

## AISSAI Anomaly Detection Workshop



ID de Contribution: 18

Type: Non spécifié

# DASMA : Towards Real-time and Explainable Anomaly Detection on Data Stream

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DASMA is a research project that aims at designing and building a system for real-time anomaly detection and explanation. The novelty is the ability of the system to process a multivariate and numerical datastream in order to provide real-time explanations to anomalies detected by highlighting the variables mainly responsible for the anomaly. The prototype described in this work consists of a set of four anomaly detection algorithms based on decision trees and deep neural networks and a score attribution explanation method based on KernelSHAP. A windowing technique is used to slide over the datastream and update the model continuously. The built system leverages the InfluxData ecosystem consisting of InfluxDB, kapacitor and chronograf to respectively store, process and visualize the datastream in the form of a multivariate time series. The experiments conducted and validated by the domain experts have shown that the system is promising for real-time monitoring applications insofar as the user can visualize on the same dashboard, the anomalies and the explanations which provide insights to understand the anomalies detected. However there are still a lot of challenges to tackle including : continuous learning, adaptable thresholding, managing de concept drift and so forth.

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