數據科學系列演講
Data Science Seminar

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國立交通大學光復校區

工程三館 115

講題：Strengthen Your Tactical Nous with Computer Vision and Virtual Reality

Tactic training plays a crucial role in basketball offensive plays. With the aid of computer vision technology, we can track the players to detect wide open event and further help the coach to infer the tactics of each team. Moreover, virtual reality (VR) technology can be applied to improve the effectiveness and experience of tactic learning. In this talk, we will introduce a VR training framework, which allows the user to conveniently input target tactic and practice in a high-fidelity circumstance. By the assistance of our VR training system, the user can vividly experience how the tactics are executed by viewing from the specific player's viewing direction. Additionally, tactic movement guidance, action hint of how to offense effectively, and virtual defenders are rendered in our system to make the training more realistic. We designed two experiments and the results showed that players can strengthen their tactical nous and improve the efficiency of tactic training based on the proposed VR training system.

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Min-Chun Hu is also known as Min-Chun Tien and Ming-Chun Tien. She is an Associate Professor in the Department of Computer Science and Information Engineering, National Cheng Kung University, Taiwan. She received the B.S. and M.S. degrees in computer science and information engineering from National Chiao Tung University, Hsinchu, Taiwan, R.O.C., in 2004 and 2006, respectively. In 2011, she received the Ph.D. degree in the Graduate Institute of Networking and Multimedia, National Taiwan University, Taipei, Taiwan, R.O.C. She was a postdoctoral research fellow of Research Center for Information Technology Innovation, Academia Sinica, from 2011 to 2012. She was awarded the Exploration Research Award from Pan Wen Yuan Foundation, the Outstanding Youth Award from the Computer Society of the Republic Of China (CSROC), and the Best Young Professional Member Award of IEEE Tainan Section in 2015, 2017, and 2018, respectively. Her research interests include digital signal processing, multimedia content analysis, machine learning, computer vision, computer graphics, virtual reality and augmented reality.

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