

RETHINKING THE TECHNICAL PROFESSIONALS IN THE AGE OF GEN AI AND AGENTIC AI

Reforms and Initiatives for Future-Ready Technical Education



PEAC 2025 Philippines Education Conference

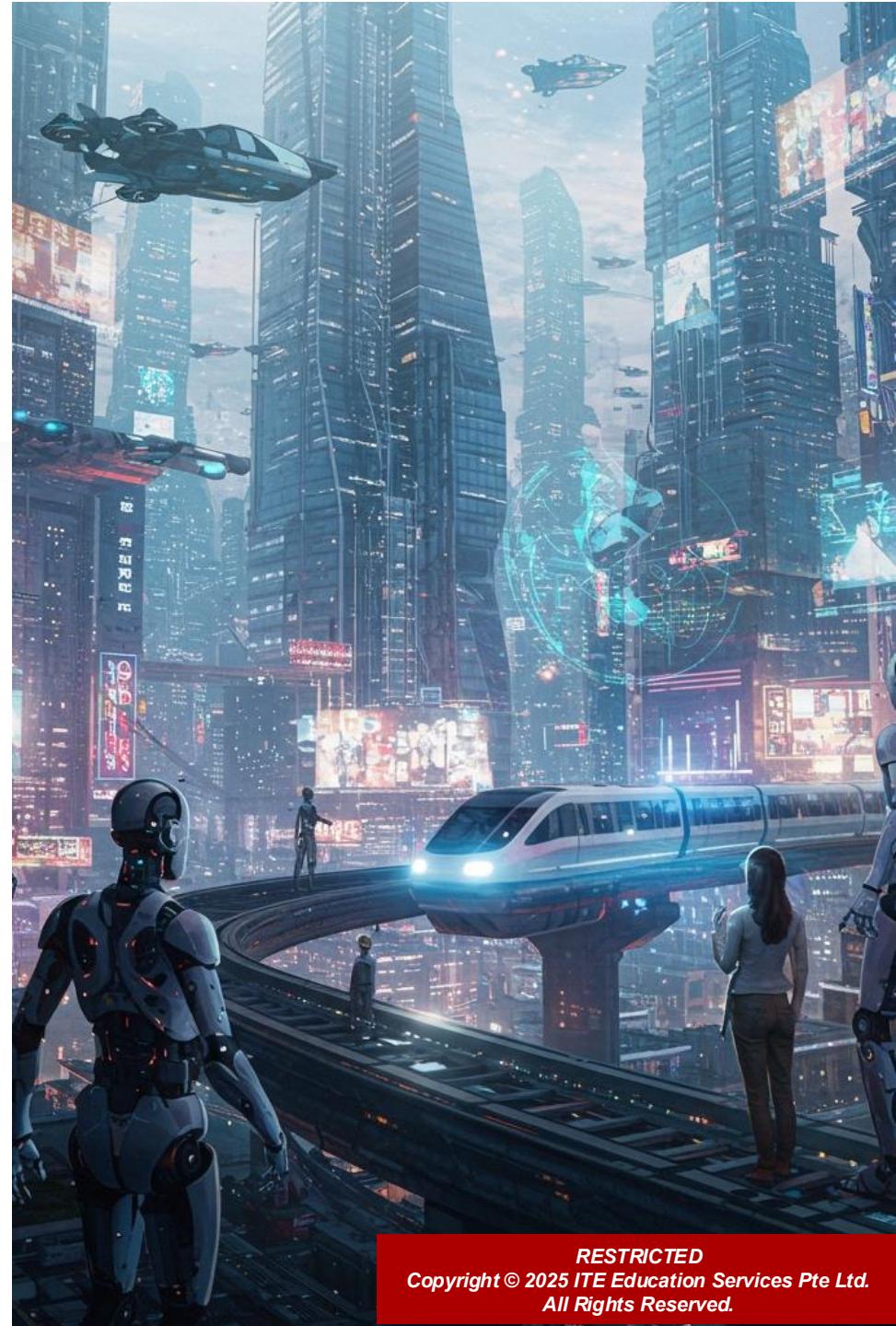
2 - 4 December 2025. Presented by Bruce Poh

RESTRICTED

Copyright © 2025 ITE Education Services Pte Ltd.
All Rights Reserved.

A NEW INDUSTRIAL RENAISSANCE

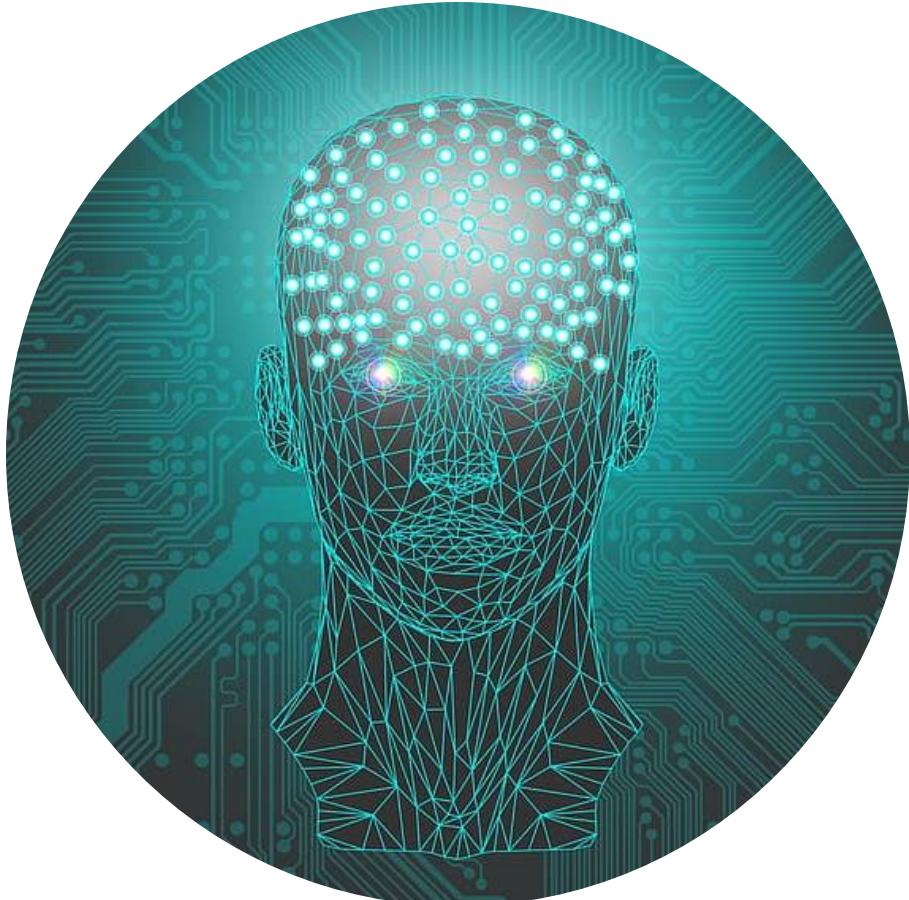
- Industry AI-enabled Environment: Human-AI Collaboration
- Generative AI and Agentic AI Redefine How We Work, Learn, and Innovate



RESTRICTED

Copyright © 2025 ITE Education Services Pte Ltd.
All Rights Reserved.

ADVENT OF GEN AI AND AGENTIC AI



- Rise of **Generative AI** and **Agentic AI** is Transforming Industries
- AI is Moving from **Automation** to **Autonomy** in Decision-making
- Professionals Need to Upskill and Adapt to Stay Relevant

AI DISRUPTION ACROSS SECTORS



- AI is Redefining Workflows, Reducing Manual Effort, and Increasing Efficiency
- **Key Impacts:**
 - AI-driven Decision-making
 - Autonomous Systems
 - Personalized AI Services
 - AI-augmented Human Roles

“We are entering an AI-driven era where 80% of jobs will be redefined. The winners will be those who can learn fast and reinvent themselves.”

— Dr. Kai-Fu Lee, 2024 World AI Conference

EDUCATION & EDTECH



Disruptions:

- AI-led Adaptive Learning & AI Tutors
- Automated Curriculum Design
- AI-driven Assessments

Skills To Pivot:

- AI-enhanced Instructional Design
- AI Ethics & Bias In Education
- Human-AI Collaboration In Learning

Job Replacement Impact (Next 5 Years):

- Estimated Job Reduction: **20-30%**
- Roles Most Affected: Teaching Assistants, Curriculum Developers, Assessment Designers

RESTRICTED

Copyright © 2025 ITE Education Services Pte Ltd.
All Rights Reserved.

UNIVERSAL AI SKILLS FOR ALL SECTORS



- AI Literacy & Prompt Engineering
- AI Ethics & Responsible AI
- AI-Augmented Decision-Making
- AI Governance & Compliance
- AI-human Collaboration Models

SHIFTING LANDSCAPE OF SKILL WORKFORCE

- AI-enabled Design, Diagnostics And Production
- Autonomous Systems And Digital Twins
- Human Oversight In Smart Factories And Service Ecosystems
- Technical Roles Evolving Fast



RESTRICTED

Copyright © 2025 ITE Education Services Pte Ltd.
All Rights Reserved.

RETHINKING THE SKILL PROFESSIONAL

Technical Professionals Are Evolving From Operators To Innovators And Co-creators With AI



Yesterday	Today	Tomorrow
Skilled Craftsman	Adaptive Technologist	AI-augmented Innovator
Executes Tasks	Solves Problems	Designs Intelligent Workflows
Learns Once	Reskills Continuously	Learns Lifelong With AI Guidance

RESTRICTED

Copyright © 2025 ITE Education Services Pte Ltd.
All Rights Reserved.

CURRICULUM TRANSFORMATION

Build A Future-ready Curriculum Integrating Technical Depth With AI Fluency And Human-centric Skills



Integrate AI, Data Analytics And Automation Across Programs



Add Ethics, Sustainability And Digital Responsibility



Teach Systems Thinking And Agentic Problem-solving

RESTRICTED

Copyright © 2025 ITE Education Services Pte Ltd.
All Rights Reserved.

PEDAGOGICAL INNOVATION

- Shift from Instruction To Intelligent, Experiential Learning
- AI Tutors, XR & Spatial AI Virtual Work Environments And Virtual Simulations
- Co-projects With Industry Using AI Feedback



RESTRICTED

Copyright © 2025 ITE Education Services Pte Ltd.
All Rights Reserved.

FACULTY TRANSFORMATION

- Train Educators As AI Mentors & Innovation Coaches
- Use AI Co-teaching Assistants For Feedback & Assessment
- Build Communities Of Innovation Practice

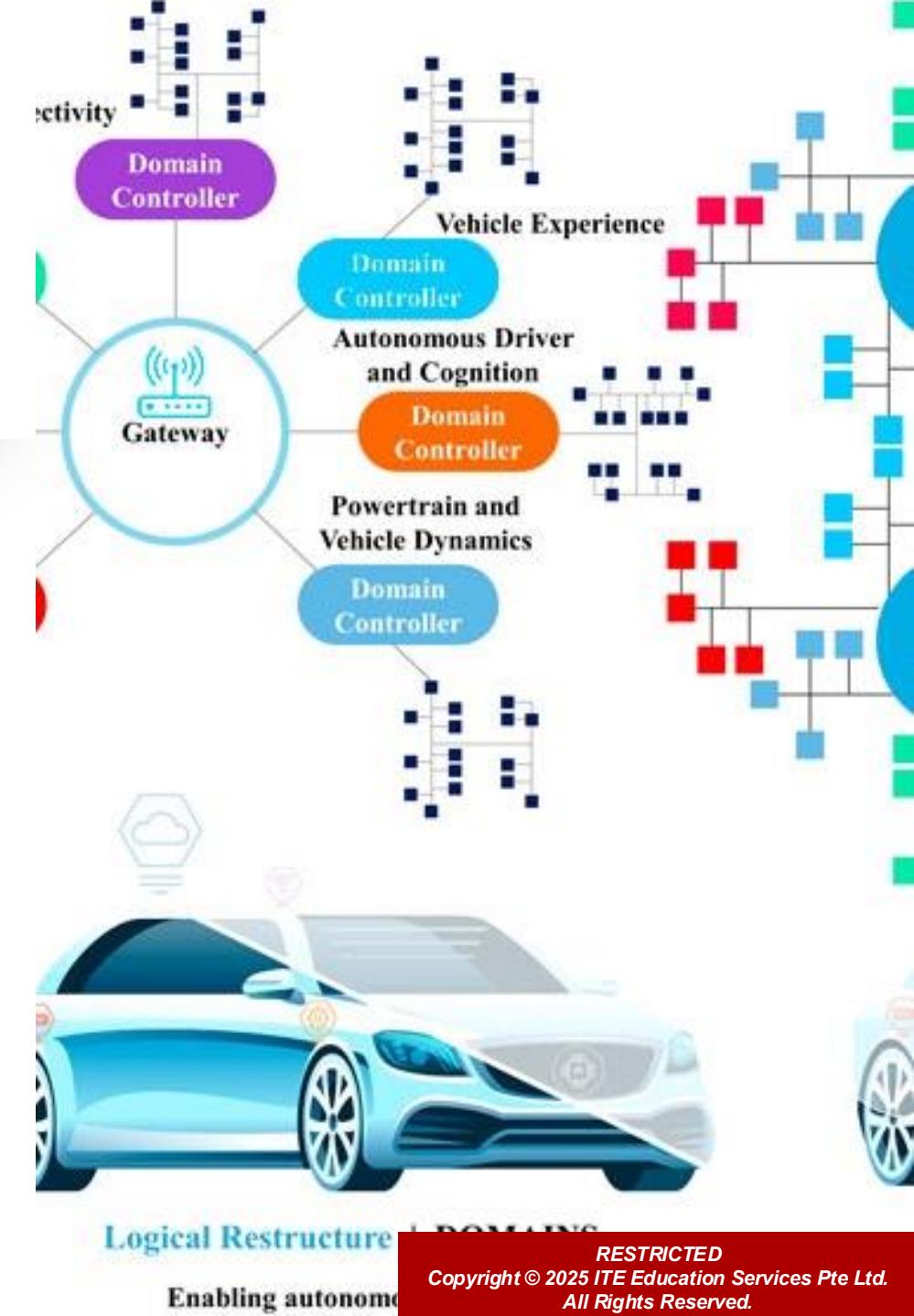


RESTRICTED

Copyright © 2025 ITE Education Services Pte Ltd.
All Rights Reserved.

INDUSTRY-ACADEMIA-GOVT PARTNERSHIP

- Government Proactive Support
- Co-create AI-integrated Occupational Standards
- Establish Skills Labs With Employers
- Offer Stackable Micro-Credentials And Digital Portfolios



RESTRICTED

Copyright © 2025 ITE Education Services Pte Ltd.
All Rights Reserved.

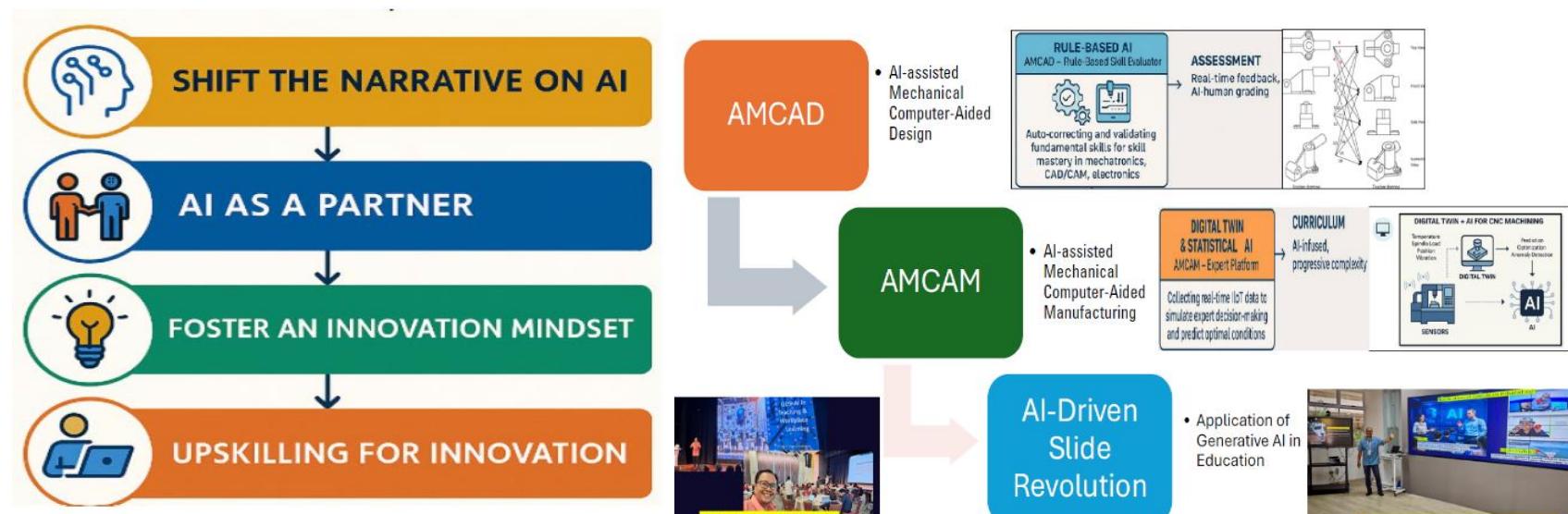
ITE SIGNATURE PROGRAMMES

AI-First School

Physical AI – Raspberry Pi With AI Kit; Vision AI For Projects And Lab Facilities (2 Trainers, 14 Staff Trained)

Generative AI – “AI Empowered You” For The Future Of Life And Work (7 Trainers, 180 Staff Trained As Of 10 Oct) ; Vibe Coding As Edutech Tool For Teachers (10 Trainers, Target Whole Of SOE/CC 230 Staff), AI-driven Slide Revolution (2 Trainers, Target Whole Of CC Staff)

AI Projects - AMCAD, AI-assisted Walking Cane, Generative AI-powered Crew Well-being & Fatigue Risk Management



AI-FIRST BLUEPRINT LEARNER SCAFFOLDING PROGRAM

Empowering ITE Educators — From No-code To AI-code

Four-part Learning Journey To Master AI Tools, Design AI-enabled Learning, And Future-proof Our Teaching Practice.



Key Benefits For Staff:

- ✓ Gain Hands-on AI Literacy And Design Skills
- ✓ Learn Practical No-code And Low-code AI Tools
- ✓ Explore Classroom-ready AI Projects
- ✓ Collaborate And Innovate With Peers
- ✓ Be Part Of ITE's AI-first Movement

Webinar 1
Vibe Coding -
No-Code to AI-Code

Webinar 2
LLM – Using LLM

Webinar 3
Agent – Building
Agent

Webinar 4
Agentic – Using
Agents



Organized by the School of Engineering, ITE College Central

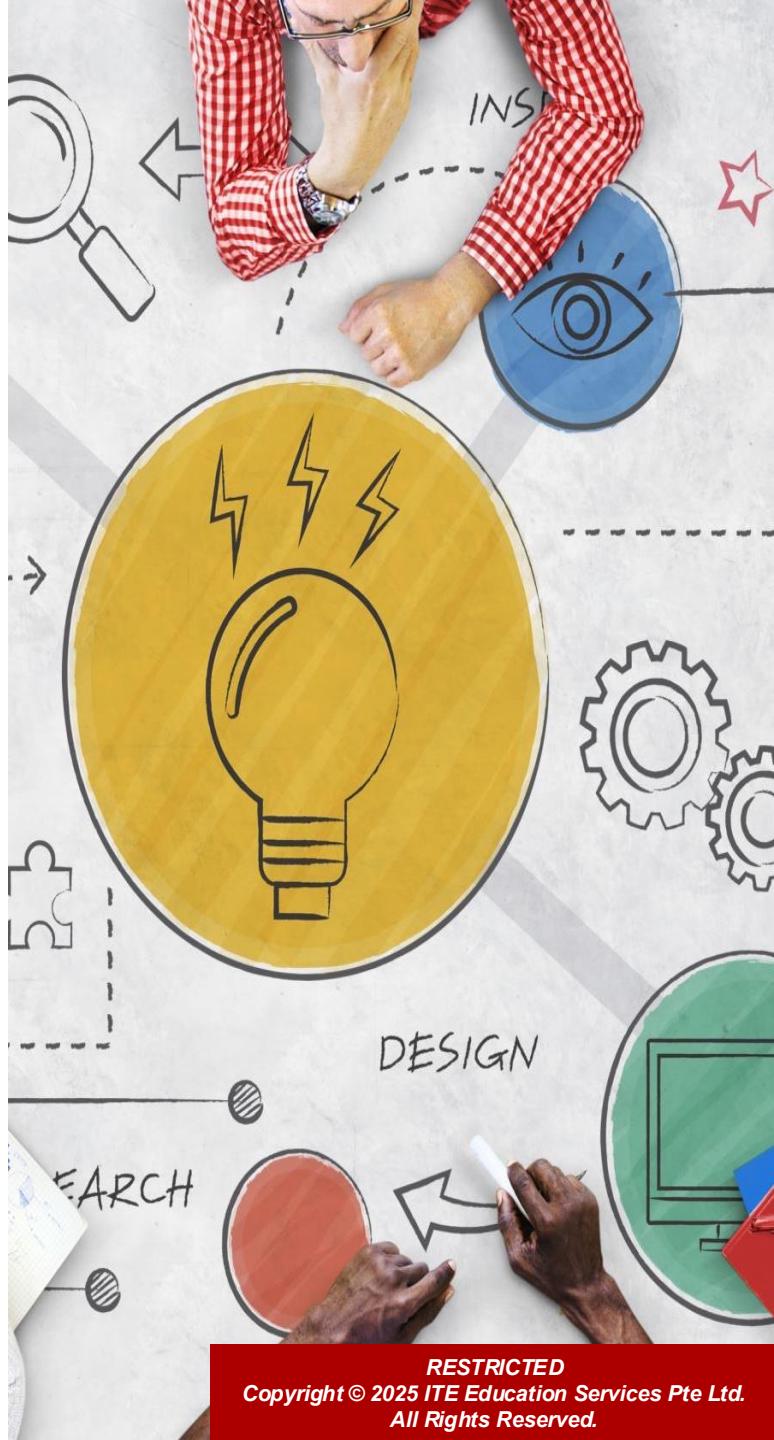
RESTRICTED

Copyright © 2025 ITE Education Services Pte Ltd.
All Rights Reserved.

NAVIGATING THE CHANGING ENVIRONMENT

Challenges vs Responses:

- Fast Tech Cycles → Curriculum Renewal
- Skills Obsolescence → Modular Lifelong Learning
- Inequality → AI Democratization
- Ethics → Responsible Governance



RESTRICTED

Copyright © 2025 ITE Education Services Pte Ltd.
All Rights Reserved.

EMPOWERING EMPLOYABILITY & LIFELONG LEARNING

Employability = Capability Agility

Skills → Capabilities → Competencies → Mindsets

AI-driven Lifelong Learning Journeys





GLOBALY COMPETENT & LOCALLY RELEVANT



Build Globally Portable Skills



Foster Cross-border TVET And AI Partnerships



Adopt Digital Credentials And International Standards

RESTRICTED

Copyright © 2025 ITE Education Services Pte Ltd.
All Rights Reserved.

THE FUTURE TECHNICAL PROFESSIONAL

- Human In The Loop
- Human Judgment + AI Speed = Next-gen Productivity
- Creativity, Empathy And Ethics Become Differentiators
- Continuous Learning Mindset Is Non-negotiable
- Metaphor: From A Violinist To A Conductor In An Orchestra

AI-empowered, Human-centered, And Globally Adaptive



RESTRICTED

Copyright © 2025 ITE Education Services Pte Ltd.
All Rights Reserved.

Thank You



“We are not just preparing people for today’s jobs but shaping the architects of tomorrow’s intelligent economy.” - Bruce Poh