

專題演講講者介紹

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主要學歷：

- *Ph.D. in Computer Science*, Illinois Institute of Technology, Chicago, IL, USA, August 2000 - May 2005.
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- *Director*, Institute of Compute Science and Engineering, National Chiao Tung University, Hsinchu City, Taiwan, August 2019 - Present.
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- *Director*, Institute of Network Engineering, National Chiao Tung University, Hsinchu City, Taiwan, August 2016 – July 2019.
- *Professor*, Department of Compute Science, National Chiao Tung University, Hsinchu City, Taiwan, August 2014 - Present.
- *Associate Professor*, Department of Compute Science, National Chiao Tung University, Hsinchu City, Taiwan, August 2009 - July 2014.
- *Assistant Professor*, Department of Compute Science, National Chiao Tung University, Hsinchu City, Taiwan, August 2005 - July 2009.
- *Director and Lecturer*, Department of Information Management, Dahan Institute of Technology, Hualien, Taiwan, August 1999 - July 2000.
- *Lecturer*, Department of Computer Science and Information Engineering, Dahan Institute of Technology, Hualien, Taiwan, September 1997 - July 1999.
- *Assistant Manager*, Computer Center, Hualien First Credit Cooperative, Hualien, Taiwan, July 1995 - August 1997.
- *System Engineer*, Open System Group, SYSCOM Inc., Taipei, Taiwan, August 1993 - July 1995.

簡歷：

Dr. Chih-Wei Yi is a Professor with the Department of Computer Science, National Chiao Tung University. Currently, he is the Director of the Institute of Computer Science and Engineering, NCTU. He received his B.S. in Mathematics and M.S. in Computer Science and Information Engineering from the National Taiwan University in 1991 and 1993, respectively, and Ph.D. in Computer Science from the Illinois Institute of Technology in May 2005. He is a member of the Institute of Electrical and Electronics Engineers (IEEE). He had been a Senior Research Fellow of the Department of Computer Science, City University of Hong Kong. He was named the Outstanding Young Engineer by Chinese Institute of Engineers, Taiwan, 2009. He received the Young Scholar Best Paper Award from IEEE IT/COMSOC Taipei/Tainan Chapter, 2010. His research focuses on wireless ad hoc and sensor networks, intelligent transportation systems, mobile sensing, and data mining.

He has published more than 30 papers in top ranking journals, including IEEE Transactions on Wireless Communications, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Communications, Theoretical Computer Science (TCS), Algorithmica, IEEE/ACM Transactions on Networking, IEEE Transactions on Information Theory, etc., and more than 40 papers in famous international conferences, including IEEE Globecom, IEEE WCNC, ACM MobiCom, ACM MobiHoc, ICDCS, etc.

One of his research works on randomly-deployed wireless ad hoc and sensor networks that are usually modeled as random geometric graphs. His asymptotic analysis shows the evolution of network topology and can be applied to transmission range setting and network topology control. He involved in various sensor-related or network-related projects, including sensor-enhanced positioning systems, network coding for wireless networks, and intelligent transportation systems. Recently, his researches focus on developing core technology for deep learning applications such as video context analysis, smart store technology, sports e-coaching systems, and microscopic traffic flow data collection.

講題：TrackNet: A Deep Learning Network for Tracking High-speed and Tiny Objects in Sports Applications

摘要：

近年因深度學習技術的進步，將電腦影像處理使用在運動轉播的加值或微觀情蒐已是熱門的應用方向。在球類運動中，球的追蹤是重要的一環，在【CoachAI：「金」準羽球】計畫中，我們希望以轉播影片為情蒐資料來源，應用電腦影像處理、機器學習與深度學習等技術，開發自動化且低成本的戰情收集與戰術分析系統。這個演講將介紹TrackNet及TrackNetV2 兩個深度學習網路的設計，可用於定位轉播影片中快速飛行的網球及羽球並記錄飛行軌跡，未來結合機器學習技術可從時序資料中計算對戰資料，取代傳統的人工標記作業。