Partnering with Elite Group —Chih-Yung Chang's Industry-Academia Collaboration Project Earns NSTC Outstanding Award

Campus focus

The 2025 NSTC Department of Engineering "Industry-Academia Collaboration Project Results Presentation and Performance Evaluation Meeting" was held on November 4, 2025. Dr. Chih-Yung Chang, Distinguished Professor in the Department of Computer Science and Information Engineering, and Dr. Kuo-Chung Yu, Professor and Chair of the Department of Artificial Intelligence, received the Outstanding Award and Merit Award, respectively, in the Category B Poster Session (Electronics and Information & Communications Field). Notably, Chang was the only faculty member from a private university to receive the Outstanding Award in this category. His research results were unanimously affirmed by both reviewers and attending scholars for their high practical applicability and technical feasibility.

The project for which Prof. Chang received the Outstanding Award, titled "Deep Learning-Based Bullying Detection and Attention Recognition System" (「識系基於深度學習之霸凌偵測及專注力辨統」), was conducted by his Artificial Intelligence and Industrial Technology Laboratory in collaboration with Elite International Education Group, an alumni-founded enterprise, as an NSTC-supported industry-academia collaboration project. Related research outcomes have been successively published in internationally renowned journals, including IEEE Transactions, demonstrating strong R&D capabilities.

Chang's project leverages existing camera equipment in kindergartens, integrating AI technologies to establish a real-time system for detecting bullying behavior. When the system identifies a suspected bullying scenario, it can immediately notify class teachers or parents via text message, enabling timely intervention to protect children. The AI models employed integrate multimodal data, including images, audio, and prosodic features, and apply multiple deep learning models with fusion-based

decision-making to enhance detection accuracy and reliability.

Another project, led by Prof. Kuo-Chung Yu as Principal Investigator with Prof. Chang as Co-Principal Investigator, received the Merit Award. Titled "A Knowledge Graph- and ChatGPT API-Based Consultation System for Senior High School Students: Design and Implementation of a LINE Bot Using National Taiwan University Webpages as the Knowledge Base (Empower Harbor)" (「基於知識圖譜與ChatGPT API的高中生咨詢系統：以台灣大學網頁為知識庫的 Line Bot 設計與實作（賦能港）」), the project was carried out in collaboration with Empower Harbor Technology Co. It addresses the education sector's urgent need for timely, accurate, and personalized college admissions information services. By integrating Knowledge Graphs (KGs) with semantic vector retrieval and consolidating diverse data sources, including ColleGo!, Wikipedia, and official Ministry of Education regulations, the project creates a continuously updatable, structured knowledge base and an efficient semantic retrieval workflow, forming the core foundation for intelligent admissions counseling.

The outcomes of Yu's project have been deployed at multiple senior high schools during the college application period, serving students and their parents. User feedback indicates that the real-time responses and clear explanations provided by the LINE Q&A chatbot enable users to understand admissions information more effectively and complete preference selection with greater confidence, demonstrating the system's practical value and effectiveness.


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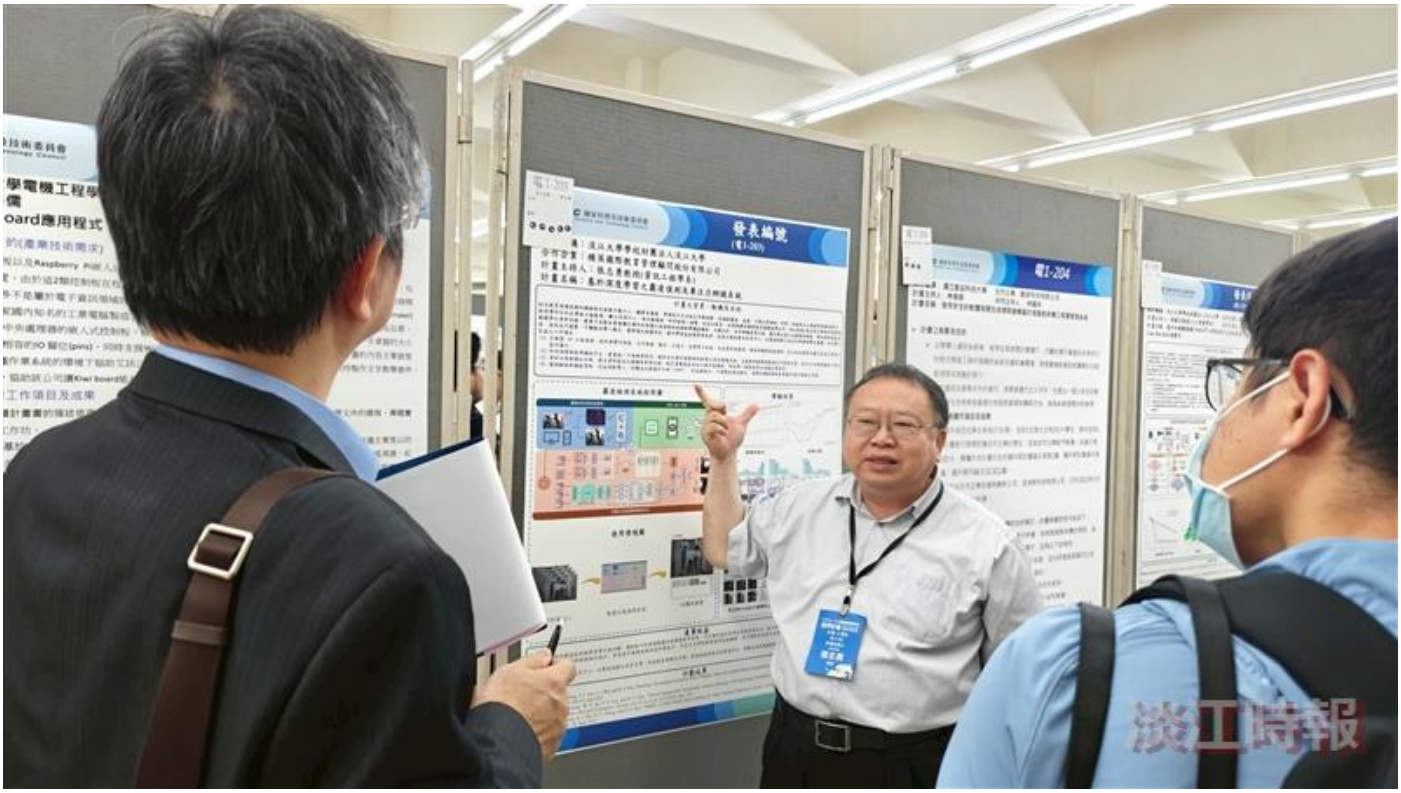
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