

Airbox: A Participatory Ecosystem for PM2.5 Monitoring

Ling-Jyh Chen ¹

¹ Academia Sinica, Teipei, Taiwan, E-mail: ccljj@sinica.edu.tw

With emerging concerns of air pollution and recent advances in low-cost sensors, air quality monitoring has become one of the most important Internet of Things (IoT) applications in many countries and major cities. One of the most successful systems of this kind is the AirBox project, which is based in Taiwan and operated in a grassroots fashion, and it has deployment more than 4,000 nodes in more than 30 countries till now. The system is also notable for its extremely high deployment density and data frequency, as most of the participating nodes are located in Taiwan and with a high sample rate. In this talk, we present the development of this AirBox project in detail, and we demonstrate several data analysis work that we have carried out for data visualization, anomaly detection, data forecast, and other advanced data services. We also discuss challenges and opportunities for making sense of Internet of Things data based on the lessons learned from the AirBox project.