Yan Wu (Sr Member IEEE)

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RESEARCH INTERESTS

Service and Assistive Robotics and Technology, Robot Learning by Demonstration, Human-Robot Interaction, Machine Learning

EDUCATION

Imperial College London, London, United Kingdom

PhD. in Electrical Engineering, Oct 2008 ∼ Sep 2012
- Thesis: Towards Robot Learning of Tool Manipulation from Demonstrations
- Supervisor: Prof Yiannis Demiris
- Area of Study: Human-Robot Interaction, Machine Learning

The University of Cambridge, Cambridge, United Kingdom

MA.(Cantab), BA.(Hons), Oct 2004 ∼ Jun 2007
- Information and Computer Engineering
- Courses: Computational Neuroscience, Control and Software Engineering, Signal Processing and 2 years of general engineering training

AWARDS

Tan Kah Kee Young Inventor Award (Merit), Singapore, 2018
KUKA Joint Exhibition @ IEEE ICRA, 2017
SMP Outstanding Mentor, Ministry of Education, Singapore, 2015
Best Paper Award Finalist, IEEE Int'l Conf. on Robotics & Biomimetics, 2010
A*STAR Chairman's Honours List, 2005.
National Science Scholarship (BS - PhD), 2004 ∼ 2012.

WORK EXPERIENCE

Institute for Infocomm Research, Singapore

Assistant Department Head & Scientist   **Dec 2013 to present**

Co-Investigator, **Collaborative AI for Advanced Manufacturing Engineering**, Nov 2018 to Nov 2023
- Research Directions: Tactile touch sensing for object and environment understanding and safe interaction

Co-Investigator, **Project Pholus**, Apr 2016 - present
- Research Directions: Multimodal learning of robot motor skills and compliant human-robot interaction
- Leading the effort on dexterous motor skill acquisition and interaction with other agent in a multi-legged centaur-like robot.

Member, **SERC Industrial Robotics Programme**, Dec 2013 - Feb 2017
- Research Direction: Industrial Learning by Demonstration
- Focus on designing a learning model for industry production applications
- Proposed and published a teach-on-the-fly framework

NHS Great Ormond Street Hospital for Children, London, UK

Research Fellow   **Aug 2012 to Dec 2013**

Improving the Motor Outcomes of Hemispherectomy in Children

- Concurrent Research Associate position at UCL Institute of Child Health
- Provide research guidance for the PhD student on the machine learning and engineering aspects of the work
- Design experiment protocols for kinematics outcomes assessments

The Institute of High Performance Computing, Singapore

Research Officer **Jul 2007 to Aug 2008**

Principal Investigator, **Climatic factors influencing outbreak of dengue fevers in Singapore**, Sep 2007 to Jul 2008.
- Developed mathematical and computational models correlating climatic data and dengue outbreak.

Co-Investigator, **Public education project on mosquito surveillance**, Sep 2007 to Jul 2008
- Initiated this nationwide education project for secondary school students on mosquito surveillance to study the dynamics of mosquito breeding and associated virus transmission patterns.
- Attracted and coordinated the participation of 1 university, 3 research institutes, 1 school and the Science Centre in the pilot phase.

Project Officer, **Flood warning system for Marina Barrage in Singapore**, Mar 2008 to Jul 2008
- Developed a warning model for immediate threat of flooding.
- Implemented an integrated prediction model for flood warning at different time resolution.

ACADEMIC SERVICE

Student Supervisions

Supervised and co-supervised 3 PhD students, 7 Masters students, 1 A*STAR RA Scholar, various undergraduate interns, projects and pre-university projects.

Technical Services

General Secretary, Teochew Doctorate Society, Singapore 2018 -

Director, Int'l Teochew Doctors Association, 2017 -

TC Member, IEEE RAS Neuro-robotics Technical Committee, 2017 -

Conference and Editorial Services

Guest Editor: Applied Science, IEEE Trans on Cog. & Dev. Systems.

Conference Chair: Local Arrangement (ASRU 2019), Publicity (HAI 2016 HAI 2019), General Secretary (ITD Forum 2016), Session Chair (various conferences).

PC Member (ICIS, IJCAI), Reviewer for top robotics publications (T-RO, Nature Intelligent Machine, RA-L, RAS, ICRA and IROS etc).

RECENT INVITED TALKS

2019 IEEE Circuits and Systems Singapore Chapter Workshop on Machine learning and its applications, Aug 2019
Conference on Overseas Chinese Pioneering and Developping in China, July 2018
AI and Robotics Industry Development Forum, Tainan, Jun 2018
CPDD, Ministry of Education, Singapore, May 2018
CPO, Ministry of Education, Singapore, Nov 2017
Convention on Exchange of Overseas Talents, Ministry of Education, China, Dec 2016
BoZhon Precision Co. Ltd, China, Aug 2016
Workshop on Intelligent Technology of Collaborative Robot: Frontier & Challenges, China, Aug 2016