Comparative Study of Anomaly Detection Methods for Time-Series Data

Semester 3

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Abstract:

This project explores and compares different methods for anomaly detection in time-series datasets representative of IoT and sensor data. The study will contrast simple statistical approaches with selected machine learning techniques in order to evaluate their effectiveness in identifying unusual patterns. Data will be drawn primarily from publicly available sources, with the option of including simulated data generated through Matlab to broaden the evaluation. The outcome will be a reproducible Python pipeline that applies the chosen methods and a report summarizing the comparative results.

Keywords: anomaly detection, IoT, time-series, machine learning, simulation