



Bridging the Gap: AI Literacy and Policy for Educators

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Transforming Higher Education in the Age of AI
INTERNATIONAL INSTITUTE OF ONLINE EDUCATION (IIOE)
Global Partners Summit

The University of Hong Kong

Are our students Future Ready?





Are they ready for more unexpected events?

Are they ready to be replaced?



Are they ready to accept new ideas in the new world?



**What can we do to ensure our
students are future ready?**




Engineering & Education

- **Machine Vision/DSP**
- **Machine Learning**
- **Assessment**
- **Experiential Learning**
- **21st Century Skills
(Holistic
Competencies/Future
Readiness Skills)**
- **AI in Education**



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A blue-toned background graphic featuring a central cloud-like shape with the letters 'AI' inside. The cloud is surrounded by a network of glowing lines and nodes, with various icons like a QR code, a lightbulb, and a gear. The text 'AI is here to stay' is written in large white letters, followed by 'Is it A Game Changer?' in smaller white letters.

**AI is here to
stay
Is it
A Game
Changer?**

Or
Well, that kind of depends on our
A Pandora Box?
move as human and also our move as
educators

What is AI Literacy?

Authors	Year	Method Used	Level	AI Literacy Studies - Description
Kandlhofer et al.	2016	AI education framework	Kindergarten to University	Proposed an AI education framework targeting various educational levels; emphasis on defining key AI literacy topics with a step-by-step educational approach.
Long and Magerko	2020	Interdisciplinary exploratory review of literature	-	Defined AI literacy and developed a conceptual framework focusing on guidelines for AI literacy development.
Ng et al.	2021	Exploratory review	-	Proposed a multi-dimensional framework for AI literacy focusing on four key aspects, knowing and understanding AI, applying AI, evaluating and creating with AI, and addressing AI ethics and mapped onto Bloom’s Taxonomy.
Kong and Zhang	2021	Conceptual framework	Citizens in the digital age	Proposed a three-dimensional framework for AI literacy structured around cognitive, affective, and sociocultural dimensions.
Liu and Xie	2021	Impact study	University students (China)	Presented a framework focusing on three core aspects of AI literacy: Digital Literacy, Computational Thinking, and Programming Ability.
Karaca et al.	2021	Psychometric tool development	Medical Education and Data Science	Introduced the concept of "AI readiness" and developed a psychometric tool to measure medical students' perceived readiness for AI.
Laupichler et al.	2022	Scoping literature review	Higher and Adult Education	Explored AI literacy constructs in higher and adult education, focusing on its definitions, evolution, and practical applications.
Markauskaite et al.	2022	Polylogue discussion	-	Proposed the concept of "AI capabilities," emphasizing a holistic approach that integrates cognitive, humanistic, and social perspectives.
Cetindamar et al.	2022	Scoping review	Organisational and Digital Workplaces	Defined AI literacy in the context of workplaces, detailing four core capabilities: technology-related, work-related, human-machine-related, and learning-related.
		Program evaluation based on a		Defined AI literacy and evaluated an AI literacy programme based on a multi-

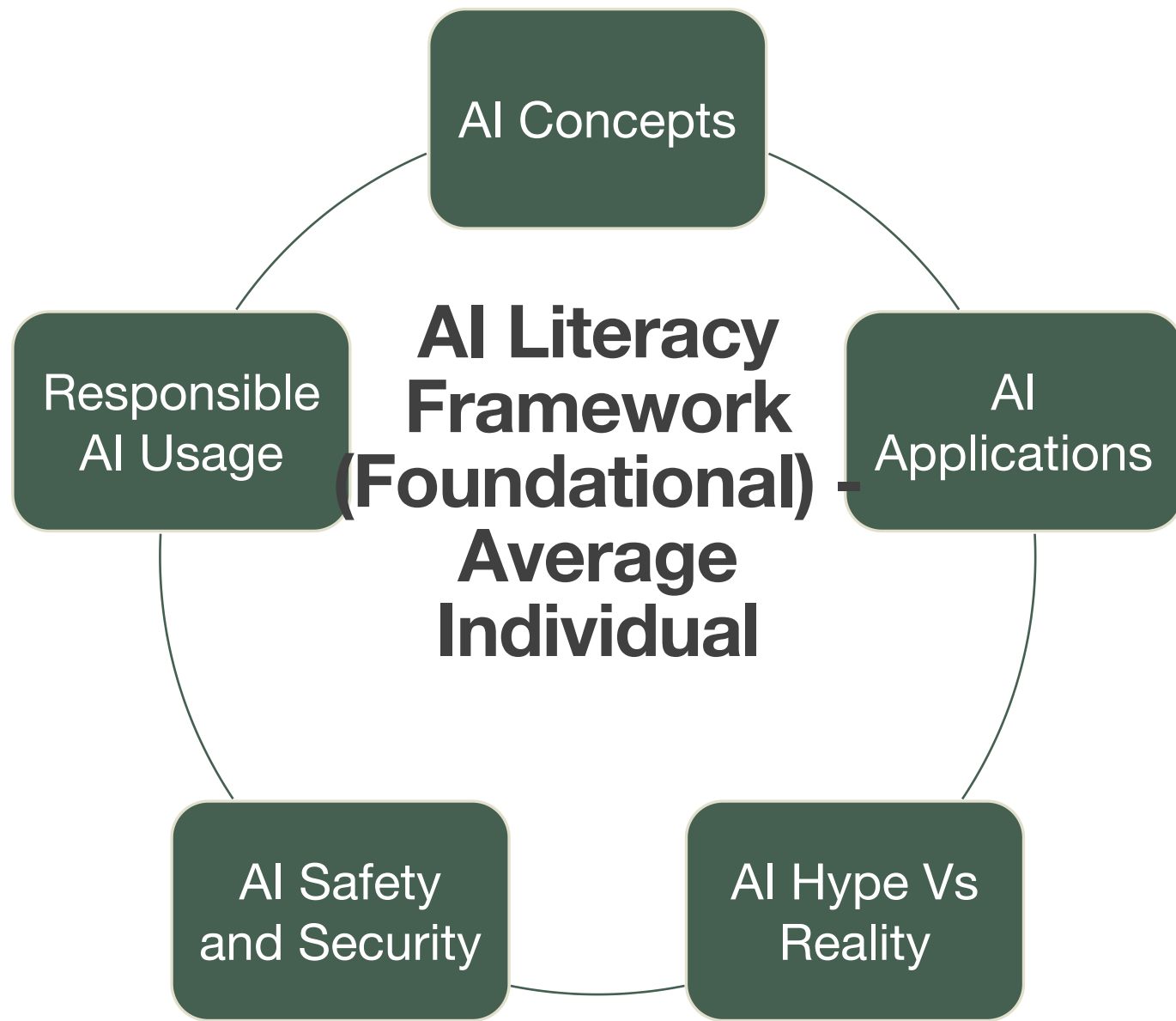
Definition of AI literacy for Typical Individual

AI literacy for a typical individual is the ability to comprehend, interact with, and make informed decisions regarding AI technologies in daily life. It involves understanding the basic principles of AI, recognizing its applications, and being aware of ethical, social, and privacy implications while responsibly engaging with AI systems.

Chan, CKY, 2023.



Chan, C. K. Y. (2023). AI literacy. Retrieved from <https://www.have.hku.hk/ai-literacy>



Chan, C.K.Y. & Colloton, T. (2024). *Generative AI in Higher Education: The ChatGPT Effect*. Routledge.

Roles

AI Concepts

- Familiarity with basic terminology (e.g., artificial narrow/general/super intelligence, machine learning, machine intelligence and machine consciousness) to facilitate comprehension of how AI systems function.

AI Applications

- Awareness of common AI tools and applications in everyday life, such as virtual assistants, recommendation systems, and facial recognition.

AI Hype Vs. Reality

- Differentiating between the true potentials of AI and 'hype' perpetuated by sensationalist marketing, in order to have realistic expectations of what AI can and cannot do.

AI Safety and Security

- Awareness of potential security risks associated with AI applications, including possible threats to personal data and misuse of technology.

Responsible AI Usage

- Developing a sense of responsibility when using AI applications, understanding that AI systems may have limitations including incorrect information (thus requiring fact-checking), considering ethical implications, and questioning the reliability of AI-generated content.



Additional
AI Literacy
Aspects
Relevant to
the Role

High
Level of
Literacy

Medium
Level of
Literacy

Low
Level of
Literacy

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AI Software Programmer Vs A Medical CD

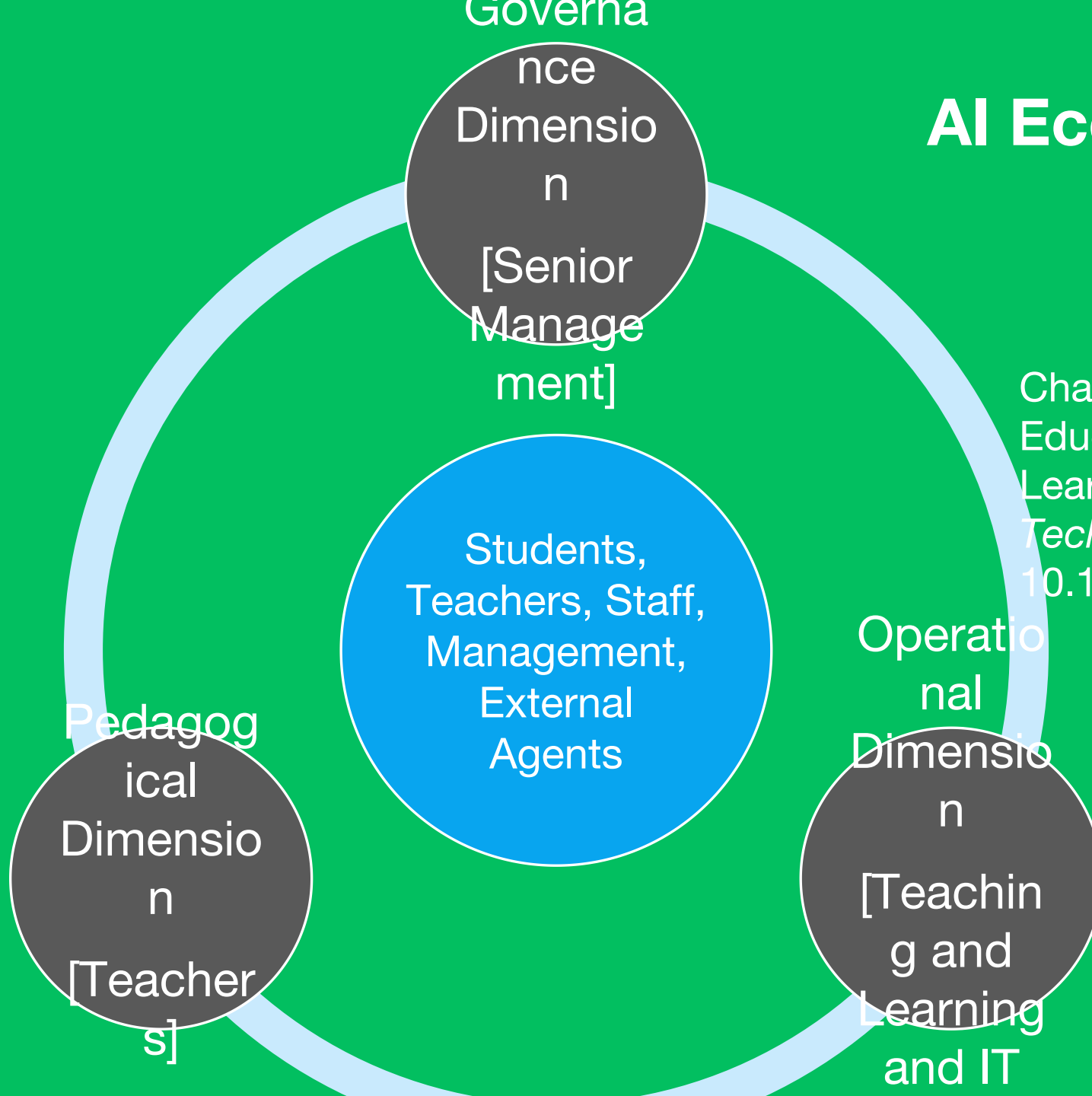


Would they
need the same
level of AI
literacy?

And what about Teachers?



AI Ecological Education Policy Framework



Chan, C.K.Y. (2023). A Comprehensive AI Policy Education Framework for University Teaching and Learning. *International Journal of Educational Technology in Higher Education*. DOI : 10.1186/s41239-023-00408-3



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Governance Dimension

1. Understanding, identifying, and preventing academic misconduct and ethical dilemmas
2. Addressing governance of AI: data privacy, transparency, accountability, and security
3. Attributing AI technologies
4. Ensuring equity in access to AI

technologies
Senior Management

Operational Dimension

1. Monitoring and evaluating AI implementation
2. Providing training and support for teachers, staff, and students in AI literacy

Teaching and Learning and IT staff

Pedagogical Dimension

1. Rethinking assessments and examinations
2. Developing student holistic competencies/generic skills
3. Preparing students for the AI-driven workplace
4. Encouraging a balanced approach to AI adoption

Teachers

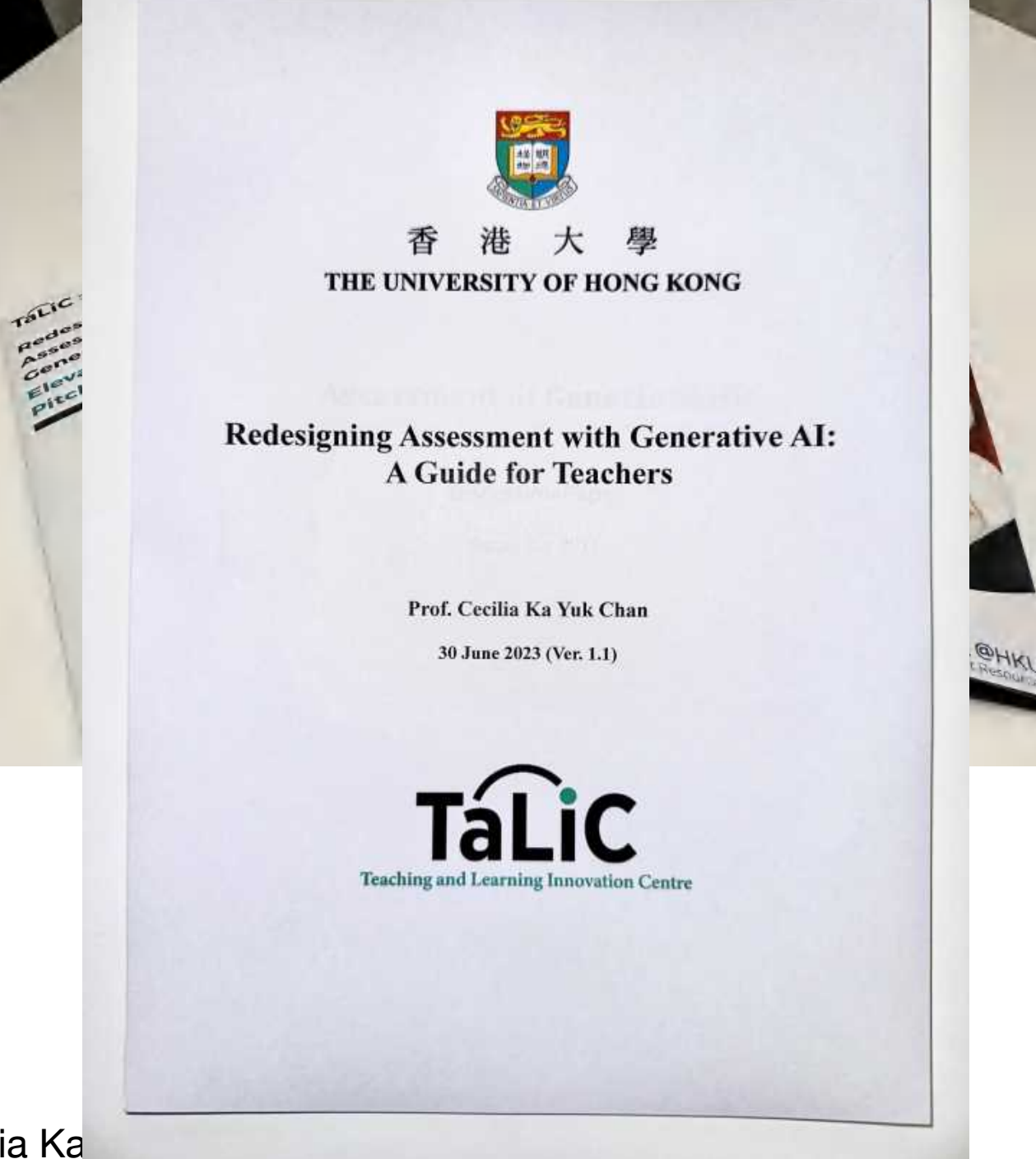


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Support and Professional Development

- **AI Policy for Teaching and Learning at HKU** – Approved in June 2023 by Senate
- **Redesigning Assessment with Generative AI: A Guide for Teachers** - Five Steps to AI-integrated Assessment Redesign, Attribution to AI, Scenarios for Assessment Redesign
- **WhatsApp Hotline** - Hotline specifically for GenAI Teaching and Learning



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AR@HKU
website

- **AI in Education Lab** – to develop new AI apps for teaching and learning





University Support

- **HKU AI Clinic** - The clinic is staffed with colleagues from Teaching and Learning Innovation Centre (TALIC) and trained students for one-to-one support, including downloading apps or trying out image, text, speech or video GenAI applications.
- **AI in Education Website (AIED@HKU)** - A dedicated website providing additional resources.
- **AI-Literacy Self-paced Online Courses** - We have developed an AI literacy course for all HKU students and staff.



Generative AI in Higher Education: The ChatGPT Effect



Cecilia Ka Yuk Chan
Tom Colloton
Routledge

Book: Table of Contents

- Ch 1 Introduction to Artificial Intelligence in
Higher Education
- Ch 2 AI Literacy
- Ch 3 Strengths and Weaknesses in Embracing
ChatGPT in Curriculum Design
- Ch 4 Redesigning Assessment in the AI Era
- Ch 5 Developing an AI in Education Policy
- Ch 6 Technology Behind GenAI
- Ch 7 The Future of Artificial Intelligence in Education



AI in Education Research



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History has shown us that when technologies are used appropriately and judiciously, they work alongside us to improve our way of living. Whether AI technology is a game-changer for us or a Pandora's box does not matter. What matters is how we can leverage this opportunity while remaining ethical. We need to use our imagination and be Future Ready. The question is, are you ready to move forward with it?



Thank You

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AI x Education

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谢谢

Thanks

Merci

Спасибо

Gracias