



Australia's
Global
University

There are massive volumes of data in smart community involving health and energy. We are mining actionable insights from the data via IoT and data analytics to facilitate smart digital health and energy systems



More information

Prof Z.Y. Dong

Professor, School of EE&T, UNSW,
Sydney

T: +61 (0) 2 9385 4477

E: Joe.Dong@unsw.edu.au

Machine Learning and Data Analytics for Smart Community

School of Electrical Engineering and Telecommunications

Competitive advantage

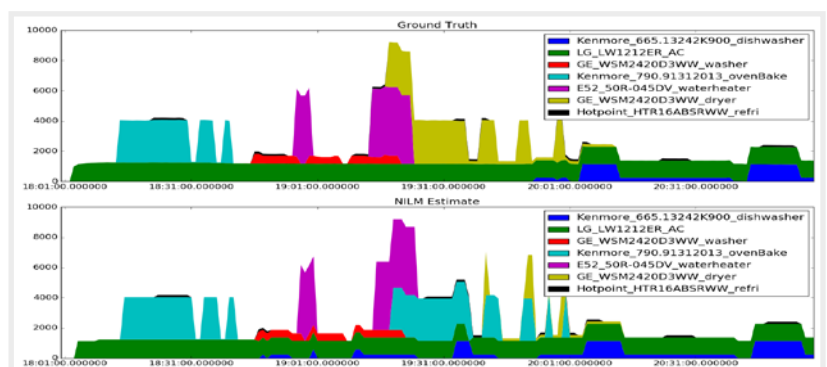
- The most cost-effective way to maximise the value of the industrial data
- Rich and extensive experience in dealing with a variety of problems for smart community in particular energy and health
- Agile implementation and flexible deployment
- High efficiency algorithms data analytics and cyber security solutions supported by IoT enabled sensing and cloud technologies

Recent research projects

- A\$600m Smart City Smart Grid national demonstration project
- RMB8m Energy Internet project
- Customer data disaggregation framework based on IoT sensor systems
- Time-series data forecasting and uncertainty assessment
- Machine learning algorithms and very fast deep learning algorithms for complex system security assessment
- Residential demand simulator based on behavioural models
- Fault diagnosis and monitoring through operational data

Facilities and infrastructure

- Package of machine learning and data analytics tools, both opensource and in-house developed
- IoT enabled monitoring hardware devices and associated data management system



Source: W. Kong, Z. Y. Dong, and D. J. Hill, "A Hierarchical Hidden Markov Model Framework for Home Appliance Modelling," IEEE Transactions on Smart Grid, vol. PP, no. 99, pp. 1-1, 2016.

Our experts

Coordinator – Prof Joe Dong, Team - Mr Ashton, Dr Chen, Dr Kong,
Dr James, Dr Luo, Dr Meng, Dr Tong, Dr Wang, Dr Xu, Dr Yin