Predicting pollution with internet of things

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Recent research suggests that heart attacks, cerebral stroke, and asthma attacks all rise with increasing air pollution in our cities, and of course the wider problems for the environment and human, animal, and plant life are becoming better understood with each study. Now, science published in the *International Journal of Computational Intelligence*

Studies suggests that big data from Internet of Things devices might be useful in predicting air pollution incidents. Knowing in advance when problems might arise could offer some hope of ameliorating the detrimental effects or at the very least providing vulnerable people with advance warning of potential threats to their health.

The study, written by Safae Sossi Alaoui, Brahim Aksasse, and Yousef Farhaoui of the Department of Computer Science at Moulay Ismail University in Errachidia, Morocco, offers hope of predicting rising levels of some of the most serious polluting compounds that are ubiquitous in the environment but fluctuate wildly depending on human activity, namely nitrogen oxides, sulfur dioxide, carbon monoxide, and ozone.

There are millions, if not billions of connected devices that we might put under the umbrella term of the Internet of Things, IoT, these include the ever-present smart phone, roadside pollution monitors, embedded sensors, actuators, and even wearable devices that can all collect and exchange different types of data.

The team has worked with a US pollution dataset and used Spark technology on the Databricks platform to build an accurate model that can make good predictions about air quality. This could be used to help improve our understanding of the negative effects of air pollution on our lives and perhaps help focus efforts to prevent, control, and reduce pollution in a more timely manner than ever before.

More information: Safae Sossi Alaoui et al. Air pollution prediction through internet of things technology and big data analytics, *International Journal of Computational Intelligence Studies* (2019). DOI: 10.1504/IJCISTUDIES.2019.102525

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