

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

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[1] Upcoming event, Dec. 3 – 4, 2026

About the Symposium

AI is moving beyond chatbots and software — into robots, factories, vehicles, and autonomous systems that sense, reason, and act in the real world. This is Physical AI, and it represents the next great competitive frontier for enterprise technology.

Physical AI & Robotics Symposium 2026 brings together the pioneers building this future — engineers, researchers, and enterprise leaders working at the intersection of AI, robotics, and industrial automation. Over two days, attendees will explore how intelligent machines are reshaping manufacturing, healthcare, logistics, and human-machine collaboration, and what it truly takes to move Physical AI from experimentation

Click [here](#) for more details.



[2] Asia University and AIQRC, supported by the Ministry of Education's Taiwan Global Pathfinders Grant Program, provide Taiwan students with world-class experiential learning opportunities through programs in IBM quantum technologies, UCLA academic exchange, quantum finance, humanoid robotics, and astronaut mission training.



(A) IBM dream program



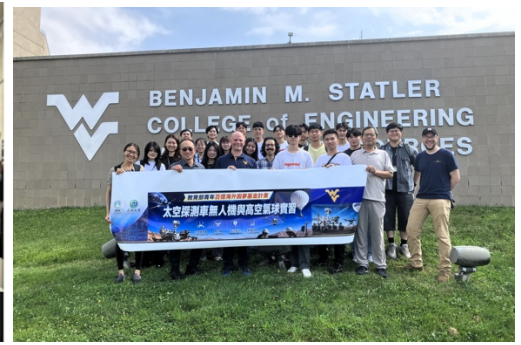
(B) UCLA elite program



(C) Quantum finance program



(D) Humanoid robot program



(E) Astronaut mission training program

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[3] Learning from Recent AI Research in Clinical Settings

Learning from Recent AI Research in Clinical Settings

Recent advances in artificial intelligence (AI) are increasingly focused on integrating AI into clinical practice, particularly to support faster and more efficient diagnosis. In hospitals and medical centers with a high volume of patients and diagnostic data, clinicians often need to review large amounts of information and make decisions as quickly and accurately as possible. This creates a practical challenge: how can AI support clinicians without replacing clinical judgment?

Recent research has begun to provide potential solutions to this challenge. Several large-scale studies published in *Nature Medicine* demonstrate how AI can be developed not only as a prediction tool, but also as a system that can be evaluated across different populations and integrated into clinical workflows.

Three recent examples are the **Liver DiagnOsis Network (LiON)**, the **Esophageal AI-Guided malignant Lesion Evaluation (EAGLE)**, and **Reti-Pioneer**. Although these systems were developed for different clinical problems, they share several important principles.

Common AI Infrastructure

Although their specific architectures are different, the studies share several underlying principles. These include *deep-learning-based feature extraction*, *biomarker or feature identification*, *task-specific prediction*, and *external validation*.

COMPARATIVE ANALYSIS OF THREE AI MEDICAL SYSTEMS



THREE AI SYSTEMS: COMMONALITIES & DISTINCT ROLES



SIMILARITIES ACROSS ALL THREE STUDIES

IMAGING-BASED DIAGNOSTICS



Use biological or clinical imaging data (CT scans & retinal photographs) as the primary source for diagnostic information.

CLINICAL TRANSLATION GOALS



Focus on real-world application for screening, diagnosis, and clinical decision-making, beyond just high model performance.

LARGE-SCALE & MULTICENTER VALIDATION



Models tested on large, diverse datasets from multiple hospitals to ensure strong generalizability and robustness.



DIFFERENT CLINICAL ROLES OF THE THREE AI SYSTEMS



LiON: AI-Assisted Diagnosis



Target: Liver Malignancy.

Architecture: Deep-learning feature extraction, segmentation, classification.

Role: Assist clinicians in identifying and characterizing malignant lesions.

EAGLE: AI-Enabled Screening



Target: Esophageal Cancer.

Architecture: 3D U-Net/nnU-Net, ResEnc-based CNN, lesion localization.

Role: Use non-contrast CT for population screening and early detection.

Reti-Pioneer: Systemic Disease Prediction



Target: Multiple Systemic Diseases.

Architecture: Retinal photograph pattern recognition.

Role: Identify patterns associated with various systemic conditions using fundus images.



DRIVING THE FUTURE OF PRECISION MEDICINE THROUGH AI INNOVATION



Graphic generated by Gemini, Google, September 27, 2026, google.com.

Implications for Future Clinical AI Research

This framework is potentially applicable beyond medical imaging, as similar principles can be applied to other types of clinical and biological data, including genomics, transcriptomics, proteomics, metabolomics, and microbiome data.

These examples suggest that future clinical AI research should move beyond developing models with high accuracy alone, with greater emphasis on **generalizability, biological interpretation, external validation, and clinical implementation.**

In this context, AI can serve as a bridge between **large-scale biological data and clinical decision-making**, providing additional information to support screening, diagnosis, risk assessment, and the efficient interpretation of complex clinical data rather than replacing clinical judgment.

References

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