

## Joint Media Release

### **EXPANSION OF AI PROGRAMMES OFFERED BY INSTITUTES OF HIGHER LEARNING**

*Singapore, 29 July 2024 (Monday)* – The Singapore Management University (SMU), in partnership with SkillsFuture Singapore (SSG) and with support from the Institutes of Higher Learning (IHLs), hosted the SkillsFuture Festival x SMU 2024 today. Minister of State (MOS) for Education, Ms Gan Siow Huang, graced the event as the Guest-of-Honour and gave a speech.

#### **New AI Programmes in IHLs**

2 To enable individuals to meet evolving industry needs in today’s AI-driven world, the IHLs are offering 8 new AI programmes to cater to different learning and job needs. These include:

- a) **Republic Polytechnic:** Specialist Diploma in Applied Generative Artificial Intelligence, and two AI-related micro-credentials that are stackable to this Specialist Diploma
- b) **SMU Academy:** [SkillsFuture Career Transition Programme (SCTP)] Advanced Certificate in Generative AI for Business Analyst; and (SCTP) Advanced Certificate in Generative AI for Digital Marketing Specialist
- c) **Singapore Polytechnic:** Building Customised Generative AI Applications on Enterprise Data; and Machine Learning using ChatGPT for Manufacturing Industry
- d) **Singapore University of Social Sciences and Singapore University of Technology & Design (jointly organised):** Professional Certification on Industry Applications of Generative AI

3 For details on the new AI programmes offered by the IHLs, please refer to [Annex A](#).

4 Chief Executive of SkillsFuture Singapore, Mr Tan Kok Yam, said “Our IHLs anchor our lifelong learning ecosystem. Their responsiveness to industry demand, and their collaborative approach to serve learners better, are exemplified by today’s event. SSG and the IHLs are committed to providing upskilling options that provide in-demand skills and industry-relevant credentials, that lead to stronger career progression.”

#### **SkillsFuture Festival x SMU 2024 – AI Unleashed: Transforming Skillsets for the Future**

5 The SkillsFuture Festival x SMU 2024, themed ‘*AI Unleashed: Transforming Skillsets for the Future*’, featured a panel discussion which explored the dynamic interplay between AI and human talent. Discussions delved into how AI augments human skills, reshapes

career paths, and fosters a culture of continuous learning in the digital age. The event also included 13 interactive AI workshops on cutting-edge AI technologies and trends, as well as booths set up by the IHLs which provided information on the various Continuing Education and Training (CET) programmes that they offer.

6 At the event, MOS also awarded prizes to 27 winners of the National AI Prompt Design Challenge. Echoing the ethos of Singapore's National AI Strategy 2.0, the Challenge aimed to foster conscientious AI advancements and tackle real-life challenges, with youths aged 13 to 25 crafting AI tools that helped to boost business productivity, enrich educational journeys, and foster upskilling.

7 SMU Provost, Professor Timothy Clark, said, "The integration of AI into our professional spheres isn't just about technological adoption; it is about cultivating a mindset that's geared towards continuous learning and adaptability. At SMU, we are dedicated to equipping our learners with these essential skills. This not only prepares them for the dynamic future of work but also empowers them to drive innovation in an AI-centric world."

8 For more information on the event, please visit <https://smu.skillsfuturefestival2024.sg/>.

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### **About Singapore Management University and SMU Academy**

Established in 2000, Singapore Management University (SMU) is recognised for its disciplinary and multi-disciplinary research that address issues of global relevance, impacting business, government, and society. Its distinctive education, incorporating innovative experiential learning, aims to nurture global citizens, entrepreneurs and change agents. Home to over 13,000 students, SMU offers a wide range of bachelor's, master's and PhD degree programmes in the disciplinary areas of Accountancy, Business, Economics, Computing, Law and Social Sciences, as well as in multidisciplinary combinations of these areas. It also offers a growing number of executive development and continuing education programmes.

As the professional training arm of the University, SMU Academy (SMUA) offers cutting-edge interdisciplinary programmes that support lifelong learning and help organisations meet reskilling goals to thrive in an ever-changing economy. SMUA integrates a practice-oriented, experiential, and interactive approach, integrating academic depth, real-world business cases, and interdisciplinary learning.

Through its city campus, SMU focuses on making meaningful impact on Singapore and beyond by fostering strategic linkages with business, government and the wider community. More information can be found at [www.smu.edu.sg](http://www.smu.edu.sg) and <http://academy.smu.edu.sg>.

## About SSG

SkillsFuture Singapore (SSG) drives and coordinates the implementation of the national SkillsFuture movement, promotes a culture of lifelong learning and strengthens the ecosystem of training and adult education in Singapore. Through a holistic suite of national SkillsFuture initiatives, SSG enables Singaporeans to take charge of their learning journey in their pursuit of skills mastery. SSG also works with key stakeholders to ensure that students and adults have access to high quality and industry-relevant training that meet the demands of different sectors of the economy for an innovative and productive workforce. For more information, visit <https://www.skillsfuture.gov.sg/>.

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## ANNEX A

### LIST OF NEW AI PROGRAMMES OFFERED BY INSTITUTES OF HIGHER LEARNING

<b>Republic Polytechnic</b>	<p><b>Specialist Diploma in Applied Generative Artificial Intelligence</b> <i>(Comprising two micro-credentials listed below)</i></p> <p>Participants will be guided through the fundamentals of AI such as machine learning, deep learning, and neural networks, before delving into the innovative realm of generative models such as Generative Adversarial Networks, Variational Autoencoders and Stable Diffusion. Participants will also gain a deep understanding of the ethical challenges in AI development and learn to develop AI systems with ethical considerations in mind. By the end of this course, participants will have the knowledge and skills to implement AI solutions and create generative AI models that can produce original content.</p> <hr/> <p><b>Post-Diploma Certificate in Applied Artificial Intelligence (Micro-Credential stackable to Specialist Diploma in Applied Generative Artificial Intelligence),</b> which consists of the following modules:</p> <p><u>Programming for Artificial Intelligence</u></p> <p>Participants will be equipped with the fundamentals of programming using Python. Students will learn how to solve problems through coding a software program. Fundamentals on software structure, variables, selection, and iteration constructs will be covered. Students will be able to create software to solve simple programming problems related to AI.</p> <p><u>Machine Learning Fundamentals</u></p> <p>Participants will be taught basic concepts in machine learning and the use of various open-source libraries like scikit-learn, Tensorflow and Keras to build basic machine learning application with perceptron, K nearest neighbors and neural networks. Students will also be introduced to XGBoost and other ensemble methods to solve classification and regression problems.</p> <p><u>Deep Learning Fundamentals</u></p> <p>Participants will be introduced to key topics associated with deep learning. This module will cover the fundamental underpinnings of Artificial Neural Networks (ANN), Convolution Neural Networks (CNN), Recurrent Neural Networks (RNN) and Long-Short Term Memory (LSTM) networks, and the fundamentals will be supported with practical work that involves participants developing and deploying an ANN, CNN, RNN, and LSTM.</p>
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	<p><b>Post-Diploma Certificate in Generative Artificial Intelligence (Micro-Credential stackable to Specialist Diploma in Applied Generative Artificial Intelligence),</b> which consists of the following modules:</p> <p><u>Developing Ethical AI Systems: Data Values and Process</u></p> <p>Participants will be introduced to open-source data platforms and frameworks for storing large data volumes, as well as an overview of machine learning pipeline which includes data management, high-throughput model training/evaluation, and real-time data processing. Participants will examine ethical/legal issues in AI using basic reasoning frameworks and principles, with a focus on privacy and data protection. Additionally, participants will be taught AI project management methodologies such as agile development, resource planning, and risk management tailored for AI projects. Concepts of explainable AI and model governance are also introduced to ensure transparency, fairness, and compliance of AI systems.</p> <p><u>Vision Models for Generative AI Applications</u></p> <p>Participants will journey through the world of vision models. Starting with the basics, participants will be shown how such models learn from images before diving into how these models can be tweaked to make them even better by using tools such as AWS and Nvidia. Through hands-on experience, participants will learn how to fine-tune these models for tasks like recognising what is in a picture and even teaching the model to create its own images. The module is designed to be interactive and practical, giving participants the skills needed to use these vision models effectively in the exciting world of generative AI.</p> <p><u>Large Language Models for Generative AI Applications</u></p> <p>Participants will delve into the technicalities of Large Language Models (LLMs), with an emphasis on the application of LLMs in text-driven AI tasks. Starting with an insight into model training, the course intensifies its focus on fine-tuning these models for specific tasks such as text generation or summarisation using tools such as AWS and Nvidia. Participants will gain a practical understanding of adjusting and deploying LLMs through hands-on sessions that involve fine-tuning parameters and mastering deployment techniques.</p>
<p><b>Singapore Management University Academy</b></p>	<p><b>(SkillsFuture Career Transition Programme) Advanced Certificate in Generative AI for Business Analysts</b></p> <p>Through a combination of theoretical learning and practical applications, participants will gain a robust understanding of how to leverage these advanced AI tools to drive efficiency and generate comprehensive, actionable insights. By the end of the programme, participants will be equipped with the necessary skills to harness the potential of generative AI, enabling them to make data-driven decisions and implement strategies that enhance business performance across various sectors.</p>

	<p>This programme is designed to prepare business analysts to meet the demands of a rapidly evolving digital landscape, ensuring they can effectively utilise AI technologies to gain a competitive edge.</p>
	<p><b>(SkillsFuture Career Transition Programme) Advanced Certificate in Generative AI for Digital Marketing Specialists</b></p> <p>Participants will be equipped with the knowledge and skills needed to leverage generative AI tools for optimising workflows and boosting efficiency within the realm of digital marketing. By the end of the programme, they will gain a strong foundation in digital marketing principles and the transformative applications of generative AI, enabling them to perform efficiently through streamlining tasks, automating processes, and elevating their overall digital marketing endeavours.</p>
<p><b>Singapore Polytechnic</b></p>	<p><b>Building Customised Generative AI Applications on Enterprise Data</b></p> <p>Participants will be equipped with skills and techniques in Generative AI that are needed to effectively use existing no-code technology platforms. Participants will come up with an end-to-end solution and build their own Large Language Models (LLM) powered chatbot, which will allow participants to leverage on their own domain-specific knowledge and harness the power of LLM to interact with their own enterprise data in a customised manner.</p>
	<p><b>Machine Learning Using ChatGPT for Manufacturing Industry</b></p> <p>Participants will have a thorough understanding in using Chat Generative Pre-Trained Transformer (ChatGPT) to seek real-time assistance for equipment and processes issues, develop interactive training modules to train new employees on their manufacturing processes and gain quick access to relevant documentation, manuals, and best practices.</p>
<p><b>Singapore University of Social Sciences and Singapore University of Technology &amp; Design</b></p>	<p><b>Professional Certification on Industry Applications of Generative AI</b></p> <p>This joint certification between Singapore University of Social Sciences and Singapore University of Technology &amp; Design will equip professionals with essential skills to leverage Generative AI to foster job innovation, productivity, and optimisation across industries through three modules:</p> <p>Module 1 – "Introduction to Generative Artificial Intelligence," provides foundational knowledge of theories and practical applications.  Module 2 – "Generative AI for Design," focuses on integrating AI into professional workflows.  Module 3 – "Harnessing Generative AI for Compelling Storytelling &amp; Content Creation," explores AI's role in innovative communication strategies. This certification by SUSS and SUTD enables professionals to excel in Generative AI, fostering job innovation, productivity, and optimisation.</p>