



Professor Dr. Jie Lu

Professor Jie Lu is the Associate Dean in Research in the Faculty of Engineering and Information Technology at the University of Technology Sydney (UTS).

She is also the Director of the Decision Systems and e-Service Intelligence (DeSI) Research Laboratory in the Centre for Quantum Computation & Intelligent Systems. Her main research interests lie in the area of decision support systems, recommender systems, prediction and early warning systems, fuzzy transfer learning, concept drift and web-based e-service intelligence. She has published six research books and 400 papers in refereed journals and conference proceedings.

She has won seven Australian Research Council (ARC) discovery grants and 10 other research grants in the last 15 years. She received the first UTS Research Excellent Medal for Teaching and Research Integration in 2010 and other awards. She serves as Editor-In-Chief for Knowledge-Based Systems (Elsevier) and Editor-In-Chief for International Journal on Computational Intelligence Systems (Atlantis), and has delivered many keynote speeches at international conferences.

Topic: Fuzzy Transfer Learning for Prediction and Decision Support

This presentation highlights the value of fuzzy transfer learning methods and related algorithms for handling complex prediction problems in rapidly-changing data distribution and data-shortage situations. It provides a framework for utilizing previously-acquired knowledge to predict new but similar problems quickly and effectively by using fuzzy set techniques. It systematically presents developments in fuzzy set-based transfer learning methods for prediction, including fuzzy transfer learning-based prediction framework, fuzzy domain adaptation, fuzzy cross-domain adaptation, and in particular, cross-domain adaptive fuzzy inference system, and their respective applications in prediction and decision support. This presentation demonstrates the successful use of fuzzy techniques in facilitating the incorporation of approximation and expressiveness of data uncertainties within knowledge transfer, machine learning and data-driven decision support systems.