CALL FOR APPLICATION

Scholarship - Industrial Postgraduate Programme (IPP)

Industry: Urban Solutions & Sustainability

Company: Visenti Pte Ltd

Website: https://www.visenti.com/

Contact: +65 -6515 6582

Email: consult@visenti.com

Company Profile: Visenti is a global team unified in a common purpose: creating advanced technology solutions to the world’s water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services, and agricultural settings. With its October 2016 acquisition of Sensus, Xylem added smart metering, network technologies and advanced data analytics for water, gas and electric utilities to its portfolio of solutions. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.
CALL FOR APPLICATION

Scholarship - Industrial Postgraduate Programme (IPP)

IPP Trainees
Position:

Master by Research Position:

Big Data Learning for Leakage Detection and Classification

Recent advances in sensors and communication technologies can effectively enhance the capability of discovering the anomalies in water distribution network, significantly extend the sensing range and consequently, shorten the responding time of the public sector to these anomalies. However, the need to reconcile the merging of information due to big data from large-scale water distribution networks, with different sensor nature, puts forward new mathematical and computational challenges.

In this proposed IPP project, a novel machine learning approach will be investigated to autonomously detect the pipeline leakage and classify the leakage level based on the received acoustic, pressure and water quality signals. Different feature representations will be studied and merged into a deep network to model complex structures in the data. In addition, for multivariate time-series data generated by different sensors, there may be signals contain more task-relevant information than others. Hence, the ability to identify the confidence of a subset of inputs and keep tracking of this confidence over time will also be considered. With all these considerations, it is expected a generalized and intelligent method that less dependent on human engineers and is capable of detecting and classifying a leakage under complex and unintuitive environments can be achieved. The developed methods and models will be validated through the real data as well as simulations.