

# SHAPING THE DIGITAL DESTINY

Exploring the Future of Technology Together

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In 2024, the rapid advancement of semiconductors and artificial intelligence (AI) is transforming industries worldwide, driving innovation, and fueling an unprecedented demand for skilled talent. As these transformative technologies continue to shape the future, Wawasan Open University (WOU) stands at the forefront, committed to being a key partner in developing the expertise needed to power high-growth sectors like AI, semiconductors, and data centres.

To ensure our talent development strategies align with the needs of diverse sectors, WOU actively engages with industry leaders and welcomes opportunities that foster networking, collaboration, and open discourse.

Our latest #Conversations@WOU series featured a dialogue with Dr Richard Chang Ru-gin, a prominent figure in the global semiconductor industry. Dr Chang provided valuable insights into the current challenges and future opportunities facing the sector. Additionally, the networking event with the Malaysian International Chamber of Commerce and Industry (MICCI) Southern Region, hosted at our Johor Bahru Regional Centre, highlighted WOU's commitment to bridging talent gaps to Johor's economic transformation.

WOU remains committed to keeping its students and the workforce at the forefront of AI advancements. As part of this effort, we are offering free Gen AI courses to all new and existing students—a first initiative amongst our Malaysian education industry players. From webinars focusing on Gen AI's role in software development to discussions on accelerating AI adoption among local businesses, we are ensuring our students and the workforce remains agile and prepared for the rapidly evolving tech landscape.

Our active participation in several international conferences further underscores our commitment to shaping the future of education. With AI now integrated into our teaching and learning delivery, we continue to emphasise open, equitable, and flexible access to education for all.

This issue also highlights several of our academics for their notable achievements in their respective fields. Additionally, WOU's growing partnerships, marked by the signing of memorandums of understanding with academic partners, reflect our mission to expand educational opportunities to a more diverse demographic. Through initiatives like the Accreditation of Prior Experiential Learning for Micro-credentials (APEL.M), we empower learners by providing the alternative pathways to earning accredited qualifications, making lifelong learning more accessible.

As we look ahead to 2025, WOU remains focused on driving innovation and developing talent for the industries of tomorrow. In this final issue of 2024, I extend my heartfelt thanks to the entire WOU community - including our partners, faculty, staff, and students - for their contributions to this interesting year.

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## #CONVERSATIONS@WOU: CHARTING MALAYSIA'S SEMICONDUCTOR FUTURE



▲ Dr Richard Chang

Continuing with the #Conversations@WOU industry engagement efforts, WOU hosted an exclusive dialogue featuring Dr Richard Chang Ru-gin, the “Godfather of China’s Semicon Industry” on 17 August 2024 at The Hall, Homestead.

Dr Chang is renowned for his role in establishing Semiconductor Manufacturing International Corporation (SMIC), China’s largest chip manufacturer and the third largest in the world. The event was co-organised with BlueChip Venture Capital and Waftech Sdn Bhd.

Addressing a full house of Penang’s industry professionals, academics and investors, Dr Chang shared his profound insights into the evolution of China’s semiconductor industry, offering valuable lessons for advancing Malaysia’s semiconductor sector.

He detailed how Chinese firms have innovatively circumvented US sanctions restricting access to advanced equipment. A fascinating aspect of China’s industrial adaptability is the development of alternative techniques such as employing older-generation scanners for sophisticated lithography processes to continue producing advanced chips.

Regarding fab construction, he advises a cautious approach with strategic selection. Rather than chasing ‘bleeding edge technologies’ such as the 3-nm to 5-nm chips, he recommends focusing on market-driven, advanced technologies that are more cost-effective and widely applicable.

He emphasised the value of collaborative models, such as the Commune Integrated Device Manufacturer (CIDM) approach. At SiEn (Qingdao) Integrated Circuits, a foundry he established in 2018, they were collaborated with 75 design companies. With each company providing 60 designers, totalling nearly 5,000, they have been able to enhance their design work.

“We do not have to invest in the back-end. They will do the design, and we do the processing,” Dr Chang explained, adding that they also partner with different companies in assembly testing and module making.

Additionally, Dr Chang encouraged Malaysia to actively pursue technology transfers from China, Japan, Korea, Taiwan and the United States. He added that once basic technology is acquired, Malaysians can continue to enhance it and strengthen their position, not just in back-end manufacturing, but in the front-end process as well.

Highlighting the expanding microcontroller unit (MCU) market, particularly in automotive applications, Dr Chang observed China’s limited 2% domestic supply capacity necessitates 98% imports. Malaysia is well-positioned to meet this demand through strategic partnerships, he said.

Additionally, he pointed out how advanced packaging techniques can further optimise chiplet performance, presenting a promising area for Malaysian-Chinese joint ventures in the semiconductor industry. Dr Chang affirms that Malaysia has significant potential to transition from its current role as a service provider to that of a chip developer.



▲ Some attendees at the event.

## KEEPING UP WITH SEMICONDUCTOR BREAKTHROUGHS



▲ Daniel Kho

Imagine a chip that not only gets smaller but smarter, stacking its layers upwards to boost performance without increasing in size.

This revolutionary approach, known as three-dimensional integrated circuits (3D ICs), was one of the cutting-edge technologies discussed during the 'Advancements in Semiconductor Technology: Opportunities and Challenges' webinar, organised by WOU's School of Technology and Engineering Science.

The live session on Microsoft Teams on 10 August 2024, featured Daniel Kho, Chief Technology Officer at Logikhaus Sdn Bhd, who explored the cutting-edge innovations transforming the semiconductor industry.

According to Kho, 3D IC technology enables multiple layers of circuitry to be stacked vertically on the same die, resulting in more powerful and efficient chips.

He added that this innovation is currently being utilised in technologies like SRAM (Static Random-Access Memory), which provides fast access to data; DRAM (Dynamic Random-Access Memory), used widely for storing data in computers; and FPGAs (Field-Programmable Gate Arrays), versatile chips that can be customised for specific functions. "These technologies rely on packing more components into a smaller footprint, an element crucial for improving performance."

"This ability to maximise space and performance is vital for applications such as AI chips, where layers of neural networks must interact seamlessly," he elaborated.

Another significant advancement discussed was the shift from traditional MOSFETs (Metal-Oxide-Semiconductor Field-Effect Transistors) to FinFETs (Fin Field-Effect Transistors), a new type of transistor that addresses the limitations of scaling down transistor sizes.

Although FinFETs solve several challenges posed by shrinking transistors, they bring new complexities, particularly fabrication costs. Nevertheless, Kho said FinFETs are becoming the industry standard for designing smaller, more efficient transistors.

The session also highlighted breakthroughs in materials science, particularly the growing interest in carbide compounds for power electronics. "Silicon carbide and gallium carbide are emerging as key materials for high-power applications, such as electric vehicle chargers and inverters, due to their ability to handle higher voltages and temperatures."

"There's competition among material scientists, with research continuing on gallium nitride and now also on silicon carbide," Kho observed. "Some researchers are trying to combine the strengths of both materials to develop new devices, leveraging the best of both worlds," he said.

Finally, Kho discussed the role of AI in semiconductor design. "With AI integrated into design tools, designers can optimise chip designs and accelerate the development process," he said.

He explained that the Virtuoso Studio design platform helps analogue designers expedite their layout process and solve problems faster. While Verisium, an AI-driven verification platform, is used for advanced debugging and verification.

"AI can recommend the optimal settings and streamline processes that previously relied on trial and error," Kho said.

While the semiconductor industry has opportunities and challenges, the webinar highlighted that innovation in the field is far from slowing down. From new materials and advanced chip designs to the integration of AI, the industry is poised to continue evolving, overcoming challenges and unlocking new possibilities for technological advancement.



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## AI-POWERED EDUCATION: THE FUTURE OF LEARNING



▲ Prof Chan as one of the panelists at the ICOIE 2024.

hkmu.edu.hk/

Artificial intelligence (AI) is set to revolutionise how we guide and support students in their learning journeys.

WOU's Chief Executive and Vice Chancellor, Prof Dr Lily Chan, pointed this out during her talk at the VIP forum on "The Future of Open Education" at the International Conference on Open and Innovative Education (ICOIE) 2024.

In an era where conventional universities have rapidly embraced online education, Prof Chan emphasised the need for open universities to stay ahead by harnessing the power of AI and other digital technologies to enhance student experiences.

Prof Chan highlighted how AI, combined with data analytics and adaptive learning technologies, will play a pivotal role in shaping personalised education.

"Imagine a system where each student's learning path is uniquely tailored to their needs, progress and preferences," she said.

While conventional institutions may be narrowing the gap between traditional and open learning, she reassured that open universities still have the unique advantage of flexibility and accessibility, positioning them at the forefront of educational innovation.

In her presentation on 4 July 2024, Prof Chan explored how the pandemic blurred the lines between conventional and open learning institutions, making online learning more prevalent.

"What sets open universities apart now is not just our delivery mode but our ability to offer flexible, inclusive education to diverse learners," she added.

Open universities, she suggested, must now focus on innovating their teaching models by leveraging AI, virtual reality and industry collaborations.

While some may fear that AI will replace university staff, Prof Chan believes it will rather complement the human element of education.

"AI can assist in streamlining the learning process, but the true heart of education - guiding, mentoring and inspiring students - remains uniquely human," she remarked. This balance between technology and human interaction will be critical in helping open universities continue to meet students' diverse needs.

Prof Chan then emphasised the importance of forming partnerships with industries and conventional universities to create specialised programmes that meet the demands of today's job market.

"These collaborations will not only provide our students with academic knowledge but also practical skills relevant to the workforce," she explained. Such partnerships, she added, will make it easier for students to transfer credits between institutions, enriching their learning experience.

In conclusion, Prof Chan reaffirmed WOU's commitment to democratising education through technology and collaboration, ensuring that education remains accessible, flexible and relevant for all learners in the digital age.

*Imagine a system where each student's learning path is uniquely tailored to their needs, progress and preferences*

## PHOTOVOICE: A QUALITATIVE RESEARCH METHOD TO SEE THE WORLD FROM THE EYES OF CHILDREN

Understanding children's perspectives is crucial for adults to effectively relate to and support them. However, traditional verbal interviews often fall short in eliciting in-depth data from children, particularly those with limited vocabulary or descriptive language skills. To address this challenge, researchers have turned to innovative methods like Photovoice.



▲ Dr Tan Saw Fen

Dr Tan Saw Fen, Deputy Head of the Centre for Research and Innovation (CeRI), shared her experience of utilising Photovoice to capture primary pupils' values in mathematics lessons at the AAOU Lecture Series #5, titled "A Roadmap to Successful Publication: Qualitative Research Method." She was one of the keynote speakers during the online session organised by the Asian Association of Open Universities (AAOU) on 24 July 2024, attracting over 200 attendees.

Photovoice is a research method that empowers participants to express their feelings and experiences through photography. By taking and discussing images, individuals can share their viewpoints and researchers can gain valuable insights.

Dr Tan engaged pupils of various academic performance levels, providing them with cameras to document episodes they found meaningful during their lessons. Post-lesson interviews were then conducted using these images as discussion prompts. This approach allowed for a deeper exploration of pupils' experiences and perspectives.

She also highlighted that there is a risk that pupils might miss capturing crucial moments if they are not holding the camera at the right time. Additionally, some experiences or social phenomena may be difficult to convey solely through photography. To mitigate these challenges, researchers must develop strategies to encourage participants to fully express their ideas and experiences.

Overall, Photovoice demonstrates its potential as a valuable tool for understanding children's perceptions and experiences. By providing a visual outlet for expression, this method can offer unique insights that may be difficult to obtain through traditional verbal interviews.

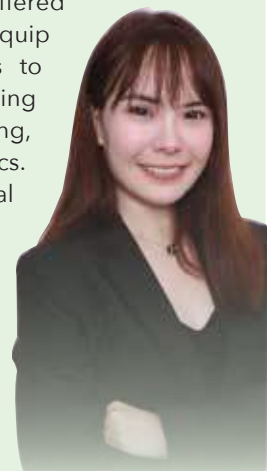
## SEASONED EDUCATOR SHARES INSIGHT INTO E-COMMERCE

Our senior lecturer at the School of Digital Technology (DiGiT), Dr Racheal Poh, recently contributed her expertise to the Penang Youth Development Corporation (PYDC)'s Annual Youth Entrepreneurship Challenge. Serving as a workshop facilitator, Dr Poh provided invaluable insights into the burgeoning field of e-commerce, focusing on current trends, market size and the transformative potential of artificial intelligence (AI). The workshop was held in conjunction with the entrepreneurial challenge, aimed to inspire and empower young entrepreneurs to realise their business dreams.

Dr Poh, a seasoned educator and industry expert, brought a wealth of knowledge and experience to the workshop. Her deep understanding of digital technology and e-commerce trends allowed her to provide participants with practical advice and actionable strategies. By sharing her insights, Dr Poh helped young entrepreneurs navigate the complexities of the online marketplace and identify growth opportunities.

The PYDC Annual Youth Entrepreneurship Challenge is a platform for aspiring entrepreneurs to showcase their ideas and receive mentorship and support. The competition provides a culture of innovation and creativity for the youth, encouraging them to pursue their entrepreneurial aspirations. By participating in the challenge, young entrepreneurs can gain valuable experience, develop their skills and build a network of like-minded individuals.

Dr Poh's workshop aligns perfectly with the Digital Marketing programmes offered by DiGiT. These programmes equip students with the essential skills to succeed in the digital age, including e-commerce, social media marketing, content creation, and data analytics. By nurturing their entrepreneurial spirit and providing them with practical knowledge, DiGiT's programmes empower students to turn their ideas into successful businesses.



▲ Dr Racheal Poh

## TIKTOK TALES: UNRAVELLING THE PENANG STATE MUSEUM'S CONTENT STRATEGY FOR ENHANCED AUDIENCE ENGAGEMENT

In a ground breaking collaboration, a team of researchers from three Malaysian universities and the Penang State Museum and Art Gallery have shed light on the transformative power of social media in heritage preservation. Their findings, published in the book chapter, "TikTok Tales: Unravelling the Penang State Museums Content Strategy for Enhanced Audience Engagement", offer valuable insights into how the popular platform TikTok, can be leveraged to connect with a larger audience to promote cultural heritage.



▲ Dr Lau Pei Mey

Dr Lau Pei Mey from WOU's School of Digital Technology (DiGiT) and her fellow teammates - Assoc Prof Jessica Ho (Heriot-Watt University Malaysia), Assoc Prof Padma Pillai (Sunway University) and Ms Siti Norbaya (Sunway University), delved into various aspects of the museum's TikTok presence. They analysed the types of content the museum shared, examined how it interacted with its followers and explored how it adapted to the rapidly evolving landscape of TikTok.

Based on their findings, the researchers offered recommendations for improving the museum's TikTok usage strategy, such as creating better engaging content, utilising TikTok's features and measuring and analysing performance. A sharing session was held with the museum staff to ensure their research findings would be applied effectively.

The publication of 'TikTok Tales' represents a significant contribution to the field of heritage preservation. By demonstrating the potential of social media platforms like TikTok to reach new audiences and engage them with cultural heritage, the research team has paved the way for innovative approaches to museum outreach and education.

Read the full chapter here: [https://doi.org/10.1007/978-3-031-51689-4\\_8](https://doi.org/10.1007/978-3-031-51689-4_8).

## THE EVOLUTION OF ONLINE COURSES INTO A POWERFUL TOOL FOR GLOBAL LEARNING

At the maiden International Conference on Intelligent Technology for Educational Applications (ITEA 2024) on 22 July 2024, Dr Kan Wen Huey presented a speech titled 'Navigating the Future of Learning: Insights into Online Education Platforms'.

In her speech, Dr Kan discussed the significant evolution of online education from simple email courses to transformative Massive Open Online Courses (MOOCs). The evolution of online education has been nothing short of remarkable. From its humble beginnings as a simple email exchange to its current state as a powerful tool for global learning, online education has transformed the way we acquire knowledge. The COVID-19 pandemic accelerated this transformation, forcing educational institutions to adapt to remote learning models. This shift has had a lasting impact, with a growing emphasis on online and hybrid learning approaches.

Looking ahead, trends such as AI tutors, blockchain for secure credentials, a focus on soft skills as well as the rise of microlearning modules will shape the future of online education, highlighting the need to embrace innovative technologies and stay informed about current and future trends to create engaging, inclusive and effective learning experiences for a global audience.

The future of online education is bright, with exciting possibilities on the horizon. However, educators, learners and technology providers must stay informed about emerging trends and embrace innovative approaches. By leveraging the power of technology and focusing on personalised, engaging and inclusive learning experiences, we can create a future where education is accessible to all and empowers individuals to reach their full potential.



▲ Dr Kan Wen Huey

## SHAPING THE DIGITAL DESTINY

The synergy between community and technology has the potential to revolutionise the way people live and work. By leveraging the power of both, innovative solutions to complex problems can be created, collaboration and knowledge-sharing can be promoted, and positive social change can be driven.

Communities provide a platform for individuals to connect, share ideas, and support one another. When combined with technology, these communities can scale and reach a wider audience, amplifying their impact.

Furthermore, technology can streamline processes, improve efficiency, and facilitate access to information and resources. By leveraging digital tools, communities can organise events, manage projects, and mobilise resources more effectively. This enables them to achieve their goals faster and more efficiently.



## WOU's talent strategy - Nurturing a future-ready semiconductor workforce



► Prof Dr Lily Chan

WOU is positioning itself to drive Malaysia's talent development in the semiconductor sector - combining education, research and industry collaboration to address the evolving needs of this dynamic field.

WOU's Chief Executive and Vice Chancellor, Prof Dr Lily Chan, delivered an insightful presentation outlining the University's strategic role in cultivating a skilled workforce for Penang's semiconductor sector. Speaking at a dialogue hosted by the Malaysia Semiconductor Industry Association (MSIA) on 29 July 2024, she highlighted WOU's innovative approach to upgrading Penang's semiconductor talents to meet employment needs and adapt to industry changes.

"To remain competitive in the global market, we must ensure that our graduates are equipped with the latest skills and knowledge," she asserted.

Assuring industry players of WOU's commitment to workforce upskilling, Prof Chan highlighted the University's key offerings, which include seven new undergraduate and postgraduate programmes in software engineering, data science, smart manufacturing and sustainable technology, all designed to meet industry needs.

To enhance students' expertise in generative AI (Gen AI) and its applications, she added that WOU has rolled out 80 Gen AI courses across various disciplines. "This initiative reflects the growing significance of AI in the semiconductor field, where automation and intelligent systems are becoming integral to manufacturing processes," she explained.

In addition to academic programmes, Prof Chan introduced WOU's customised training programmes, which provide professional certification and are stackable towards an accredited degree. These training options cater to the needs of industry partners and offer flexible pathways for professionals seeking to upskill.

Furthermore, Prof Chan announced plans to establish a WOU Semiconductor Institute, stating, "We are working with world-class research and teaching staff, including Professors of Practice—top engineers from multinational corporations (MNCs) and local companies - who will develop the curriculum and lead research in semiconductor operations."

"A workforce which has relevant skills to be employable, adaptable and productive is necessary and a valuable investment for any nation's economic development and sustainability," she concluded.

## Balancing innovation and sustainability during Malaysia's semiconductor revolution

In his keynote address at the Smart and Sustainable Industrial Ecosystem Conference (SSIEC) 2024 on 5 August 2024, WOU's Associate Vice Chancellor, Prof Ts Dr Yap Eng Hwa, highlighted Malaysia's critical role in driving the global semiconductor revolution while addressing the pressing need for sustainability.

"Our nation is at the forefront of the semiconductor industry, but we must ensure that our rapid advancements are harmonised with sustainable practices," he emphasised, adding that Malaysia is gaining prominence as a global semiconductor hub, particularly in Penang which is home to a diverse range of semiconductor manufacturing and assembly operations.

He shared, "Penang has not only amassed five decades of experience in semiconductor manufacturing but its RM60 billion in foreign direct investment last year signals that the world is watching and investing in our capabilities."

"This substantial influx of investment not only reinforces Penang's status as a key player in the semiconductor landscape but further reflects the confidence of international stakeholders in Malaysia's potential to lead in this high-tech industry," he added.

However, Prof Yap cautioned that such growth must come with responsibility. Focusing on the sustainability challenges posed by the industry, he stated, "The high energy consumption and waste produced by semiconductor manufacturing must be addressed if we are to achieve long-term success."

"Adopting energy-efficient technologies and practices can significantly reduce the carbon footprint of semiconductor manufacturing," he said. He then urged industry players to embrace green technologies that meet production demands and safeguard the environment.



▲ Prof Yap shares his insights.



▲ Prof Yap among the attendees at SSEIC 2024.

To achieve these goals, Prof Yap called for an enhanced collaboration between industry, academia and government.

"A robust ecosystem integrating government, industry, academia and community at local and national levels is key to formulating and implementing policies and initiatives that support sustainable development without hindering technological advancements," he said, adding that the collaboration is essential to ensure that all stakeholders are aligned in their efforts towards sustainable practices.

"Investing in education and training programmes that focus on sustainability in the semiconductor industry can build a skilled workforce equipped to implement sustainable practices. These programmes should cover topics such as green manufacturing techniques, sustainable materials and environmental management systems," Prof Yap elaborated.

His vision for a sustainable future is not just about reducing environmental impact but further positioning Malaysia as a leader in the global semiconductor market. He expressed confidence that Malaysia can enhance its competitiveness and drive innovation by integrating sustainability into every aspect of semiconductor production and fostering collaboration among key stakeholders.

The SSIEC 2024 was organised by the University of Nottingham Malaysia's Faculty of Science and Engineering in collaboration with Universiti Malaya, Universiti Teknikal Malaysia Melaka and Project Management Institute Malaysia.

**Adopting energy-efficient technologies and practices can significantly reduce the carbon footprint of semiconductor manufacturing**

## ROUNDTABLE IGNITES CONVERSATIONS ON AI ADOPTION



▲ Industry leaders and WOU academics at the roundtable discussion on accelerating AI adoption.

Academics play a crucial role in developing and enhancing artificial intelligence (AI) algorithms, while industry leaders focus on implementing these advancements within the industrial ecosystem.

These perspectives were shared by industry captains and academic leaders during a roundtable discussion on accelerating AI adoption. Held on 12 July 2024, the event marked the first edition of the #Conversations@WOU: Industry Insider Series.

Discussions revealed current industry trends, such as the demand for advanced algorithms which offer greater accuracy and speed. Additionally, industry leaders emphasised the need for talents skilled in AI, ML (machine learning), ANN (artificial neural network), DL (deep learning), and generative AI to enhance business processes and improve internal efficiency.

Lim Hean Tatt from Dell Technologies showcased their AI-ready solutions, offering insights on ways to initiate AI integration in businesses. According to Lim, the ideal accounts to target are customers keen to adopt AI but are new to it and uncertain about starting their AI journey.

He further discussed key barriers to effective AI adoption, including bias, ethics, data and architecture challenges, privacy and security concerns, culture and skills challenges, and technology integration issues.

ViTrox Corporation Berhad's Senior Research and Development Engineer, Lee Yeong Khang, introduced their impressive Volta solution, demonstrating the system's capabilities in ensuring reproducibility.

On the motivation behind developing Volta, Lee explained that Volta simplifies system updates and maintenance by allowing users to "just update the data and then follow the documentation as provided," without requiring extensive machine learning expertise.

In his presentation, Chief Operating Officer of IVT System Sdn Bhd, Tan Chong Jin, recommended three steps to harness the transformative powers of generative AI - use widely available tools like ChatGPT, Copilot, and Gemini to boost productivity; integrate generative AI into core operational processes to add customer value; and innovate by using or building generative AI apps on the foundation models to cater to highly-specific needs not addressed by current software or systems.

From an academic perspective, WOU Chief Executive and Vice Chancellor, Prof Dr Lily Chan, underscored the need to educate young people, including primary school students, about "jobs of the future".

"What do they need to learn? The excitement of what AI is and the opportunities in STEM needs to be communicated to the younger generation," she said, emphasising the need to expand the talent pool of STEM graduates.

The collaborative sharing demonstrated how academia and industry can combine their expertise, with academics handling the initial stages of AI development and industry managing practical application and deployment. Subsequent conversations set the direction for potential academic-industry collaboration to leverage AI to accelerate the learning curve within industries and encourage educational institutions to invest in AI for talent development.

Among the distinguished leaders present were Dr Hari Narayanan, Chief Executive Officer of Penang Skills Development Centre; CK Tan, Chief Operating Officer of BlueChip Venture Capital; and SJ Phuah, Founder and Chief Executive Officer of IVT System Sdn Bhd. The invitation-only event saw over 20 professionals from various industries and WOU academics in attendance.

## LEVERAGING THE POWER OF GENERATIVE AI IN SOFTWARE DEVELOPMENT



▲ Patrick Fong

Within five days of its November 2022 launch, ChatGPT attracted one million users, becoming one of the fastest-growing consumer applications in history. By February 2023, it had surpassed 100 million monthly active users – achieving in two months what took TikTok nine months and Instagram two and a half years.

Describing the growth as “phenomenal”, Patrick Fong, Senior Consultant at IVT System, remarked that generative AI (Gen AI) is here to stay. On 13 August 2024, he shared his insights on the potential of Gen AI in software development at an online webinar hosted by WOU’s School of Digital Technology.

“Gen AI is not just a tool; it’s an extension of human capability. It creates, improves and learns, all while making the development process faster and more efficient,” Fong emphasised, underscoring that Gen AI is far more than just a trend. Citing a 2023 MIT study, he highlighted that 62% of industry leaders expect Gen AI to disrupt industries in the next five years and 78% view it as a significant competitive advantage.

Fong explained that Gen AI is revolutionising software development by streamlining processes and enhancing productivity. “Tools like ChatGPT and GitHub Copilot have transformed the coding landscape, allowing developers to automate repetitive tasks, reduce errors and accelerate project timelines,” he said.

During the webinar, Fong provided practical demonstrations of Gen AI’s impact on software development, particularly highlighting GitHub Copilot’s ability to suggest and refine code in real time. “You can basically chat with it,” he said, showcasing how this technology makes coding more accessible and reduces the time needed to develop complex software solutions.

He noted that with GitHub Copilot, developers could “Ask it to create something and ask it any question, and it will be happy to tell you how to solve this or carry out certain functions.”

Fong also introduced the concept of Gen AI agents, which can automate workflows and perform specific tasks. He described how companies like ChatDev have developed Gen AI systems that allow AI agents to collaborate on software projects, cutting development time from weeks to minutes.

These agents, he explained, can assume various roles, such as writing, testing and deploying code, revolutionising the way software is developed.

Recent advancements have enabled teams of AI bots to develop software in just seven minutes instead of the traditional four weeks. Fong highlighted the capabilities of ChatGPT in automating design tasks, such as creating flowcharts and system diagrams using applications like Lucidchart and Miro.

Despite the advantages, Fong acknowledged the limitations of Gen AI, particularly its tendency to produce “hallucinations”—instances where the AI generates inaccurate outputs. “It’s not perfect; it’s not 100% accurate,” he emphasised but noted, that continuous improvements are being made to mitigate these issues.

In wrapping up his talk, Fong explained that Gen AI, in a nutshell, is a tool built on multi-modal capabilities. To automate its process, developers can leverage Gen AI agents from various large language models for future software engineering and development projects.



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## FAST TRACK YOUR DEGREE WITH APEL.M @ WOU



In today's rapidly changing job market, working adults must continually upskill to stay relevant and competitive. However, traditional academic entry requirements and rigid class schedules often pose significant obstacles.

Accreditation of Prior Experiential Learning (APEL) is one way to go. It is a programme designed for those seeking to advance their education and careers by utilising their extensive work experience.

WOU has been at the forefront of innovative learning pathways, launching APEL for Admission (APEL.A) and APEL for Credit Award (APEL.C). These programmes have empowered countless people to gain formal academic qualifications, such as certificates or degrees, for their prior learning and skills, opening up new opportunities for career advancement.

WOU's latest entry pathway, APEL.M, offers a solution by recognising the value of micro-credentials. These short, focused courses provide learners with specific skills and knowledge, often aligned with industry demands, allowing students to earn academic credits for their specialised learning. This flexibility enables individuals to tailor their education to their career goals and continuously upskill in a rapidly evolving job market.

50-year-old Lab Manager from Penang, Tan Wei Hong, enrolled in the Commonwealth Executive Master of Business Administration (CeMBA) through APEL.M to advance his career and enhance his knowledge.

"I chose to enrol through APEL.M because it recognises my work experience and qualifications, allowing me to earn credits for what I have learned in my career."

"APEL.M facilitates the accreditation of my work experience towards academic recognition by allowing me to complete my education quickly and efficiently, conserving valuable resources while providing a clear opportunity for advancing my academic career," said Tan

With APEL.M, the pursuit of lifelong learning is rewarded with an accredited degree. WOU is dedicated to connecting professional experience with academic qualifications. As Malaysia's largest APEL Assessment Centre and the only one licensed to conduct APEL.M, WOU has a strong history of successfully implementing and assessing APEL. Since 2016, WOU has helped approximately 50% of the students to enrol using their work experiences and prior learning through APEL.A and APEL.C.

With APEL.M, students can transform their micro-credentials into an accredited WOU degree by completing at least half of the programme's graduating credits through these flexible, on-demand micro-credentials. It allows students to achieve qualifications in a way that seamlessly fits their schedule and learning pace.



▲ Tan Wei Hong

***"APEL.M facilitates the accreditation of my work experience towards academic recognition by allowing me to complete my education quickly and efficiently, conserving valuable resources while providing a clear opportunity for advancing my academic career,"***

## THE POWER OF PARTNERSHIP: KEY TO EDUCATIONAL SUCCESS

Over the past few months, WOU has formed strategic partnerships with three key stakeholders - Malaysia Board of Technologists (MBOT), Johor Master Builder Association (JMBA) and Kolej Vokasional Lebuh Cator. These collaborations aim to create a comprehensive ecosystem that supports skills development, industry-relevant education and professional advancement.

### Malaysia Board of Technologists (MBOT)



WOU and the MBOT formed a strategic alliance to empower MBOT members with exclusive access to affordable study programmes. This partnership will address the growing demand for skilled technologists in Penang, a thriving industrial hub.

The WOU-MBOT partnership provides a unique opportunity for technologists to enhance their knowledge and skills. By providing exclusive rates to MBOT members, WOU is making quality education more accessible and empowering technologists to reach their full potential. MBOT members can now pursue advanced qualifications, enabling them to stay ahead in their careers.

This collaboration provides a culture of innovation and excellence, contributing to Penang's economic development. With this partnership, we are building a stronger and more competitive Penang through continuous learning and professional development.

### Johor Master Builders Association (JMBA)

The partnership between WOU and JMBA was made official after signing a Memorandum of Agreement (MoU), which offers JMBA members and their families exclusive access to WOU's various undergraduate and postgraduate programmes.

WOU will actively work with JMBA to create specialised learning pathways tailored to the construction industry's requirements, encompassing areas like project management, sustainable construction practices and digital technologies.

Beyond academic pursuits, the partnership will encourage professional development through workshops, seminars and industry conferences, providing JMBA members with valuable knowledge and networking opportunities. This partnership between WOU and JMBA marks a significant milestone in the university's efforts to strengthen its ties with the industry and provide meaningful education to the community.



▲ A collaborative effort between WOU and JMBA.

### Kolej Vokasional Lebuh Cator



▲ Dr Hushnie represents WOU to formalise the NoU with KV Lebuh Cator.

The formalisation of the partnership between WOU and Kolej Vokasional Lebuh Cator through a Note of Understanding (NoU) ceremony on 20 August 2024 marked a significant milestone in the educational landscape of the region.

This partnership is expected to provide significant benefits to students and faculty members. Students will have access to a wider range of educational programmes, while faculty members will have the opportunity to collaborate on research projects, share expertise and stay at the forefront of their fields.

## INDUSTRY-ACADEMIA COLLABORATIONS VITAL TO SUPPORT JOHOR'S ECONOMIC TRANSFORMATION

Johor is well positioned to become the next economic hotspot once the proposed Johor-Singapore Special Economic Zone (JS-SEZ) is realised.

To support this transition, addressing existing talent gaps is imperative, as shared by WOU's Associate Vice Chancellor Prof Ts Dr Eng Hwa Yap during a recent gathering of business leaders and industry captains in Skudai, Johor.

He spoke at a networking event hosted by WOU's Johor Bahru Regional Centre (JBRC) for members of the Malaysian International Chamber of Commerce and Industry (MICCI) Southern Region on 27 June 2024.

In his talk, "Bridging the Talent Gap in Johor's Economic Transformation," Prof Yap highlighted the evolving workforce needs in Johor, particularly in light of the state's ambitious economic growth goals, driven by key sectors such as electronics, manufacturing and digitalisation.

"Johor's development, especially within the JS-SEZ, is projected to create a significant demand for skilled workers in the coming years," he explained, stressing the need for concerted efforts on upskilling and reskilling the local workforce.

"We must ensure that our educational institutions are aligned with industry needs, equipping graduates with the relevant skills to thrive in Johor's evolving industries," he said.

Prof Yap underscored WOU's role in supporting this transformation, citing the university's flexible open distance learning (ODL) approach as an ideal solution for working adults looking to enhance their skills without compromising job commitments.

"WOU's programmes are designed to cater to professionals balancing their careers and studies, offering the flexibility they need to upgrade their credentials," he added.

These programmes include digital business and software engineering specialisations which incorporate a work-integrated learning model.

Students undergo an intensive first-year learning schedule, equipping them with skills-centric education and world-class content from subject experts and global industry leaders. It prepares them for real-world careers as they are placed in industries from the second year onward.

Additionally, he discussed how WOU can partner with industries to address talent gaps in key sectors, particularly in engineering, technology and digital transformation.

To cater to a wider and more diverse talent pool, WOU has curated a portfolio of up to 62 professional certification courses in various areas, including construction, digital business, human resources, system design engineering, logistics and supply chain management, smart manufacturing and software engineering, among others.

Assuring industry leaders of WOU's commitment towards workforce skilling, Prof Yap called for continuous engagement between industry and academia to develop a sustainable talent pipeline that supports Johor's growth.



▲ Prof Yap shares his thoughts with business leaders and industry experts.

## THAI STUDENTS HAVE FUN WITH ENGLISH AT WOU



▲ Making memories and gaining knowledge at WOU.

Thirty-six Thai secondary school students from Kanarasdornbumroong School, Yala, recently participated in a two-day English language workshop at WOU Main Campus on 4 to 5 July 2024. The workshop, organised by the School of Education, Humanities, and Social Sciences (SEHS), aimed to enhance the students' English language skills through interactive activities and real-world examples.

Led by WOU academics, the workshop covered various language skills, including speaking, listening, reading, and writing. Students engaged in fun activities like tongue twisters and vocabulary searches, applying their knowledge in practical contexts.

Assoc Prof Dr Thomas Chow Von Foo, Dean of SEHS, emphasised the importance of mastering English for daily interaction. Arathai Din Eak, the programme lead, highlighted the unique approach to teaching Thai students, adapting to their specific needs and learning styles.

Their teacher, Ms Siriporn Thongchumroon, expressed gratitude to WOU for the warm hospitality and cultural exchange. Dr Boon Jong Fook, a consultant and tutor of WOU, commended the Thai students for their enthusiasm and willingness to learn.

The workshop was a successful collaboration between WOU and the Thai school, promoting cultural exchange and language learning. Both institutions expressed interest in continuing such programmes in the future.

## DISCOVER WOU @ PENANG FREE SCHOOL

The School of Education, Humanities and Social Science (SEHS) at WOU was honoured to be invited by Penang Free School (PFS) to showcase its diverse programmes to a large group of Form 5 and Form 6 students.

The event, held on July 17, 2024, began with a warm welcome from Assoc Prof Dr Thomas Chow Voon Foo, the Dean of SEHS. Dr Chow encouraged the students to consider alternative paths to education that combine learning with earning, highlighting the unique opportunities WOU offers.

Following Dr Chow's opening remarks, a panel of WOU faculty members took the stage to provide in-depth presentations on various programmes. Mr Ooi Li Hsien focused on the Education programme, while Ms Arathai Din Eak the programme lead, highlighted the English Studies programme. Ms Irmadura Ramli presented the Psychology programme, and Dr Lau Pei Mey highlighted the Software Engineering programme with APEL.M and micro-credentials.

The event concluded with a presentation by Mr Vincent Kang from the WOU Penang Regional Centre (PGRC). Mr Kang announced the availability of the VPP discount for the entire PFS community, which was met with enthusiastic applause from the engaged audience.

The event was a resounding success, demonstrating WOU's commitment to providing accessible and innovative education options for students. The positive response from the PFS students is a testament to the growing interest in WOU's programmes and the university's reputation for quality education.



▲ Discover WOU @ Penang Free School ends with wonderful memories.

## CONSTRUCTION PROFESSIONAL BUILDS A BRIGHT FUTURE WITH MBA

At 43, Tan Chee Hou has carved a successful path in the dynamic construction industry. Armed with an MBA in Construction Management from WOU's School of Technology and Engineering Science, Penang-born Tan has dedicated over 20 years to building a thriving career in construction.

He describes the post-graduate qualification as the best stepping stone to his current role as Senior Project Manager at Singaporean property developer - World Class Global.

"From the day I graduated, my confidence level changed. The way I handled real-world projects transformed," he shares, adding that the MBA equipped him with the relevant project management skills and knowledge highly applicable to his job.

Balancing work and studies, particularly for a busy professional, was no walk in the park, but the COVID-19 pandemic brought an unexpected advantage for Tan, who graduated in 2022.

"Classes shifted to a combination of tutorials and online learning before eventually going fully online. The transition gave me the much-welcomed flexibility I needed," he recalls.

Based in Penang, where most of his projects are located, Tan now has his hands full managing heritage building restoration projects around George Town, transforming them into contemporary boutique hotels. His portfolio includes award-winning hotels such as Ropewalk Piazza, Macallum Central and Magazine Vista under the Penang Hotel Collection chain.

"Maintaining the original architectural, cultural and aesthetic values of historic buildings while incorporating modern elements is always a challenge, but it is one I'm proud to have taken on," Tan remarks.

Despite the industry's shift toward artificial intelligence (AI), Tan remains confident in the irreplaceable role of human expertise. "AI is slowly integrating into construction but cannot replace the critical thinking and decision-making required in project management," he said.

While envisioning a significant role for AI in minimising human error, he emphasises that construction management will continue to be a hands-on profession.

Reflecting on his career, Tan encourages younger generations, particularly Gen Z, to consider construction as a viable and fulfilling career path.

"Construction is the backbone of everything. Without it, we wouldn't have the world we live in today," he asserts.



◀ Tan Chee Hou

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### Regional Centres and Offices

1st & 3rd Saturdays of the month  
10:00AM to 7:00PM

### Penang Regional Centre

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## GET IN TOUCH

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