

Master project
Sensor anomaly detection in smart buildings

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Context

The built environment is responsible for one third of the energy consumption. Ambitious goals for the reduction of this energy consumption are set by the Dutch 'Klimaatakkoord'. A promising way of reaching those goals is by operating the HVAC systems in buildings more efficiently by making the buildings smart through the use of sensors, allowing for data-driven operation.

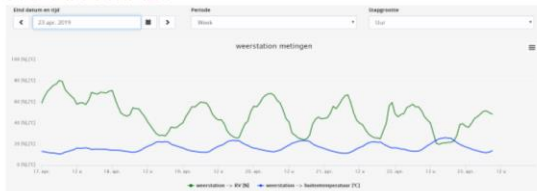
Project tasks

At the moment, the number of building monitoring sensors is rapidly growing, resulting in a large amount of data that needs to be processed. One of the key challenges in the data processing is the detection of anomalies resulting from the sensor or the data acquisition. The anomalies are currently detected by a combination of visual inspection and a rule based approach. The task is to develop and test a new machine learning algorithm for the sensor anomaly detection. There are many types of anomalies, the figure below shows two examples.

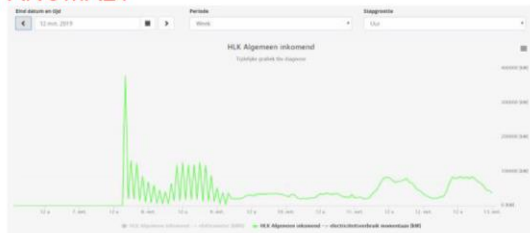
ANOMALY



NO ANOMALY



ANOMALY



NO ANOMALY

