

Distinguished Lecturer Visit by Prof. Daoyi Dong at IEEE SMCS Chongqing Chapter, 1st, August, 2025

Prof. Daoyi Dong's IEEE SMCS Distinguished Lecture was successfully held in the Academic Report Hall A316 of the Information Technology Research Building at the Huxi Campus of Chongqing University on August 1, 2025. The lecture is jointly organized with the Academic Frontier Forum on "Cutting-edge Theories for Embodied AI Robotic Control" and the 15th Premium Academic Lecture in G-Seminar Series was successfully held. Hosted by IEEE Beijing Section, Systems, Man and Cybernetics & Robotics and Automation Joint Societies Chapter (SMC28/RA24), and co – organized by Chongqing University's School of Automation and Academy of Artificial Intelligence, this event featured renowned AI and control systems expert Professor Daoyi Dong from the University of Technology Sydney's AI Institute as keynote speaker. Dr. Shaoxin Sun of Chongqing University chaired the session, which attracted numerous faculty, students, and researchers to explore frontier applications of reinforcement learning (RL) in robotics, gaming, and quantum engineering.

Professor Dong is a well-known expert in the field of artificial intelligence and control systems, focusing on the theme of "Reinforcement learning with applications in robotics, games and quantum engineering". Professor Dong methodically deconstructed the core logic of reinforcement learning, elucidating how autonomous agents learn optimal behavioral strategies through environmental interaction. His presentation showcased advanced algorithms including incremental reinforcement learning, quantum reinforcement learning, and quantum-inspired deep reinforcement learning. Through case studies spanning robotic control, gaming decision-making, and quantum engineering optimization, Professor Dong demonstrated RL's profound potential for precision decision-making and adaptive learning in complex systems, offering novel pathways for breakthroughs in embodied AI robotic control.

During the Q&A session, teachers and students actively participated. They engaged in in - depth discussions with Prof. Dong on topics like the challenges in implementing reinforcement learning algorithms, the practical directions of quantum reinforcement learning, and the optimization of algorithm robustness in complex environments. Prof. Dong, with the help of scientific research examples, provided answers from theoretical derivations to engineering practices, inspiring everyone to consider new possibilities for interdisciplinary integration.

This lecture was not only a sharing session of cutting - edge reinforcement learning knowledge but also a vibrant platform for academic exchanges. It attracted a number of IEEE SMCS members and non-members to attend this event. Through Prof. Dong's in - depth explanations, participants gained a clearer understanding of quantum reinforcement learning. It also provided an opportunity for teachers and students of relevant disciplines at Chongqing University to communicate with top international scholars, facilitating research teams' exploration of breakthroughs in intelligent robot control and the intersection of quantum engineering. This will promote the coordinated and innovative development of disciplines such as automation and artificial intelligence. In the future, IEEE SMCS Chongqing Chapter and the School of Automation Chongqing University will continue

to host high - end academic activities, gather global wisdom, empower discipline construction and scientific research, and inject new impetus into the development of the intelligent control field.



Figure 1: Prof. Daoyi Dong presents the IEEE SMC Distinguished Lecture on 1st, August, 2025, at Chongqing University, China.



Figure 2: Dr Shaoxin Sun at Chongqing University introduced Distinguished Lecturer Prof. Daoyi Dong.



Figure 3: Faculty-Student Group Photograph at Chongqing University attending the IEEE SMC Society Distinguished Lecture on site.