



亞洲大學
ASIA UNIVERSITY



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AI and Quantum Research Center (AIQRC), Asia University, Taiwan

Activities

[1] From July 20 to July 24, 2026

Asia University, AIQRC and Ministry of Education's Taiwan Global Pathfinders Grant Program

The Ministry of Education's Youth Overseas Dream Fund Program has launched the "IBM Quantum Dream" initiative, aiming to cultivate the next generation of " π -shaped" quantum talents and promote interdisciplinary innovation and applications.

The program is led by **Chair Professor Kuan-Tsae Huang** and **Distinguished Professor Ka Lok Ng**, who serve as the **Director** and **Deputy Director**, respectively, of the **AI and Quantum Research Center** at **Asia University**. Chair Professor Huang and Distinguished Professor Ng are faculty members of the **Department of Computer Science & Information Engineering** and the **Department of Bioinformatics and Medical Engineering**, Asia University, respectively.



Figure 1: IBM Quantum Dream: New York Study Camp Poster.

Continuing from last week's activities, the program was held at the renowned **Fordham University** on **July 20, 2026**. **Dr. Samuel Chen** from **Wells Fargo Bank** delivered an engaging and informative presentation on quantum computing and its future architectures. He not only explained the principles and potential applications of various qubit technologies but also inspired participants to explore the boundless possibilities of quantum technology.



Figure 2: Dr. Samuel Chen provides an in-depth explanation of quantum computing and emerging quantum architectures.

On **July 21, 2026**, participants had the opportunity to engage with **Dr. Eric Yeh**, Chief Investment Officer of **Coastal Management, LLC**. Dr. Yeh shared his valuable experience in the financial sector and offered unique insights into how quantum technology may transform the future of finance. His presentation further strengthened participants' understanding of the integration of quantum computing and finance.



Figure 3: Participants pose for a group photo with Dr. Eric Yeh, Chief Investment Officer of Coastal Management, LLC, gaining deeper insights into quantum finance.

Trustworthy AI: Unlocking Unlimited Potential While Shaping Technological Ethics

On **July 22, 2026**, a special seminar on **“Trustworthy AI”** was held as part of the program. **Professor Frank Hsu** and two of his outstanding students shared their latest research and insights on AI development trends, ethical challenges, and the construction of fair, transparent, and accountable AI systems. The seminar broadened participants' understanding of the AI landscape and emphasized the importance of developing trustworthy AI while pursuing technological innovation.



Figure 4: Professor Frank Hsu and his two students share valuable perspectives during the Trustworthy AI seminar.

Advancing Quantum Finance Applications: JP Morgan's Forward-Looking Vision

On **July 23, 2026**, the camp welcomed **Dr. Sun** from **JP Morgan**, who delivered an enlightening presentation on applications of quantum computing in finance. Dr. Sun explained how quantum algorithms could offer advantages in tackling complex financial challenges, including risk management, asset pricing, and portfolio optimization. His presentation expanded the participants' understanding of commercial quantum applications and highlighted the critical role of interdisciplinary talent in financial innovation.



Figure 5: On July 23, 2026, Dr. Sun of JP Morgan discusses the future prospects of quantum computing in finance.

Tour of the IBM Innovation Center: Exploring Quantum Frontiers and Corporate Vision

On **July 24, 2026**, participants from both the “**IBM Quantum Dream: New York Study Camp**” and “**Quantum Finance: U.S. Career Exploration Program**” visited the **IBM Innovation Center** together. IBM’s professional team introduced participants to IBM’s leadership in quantum computing, positioning quantum computers as a highly promising emerging technology and demonstrating how IBM continues to drive innovation as a global leader in this field.

Through a comprehensive tour and presentations, participants gained a deeper understanding of IBM’s strategic investments in quantum research, hardware development, and software ecosystem construction

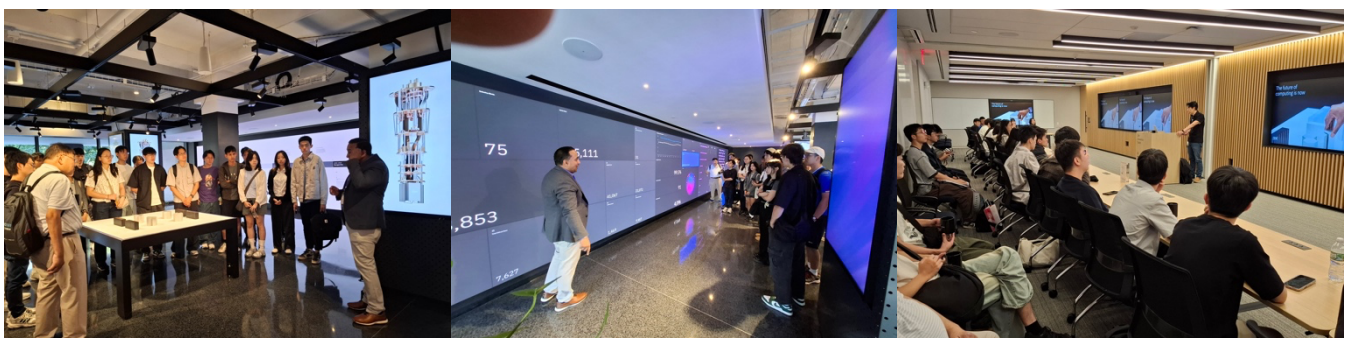


Figure 6: On July 24, 2026, the IBM Innovation Center team introduces IBM’s leading quantum technologies and future vision to participants.

During the visit, participants from both programs engaged in enthusiastic discussions and took a memorable group photo, symbolizing the convergence and collaborative potential of two emerging forces in future technologies.



Figure 7: On July 24, 2026, participants from the “IBM Quantum Dream” and “Quantum Finance” programs gather for a group photo at the IBM Innovation Center.

A concluding group photograph captured the spirit of the event perfectly: experienced quantum experts standing alongside aspiring young scholars, symbolizing the intergenerational transfer of knowledge and the spark of innovation.

Following the tour, **Dr. Jeng-Bang Yau**, Senior Research Scientist at the **IBM T.J. Watson Research Center**, delivered an inspiring lecture. Dr. Yau shared his experiences and perspectives from the frontiers of scientific research, motivating participants to pursue scientific discovery and innovation while providing deeper insight into IBM’s commitment to advancing fundamental research.

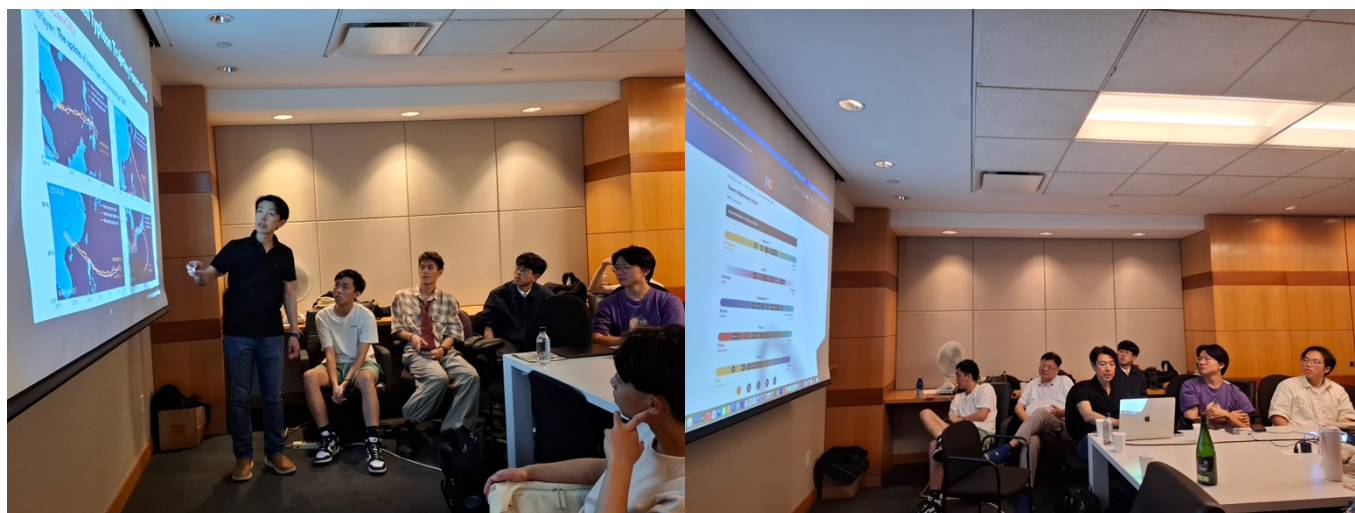


Figure 8: Dr. Jeng-Bang Yau, Senior Research Scientist at the IBM T.J. Watson Research Center, shares insights from cutting-edge scientific research.

Bringing Together Diverse Expertise to Build the Quantum Future

The “**IBM Quantum Dream**” series successfully brought together leading minds from academia and industry. From Dr. Samuel Chen’s in-depth analysis of quantum architectures, to the forward-looking perspectives on quantum finance presented by Dr. Eric Yeh of Coastal Management, LLC and Dr. Sun of JP Morgan, to Professor Frank Hsu and his students’ reflections on Trustworthy AI, along with the IBM Innovation Center tour and Dr. Jeng-Bang Yau’s research insights, participants experienced an unparalleled interdisciplinary learning journey. These rich interactions and hands-on experiences deepened their understanding of quantum computing, AI ethics, and cross-disciplinary applications while reinforcing their commitment to becoming “ **π -shaped talents.**”

We firmly believe that these future leaders will integrate their knowledge and experiences to open new chapters in AI and quantum technologies, driving the next wave of innovation and shaping the future.

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Open Call Collaboration: Quantum–AI-Assisted Anthocyanin Detection in West Java *Ipomoea aquatica* Using Natural Images

Ipomoea reptans, commonly known as water spinach in English, is cultivated as a leafy vegetable in many Asian countries (Hong & Gruda, 2020), yet it has not been intensively cultivated. In Southeast Asia, especially Indonesia, this species is commonly called kangkung. Water spinach is an amphibious plant that adapts well to wetland ecosystems. It can float on the water surface, grow on muddy soils, or thrive in non-flooded lowlands. In addition to being a green vegetable, water spinach is employed in the pharmaceutical industry (Chen et al., 2018; Hefny Gad et al., 2018); and for phytoremediation of contaminated soil, particularly in wetland environments (Chanu & Gupta, 2016; Tang et al., 2017). The plant is rich in amino acids and vitamins, and it offers benefits through antioxidant properties and α -glucosidase inhibitory activity (Lawal et al., 2017).

Water spinach “Violet 71,” also known as Kangu 71, is a new variety that we developed to produce anthocyanin. We registered it with Indonesia’s National Research and Innovation Agency. In our smart-agriculture proposal, we use technology to identify phenotypes that grow well and yield high anthocyanin content. Anthocyanin largely benefits the body as an antioxidant (Lestario, 2018).

In this study, we employ AI and quantum technologies to select figures from the Kangu 71 field at three levels—Low, Medium, and Strong. As shown in Figure 1, the workflow begins with data collection from the Kangu 71 field, then uses PCA to identify samples close to green-kangkung, after which we classify them. We then apply ensemble learning with a ResNet-18 model, quantum transfer learning, and GSCV, ultimately producing three classes.

Given our limited facilities and modest grant resources, we are inviting collaboration to secure funding for this research (Figure 2).

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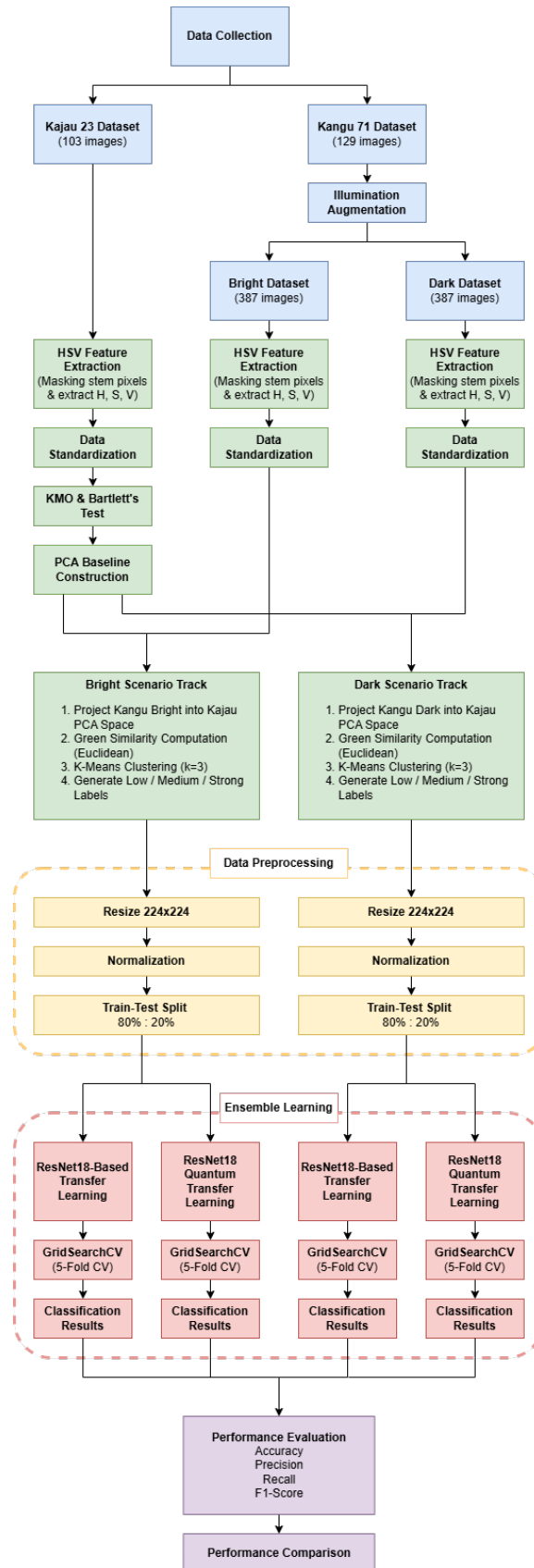


Figure 1. Workflow of the study



Figure 2. At Water Spinach Field

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