

# Interpretability of anomalies in featurized data with signatures

*jeudi 21 novembre 2024 09:50 (25 minutes)*

Machine learning is often viewed as a black box when it comes to understanding its output, be it a decision or a score. Automatic anomaly detection is no exception to this rule, and quite often the data analyst is left to independently analyze the data in order to understand why a given event is tagged as an anomaly. Worst, the expert may end up scrutinizing over and over the same kind of rare phenomena which all share a high anomaly score (quite often due to noisy or bad quality data), while missing anomalies of physical interest. In this presentation, I'll introduce the idea of anomaly signature, whose aim is to help the interpretability of anomalies by highlighting which features contributed to the decision. I'll present concrete applications to the search of anomalies in time domain astrophysics within the framework of the SNAD team.

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**Classification de Session:** Thursday morning

**Classification de thématique:** Analysis : event classification, statistical analysis and inference, anomaly detection