Tamkang Electrical and Computer Engineering Robotics Team Dominates National Competition — Wins Gold and Popularity Awards at the Techman Robot Competition

Campus focus

Tamkang University's Department of Electrical and Computer Engineering robotics team, "Read the Instructions Before Use" (「使用前請詳閱說明書」), triumphed at the 4th Techman Robot Smart Manufacturing Application Competition, winning both the Gold Award in the AI Innovation Category and the Most Popular Award. Held at the Taipei Nangang Exhibition Center, this year's competition centered on the theme "AI × Industrial Applications," attracting over 100 teams nationwide. National Taiwan University received the Silver Award, while National Formosa University received the Bronze Award. The Tamkang University team stood out from the competition, delivering an outstanding performance.

Under the guidance of Prof. Ching-Chang Wong, the team, including Ph.D. student Kun-Duo Weng, applied AI-based image recognition, robotic arm control, and digital twin technologies, incorporating tools such as NVIDIA Isaac Sim, cuRobo, Grounding DINO, and SAM2 to automate the medicine identification, retrieval, and packaging process, significantly reducing pharmacists' workload, minimizing errors, and enhancing medical efficiency and safety, earning high praise from the judges. The team was represented by Yan-Ming Chen (2nd-year graduate student in Electrical and Computer Engineering) and 4th-year undergraduates Yu-Hsin Chen, Tzu-Yi Huang, and Yi-Heng Sun in receiving the honors.

Kun-Duo Weng shared that the team faced numerous challenges during the competition, including implementing the system from virtual simulation to physical operation and developing path planning from image recognition to robotic arm control. These were entirely new experiences for the team, who not only learned how to transform complex technologies into practical applications but also gained a deeper understanding of the real-world difficulties of implementation. He expressed special gratitude to Prof.

Wong for his support, to senior teammates for their guidance, and to the judges and organizers for their valuable feedback, which enabled him to see greater possibilities for practical applications of their work. “Winning this award is the greatest affirmation for our team,” he added. “We hope to continue improving the system, extending its application to medical environments to realize its true value, and this achievement gives us even greater confidence to pursue innovation in smart manufacturing and robotics in the future.”


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