, know their in-and-outs and how they fit the company. And this takes the right partner akin to working with TARUMT.

“We find that many universities do not offer the same depth of collaboration like TARUMT. More universities should consider collaborating with the private sector to generate better quality data scientists and professionals,” said Tess International chief executive officer Peter Ong.

A 2021 survey by the Strategic

Change Management Office (SCMO), Economic Planning Unit and the Social & Economic Research Initiative (SERI) found that only 4.8% of respondents in the private sector say their digital talent needs are met in big data analytics, digital marketing, and artificial intelligence.

Other factors hindering companies from adopting more advanced digital tools for business operations include a lack of actionable information about digital technologies, access to finance, and market challenges.

“While there has been a significant increase in the use of ICT and the Internet among Malaysian SMEs, many still rely on basic digital technologies,”

“Specifically, most SMEs in Malaysia have limited usage of digital tools, primarily for customer-facing functions such as maintaining a social media presence. Few SMEs have adopted more complex productivity-enhancing solutions to transform their business operations or conduct end-to-end digital transactions.”

Fabian says that while public agencies in Malaysia have provided support to SMEs through over 100 different programmes, there is a lack of comprehensive monitoring and evaluation data to assess the effectiveness of these initiatives.

“The government of Malaysia has been actively supporting SME digitalisation through various programmes, particularly focusing on access to online markets. However, there is a need for a more integrated policy framework to enhance the impact of this support,” says Fabian.

“Public agencies need to collect and publish more monitoring and evaluation data on their programmes, complementing e-commerce support with backend digitalisation, and improving public information about available support.”

As awareness and understanding of LLMs increase, more SMEs in Malaysia are expected to adopt these technologies for various applications, such as customer service, content creation, and data analysis.

“I believe, given the increasing trend in AI/LLM adoption globally I am quite optimistic given the government’s seriousness in ensuring the proper development of AI in the country,” says Fabian.