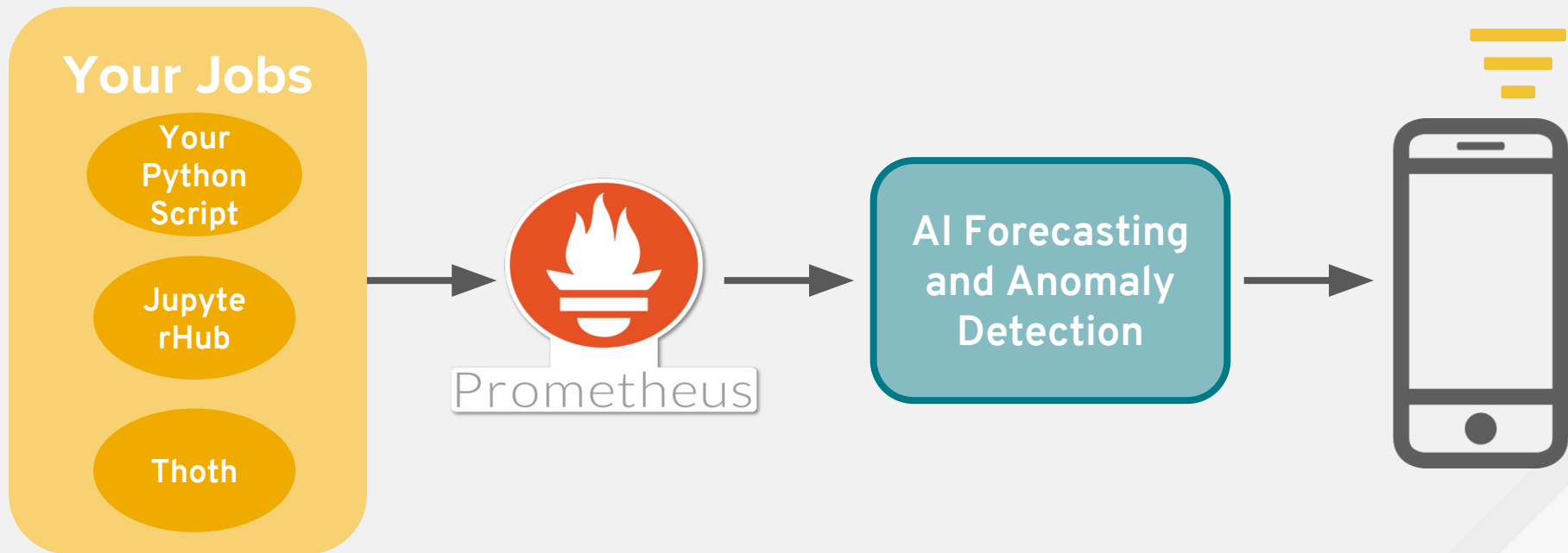




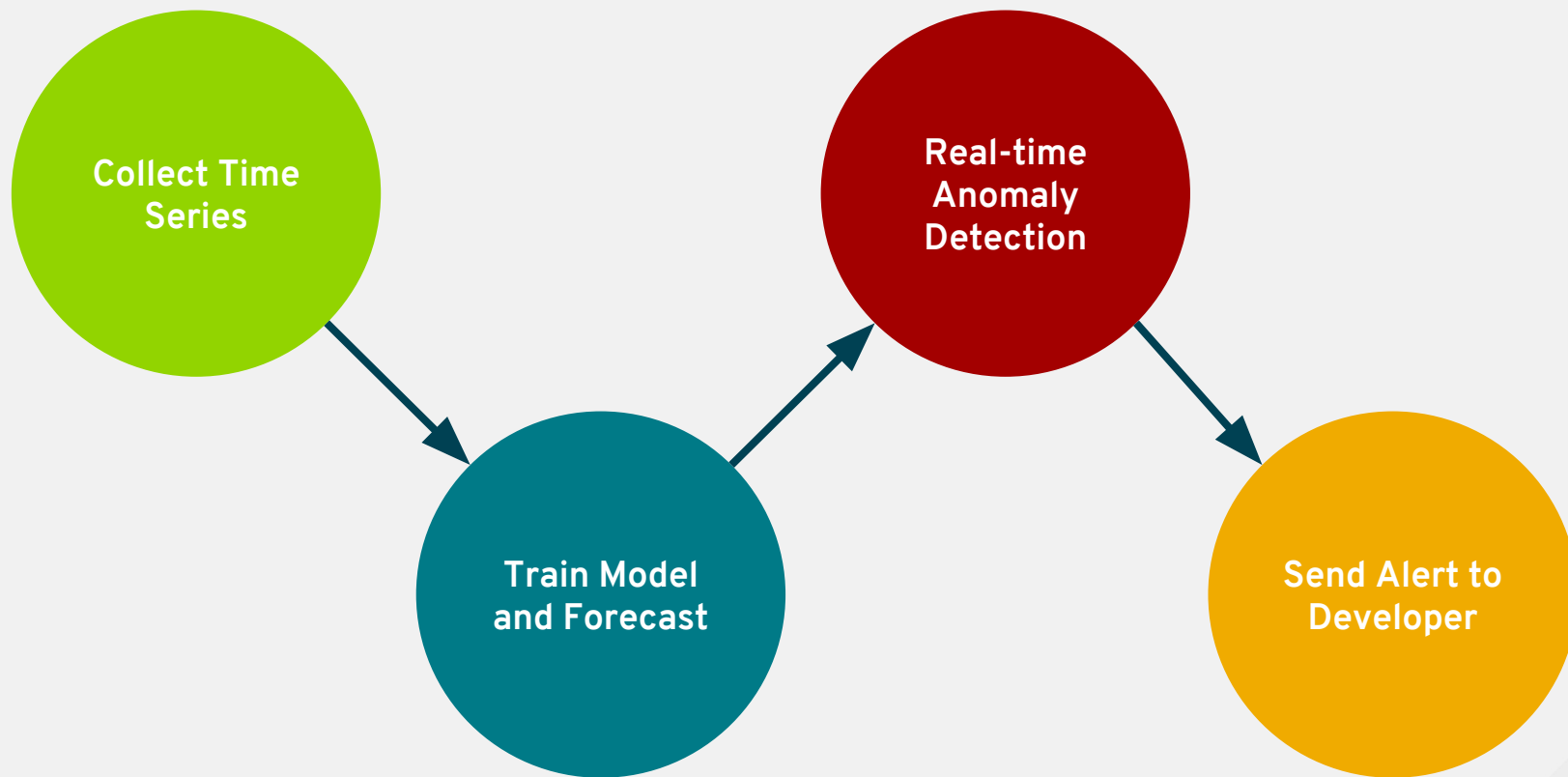
Data Science on Prometheus Metrics

Natasha Frumkin
AICOE Intern
August 9, 2018

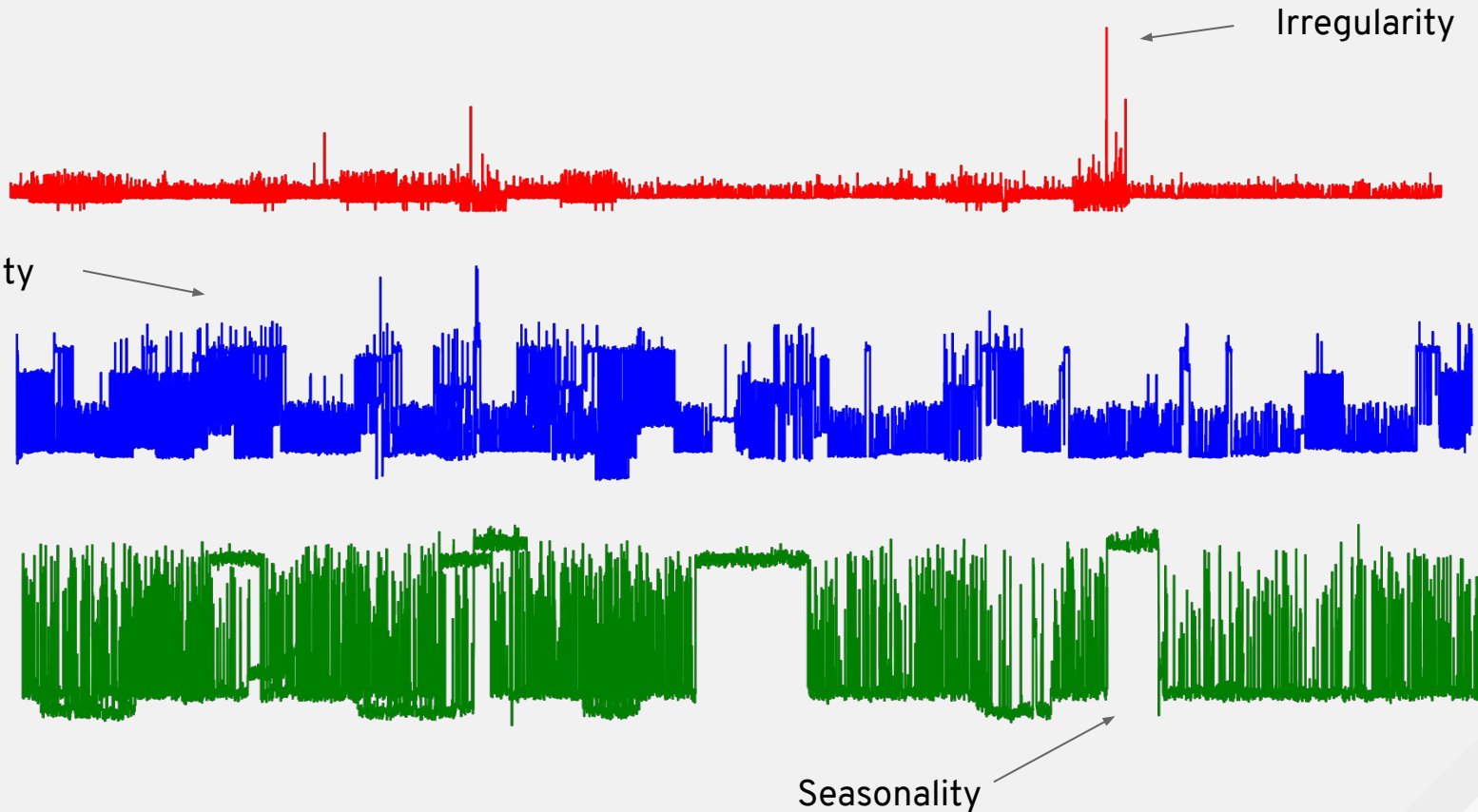
Goal: to provide automatic alerting to developers when there are anomalies in Prometheus data



The Data Transfer Pipeline



Metric: http request duration

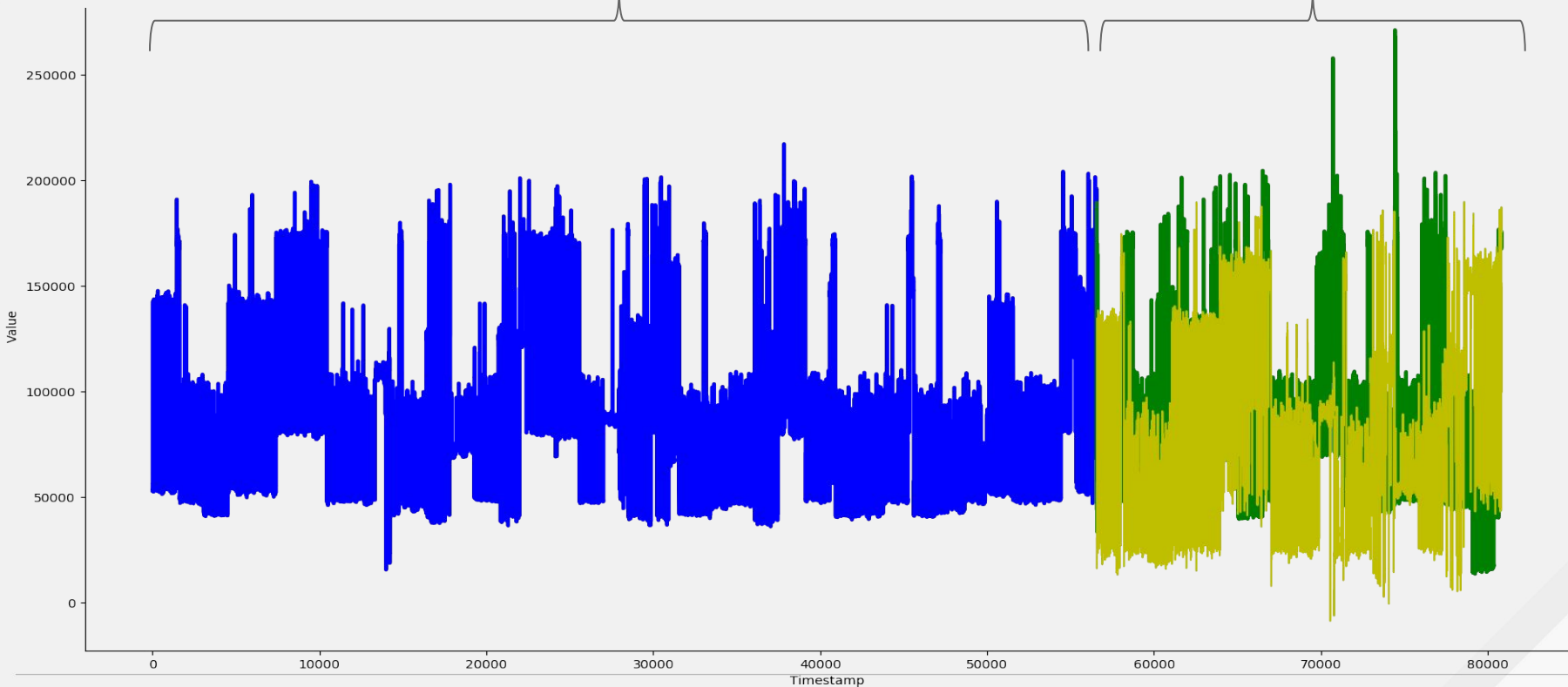


Fourier Extrapolation

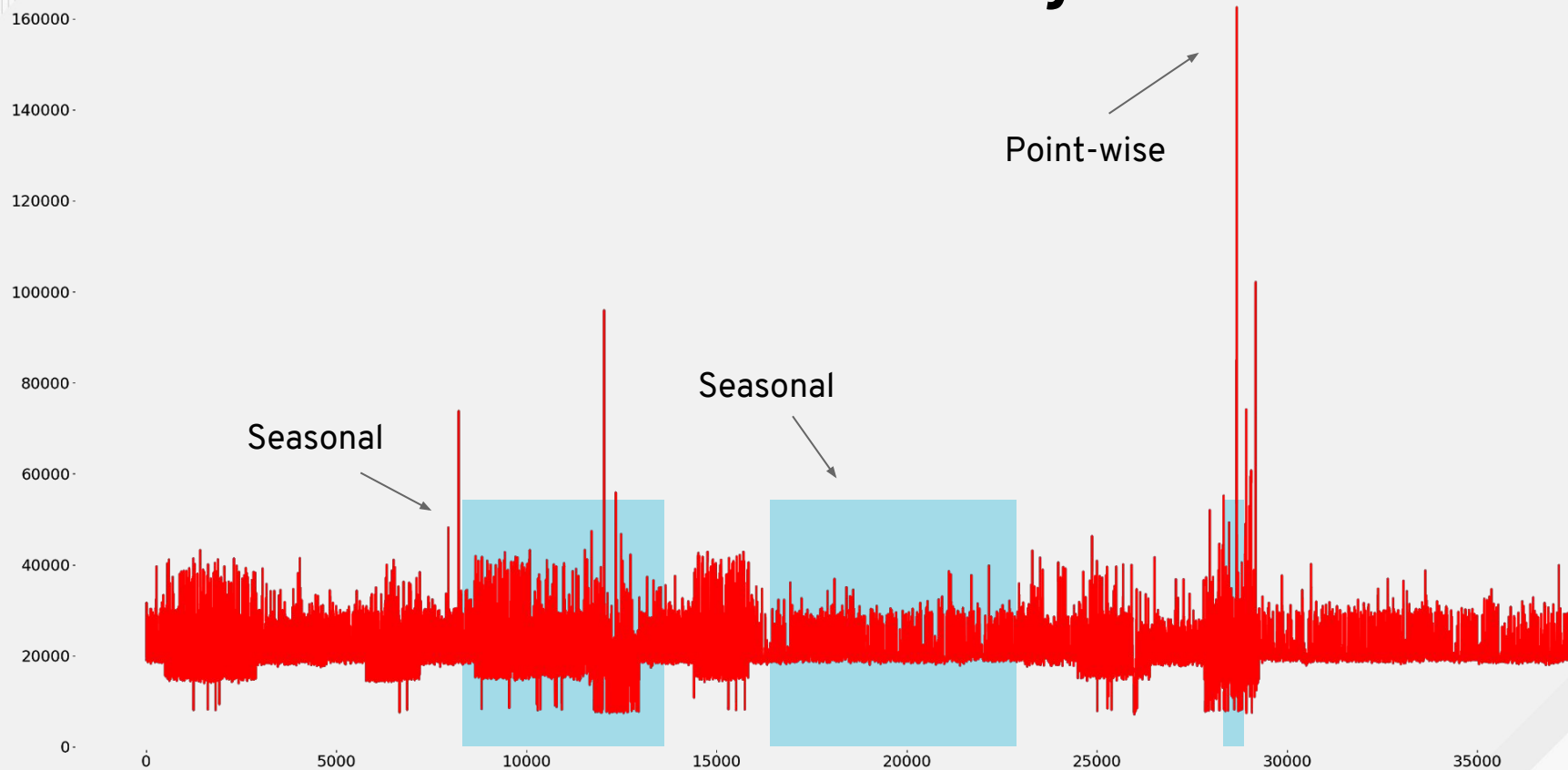
Training Set

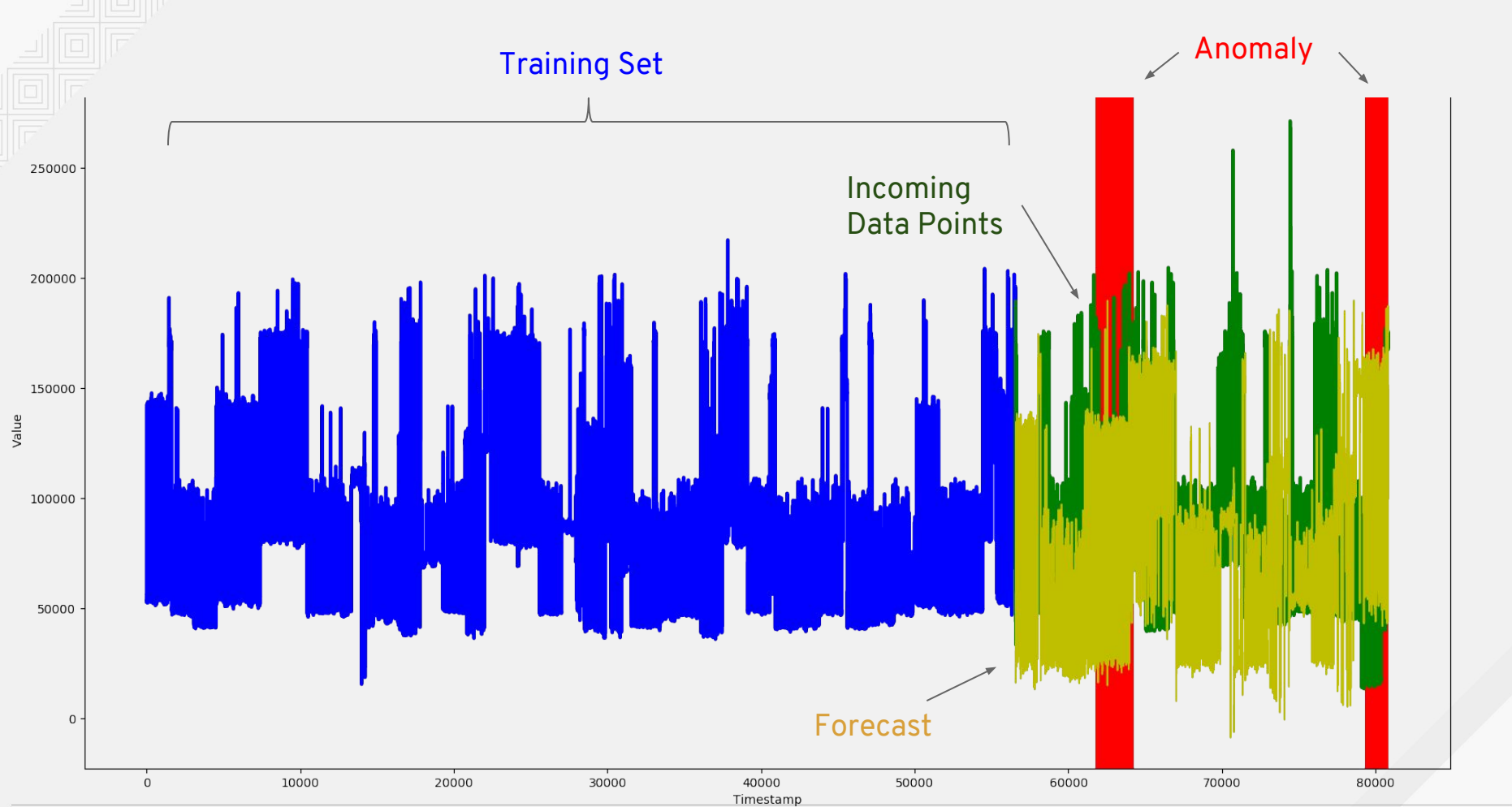
Incoming Data Points

Forecast



Problem: What is an anomaly?





Summary of our Techniques

Fourier Analysis
Exponential Smoothing
ARIMA models
Prophet models
RNNs

training models

Thresholding
Gaussian Tail Probability
Accumulators

anomaly detection rules

THANK YOU