Opprentice: Towards Practical and Automatic Anomaly Detection Through Machine Learning

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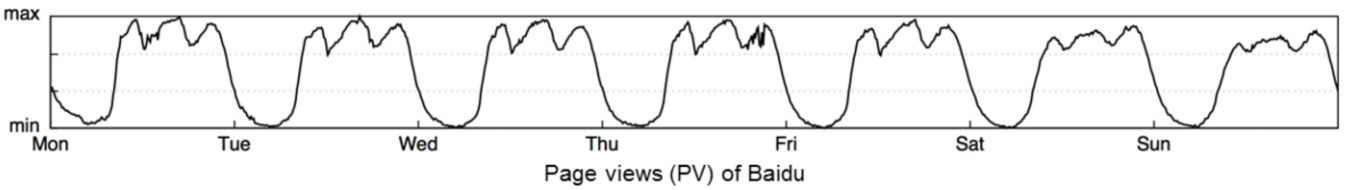
Thank you for the introduction. Hello everyone, I'm Dapeng from Tsinghua University

Today, I' going to talk about Opprentice, a practical and automatic KPI anomaly detection framework based on machine learning

This is a joint work with collaborators from Tsinghua University, Baidu, and PetroChina

KPIs and Anomaly Detection



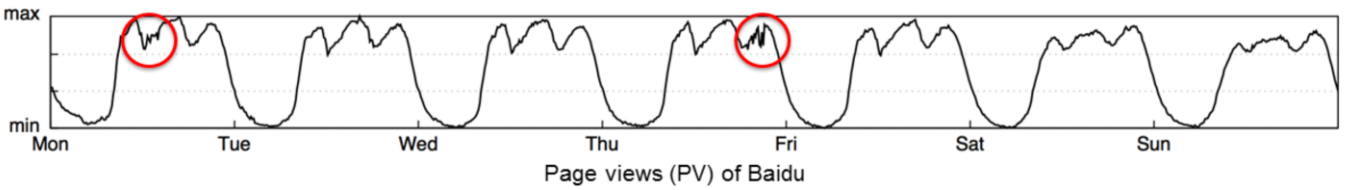
Page views (PV) of Baidu

KPIs (Key Performance Indicators): A set of performance measures that evaluate the service quality

To monitor the service quality, service providers often collect a set of performance measures, which are usually called key performance indicators or KPIs.

For example, this is one-week data of the page views of Baidu. It measures how many search queries are submitted from users to Baidu. This KPI is very important because it has a great influence on the advertising revenue.

KPIs and Anomaly Detection



Page views (PV) of Baidu

KPIs (Key Performance Indicators): A set of performance measures that evaluate the service quality

KPI anomalous (unexpected) behaviors → Potential failures, bugs, attacks...

We see that beyond those regular behaviors, the KPI can show some anomalous or unexpected behaviors.

These behaviors often indicate potential failures, bugs, attacks and so on