



Xi'an Jiaotong-Liverpool University

西交利物浦大學

Research at the Department of Computer Science and Software Engineering

Professor Yong Yue

BEng, PhD, CEng, FIET, FIMechE

17 October 2014

Research Areas

- Artificial intelligence
- Robotics
- Data mining
- Image processing and computer vision
- Smart cities
- Energy harvesting
- Computer security / Operating systems
- Networking / Wireless sensor systems
- Human-computer interaction
- E-commerce
- Cyber physical systems
- Bio-informatics

Projects and Collaboration

- Collaboration in the UK, US, Canada, France, Germany, Italy, the Netherlands, Finland, Japan, Singapore and Hong Kong
- Funded projects from international, national, provincial and local sources (NSFC, EU, provincial, municipal, etc) totalling RMB 2.7m
- Projects with industry and business (image processing for vehicle recognition, embedded systems, biometric device development, etc)
- ~10 PhD programmes (image processing, artificial intelligence, modelling and optimisation, virtual training environments, robotics, etc)
- Final year projects
- Summer undergraduate research scholarships (SURF)
- Publications (top at XJTLU - high quality and large volume)

Dr Bailing Zhang

- Detection, retrieval and recognition of human faces
- Signature verification
- Video summarisation for surveillance video
- Retrieval of suspect vehicles from surveillance images



Dr Charles Fleming

- Operating systems
- Software systems
- Security
- Networks



Chris Trathen

- **Factory scheduling algorithms**
 - A background in developing finite scheduling systems for factories with varied and complex changeover and machining requirements in Australia, USA and Europe
 - An interest in how genetic algorithms could be used to solve the finite scheduling problem in real factory environments
- **Teaching Enhancing**
 - Using technology to enhance software engineering education
 - Examining the effectiveness of traditional software engineering curriculum
 - The challenge of teaching problem solving to students from non-western educational backgrounds



Dr Dawei Liu

- Mobile computing and networking
- Mobile localisation
- Localisation-based applications



Dr Emmanuel Tadjouddine

- Electronic markets
- Algorithmic differentiation
- Financial computing



Dr Gary Li

- Knowledge engineering on the web environment
- Knowledge modelling, media and enabler
- Web science and technologies



Dr Hai-Ning Liang

- Human-computer interaction
- Information visualisation
- Visual analytics
- Learning, collaborative, mobile technologies



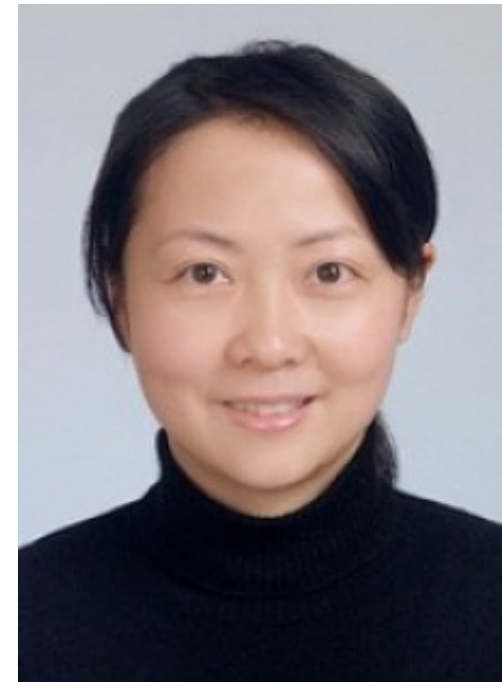
Dr Ka Lok Man

- Low power design, analysis and tools for integrated circuits and systems
- Formal methods and process algebras
- Modelling, simulation and verification of distributed, timed, hybrid, embedded, latency insensitive systems and cyber physical systems
- Communication and Wireless Sensor Networks (WSNs)
- Design and realisation of photovoltaic systems, battery management systems and Battery Management Integrated Circuits (BMIC)



Dr Kaiyu Wan

- Cyber Physical Systems
- A Formal Architecture and Analysis for Cyber Physical Systems (NSF funded project, Jan 2012 – Dec 2014)
- A Context-Based Formal Framework for Cyber Physical Systems (Jiangsu project, July 2011 – June 2013)



Dr Kevin Yuen

- Computational intelligence
- Soft computing
- Social computing
- Data analysis
- Operations research



Dr Nan Zhang

- Parallel computing on x86 multicore processors
- Parallel computing on AMD GPUs in OpenCL
- Parallel computing applications in financial engineering



Dr Paul Craig

- Research Interests

- Information Retrieval and Visualization
- Bioinformatics
- Information Statistics
- HCI

- Projects

- Microarray Time-series Explorer (Scottish Enterprise)
- ‘Information Visualization of Document Collection Structure for Information Retrieval’ (Conacyt – Mexico)
- ‘Managing Small Group Behavior for Collaborative Information Visualization and Learning’ (Conacyt – Mexico)
- SEEK (NSF – USA)
- Companions (EU)



Prof Steven Guan

- Specific input or output partitioning and ordering schemes to achieve interferenceless machine learning
- Tools such as GA, NN, and PSO
- Already collaborating with Prudence Wong and Alexei Lisitsa



Dr Wei Wang

- Data/Knowledge Engineering
 - semantic Web technologies
 - learning domain terminological ontologies
 - Learning evolution of ontology
- Semantic Search and Ranking
 - ranking in semantic search applications
 - designing semantic search engine



Dr Wenjin Lu

- Knowledge ontology
- Knowledge representation and reasoning
- Knowledge discovery
- Data mining
- Machine learning



Dr Xin Huang

- Security mechanism
 - Usable security and privacy
 - Out-of-Band channels, e.g., acoustic channel
 - Security protocol design
- Networking system
 - Sensor network, e.g. home sensor net
 - Personal area network
 - Body area network



Prof Yong Yue

- Computer graphics and virtual reality
- CAD/CAM (e.g. automated design analysis and process planning)
- AI and robotics (e.g. robot cognition, navigation and path planning)
- Operations research

