

Measuring Internet latency from gaming footage

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Today, end-to-end latency is the dominating performance bottleneck for many applications*

Problem: Measuring Internet latency is still challenging

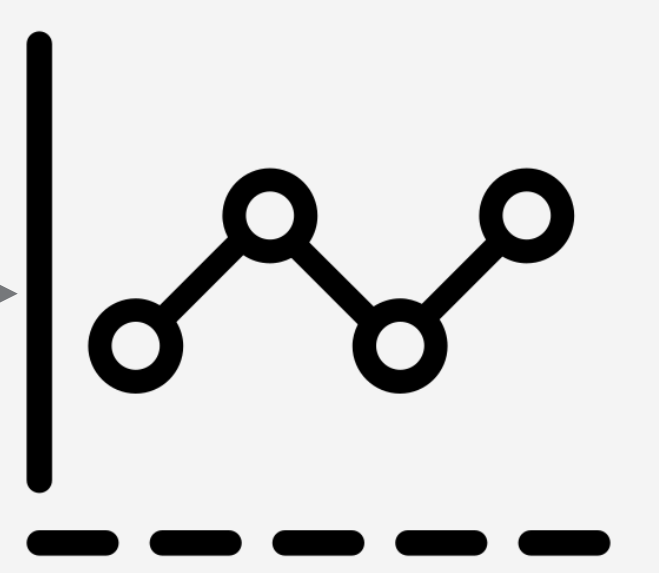
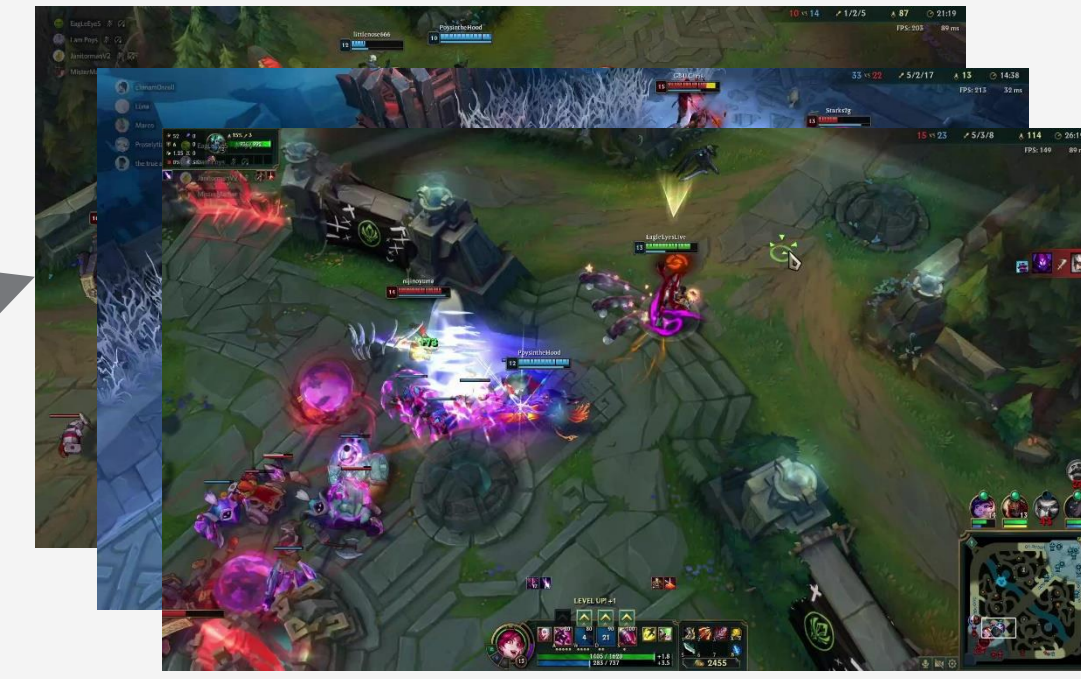
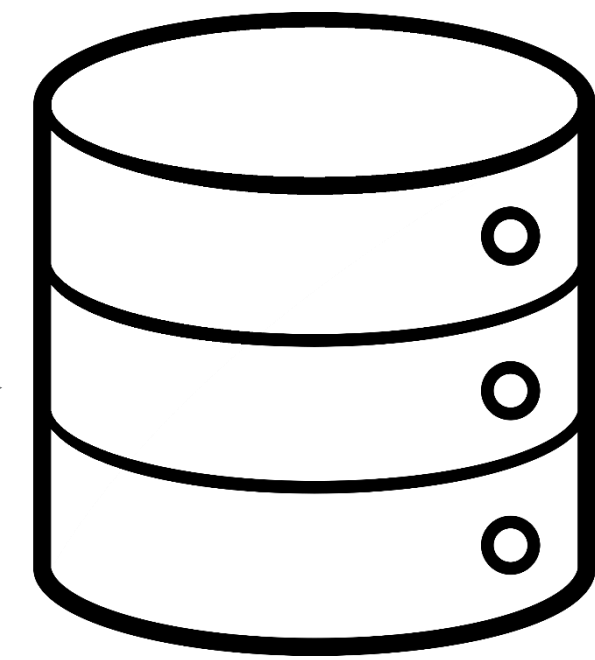
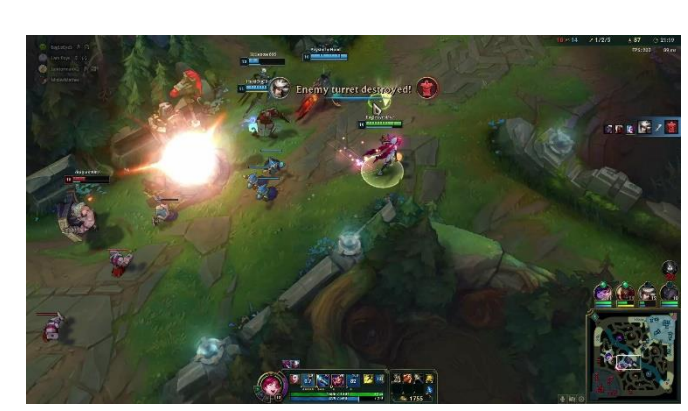
*S. Sundaresan, N. Feamster, R. Teixeira, N. Magharei. Measuring and Mitigating Web Performance Bottlenecks in Broadband Access Networks, IMC 2013

Key idea: online games measure latency and display it to the users



Many gamers routinely stream their matches to video streaming platforms

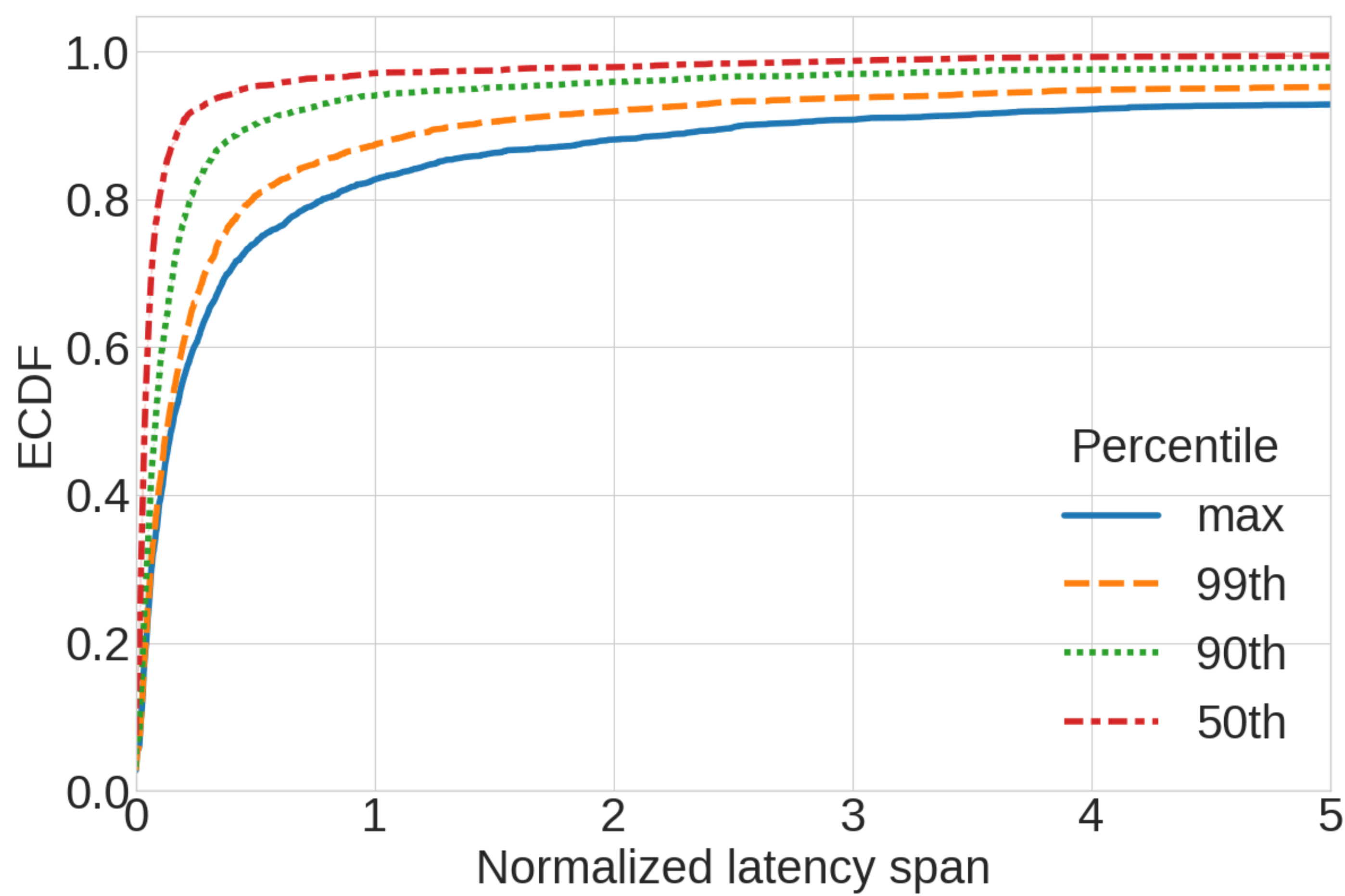
We download gaming streams to obtain latency using image processing



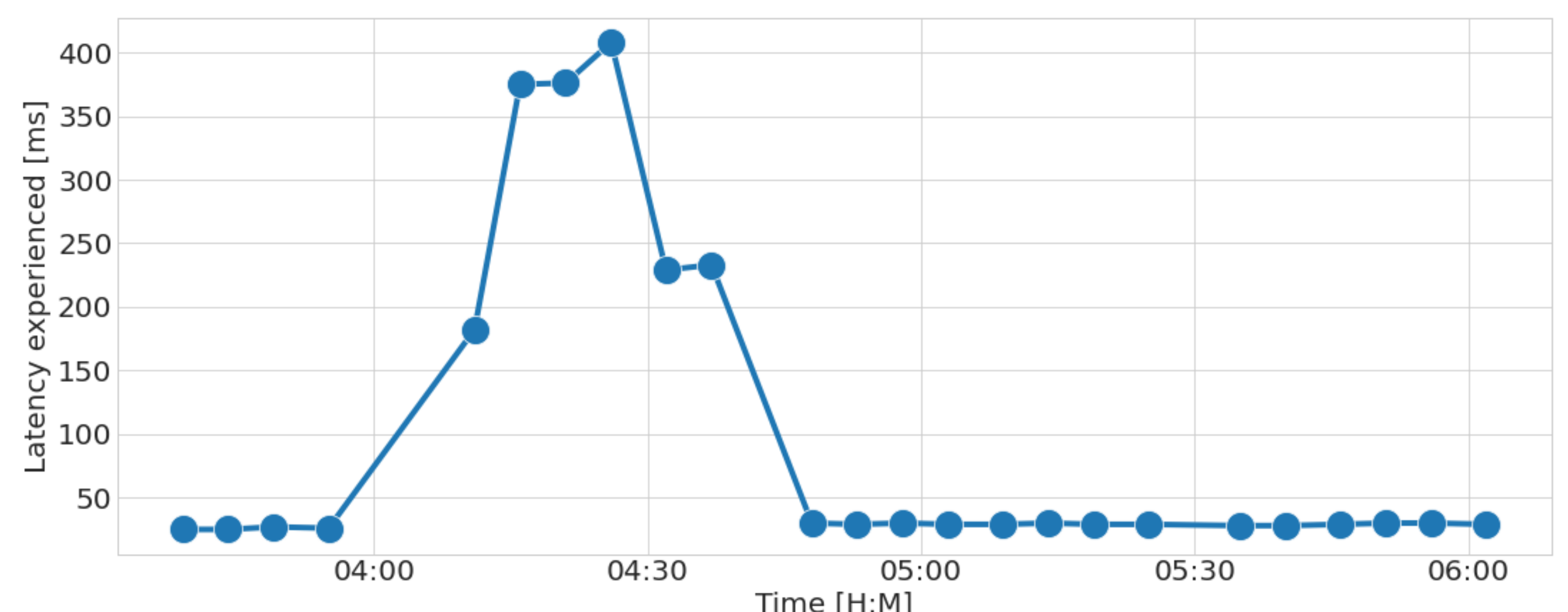
User location

Latency gathering

Our preliminary analysis both follows state-of-the-art knowledge and gives new interesting insight



Some gamers experience big spikes in latency



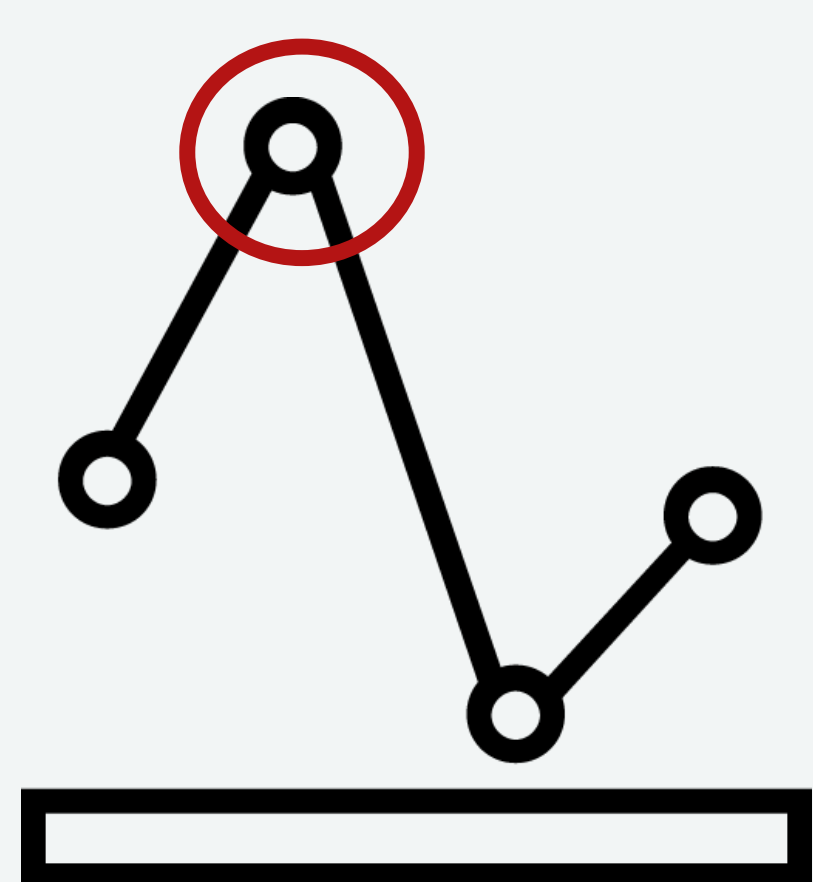
Latency is variable and the distribution is heavy-tailed

T. Høiland-Jørgensen, B. Ahlgren, P. Hurtig, A. Brunstrom. Measuring latency variation in the internet. CoNEXT 2016.

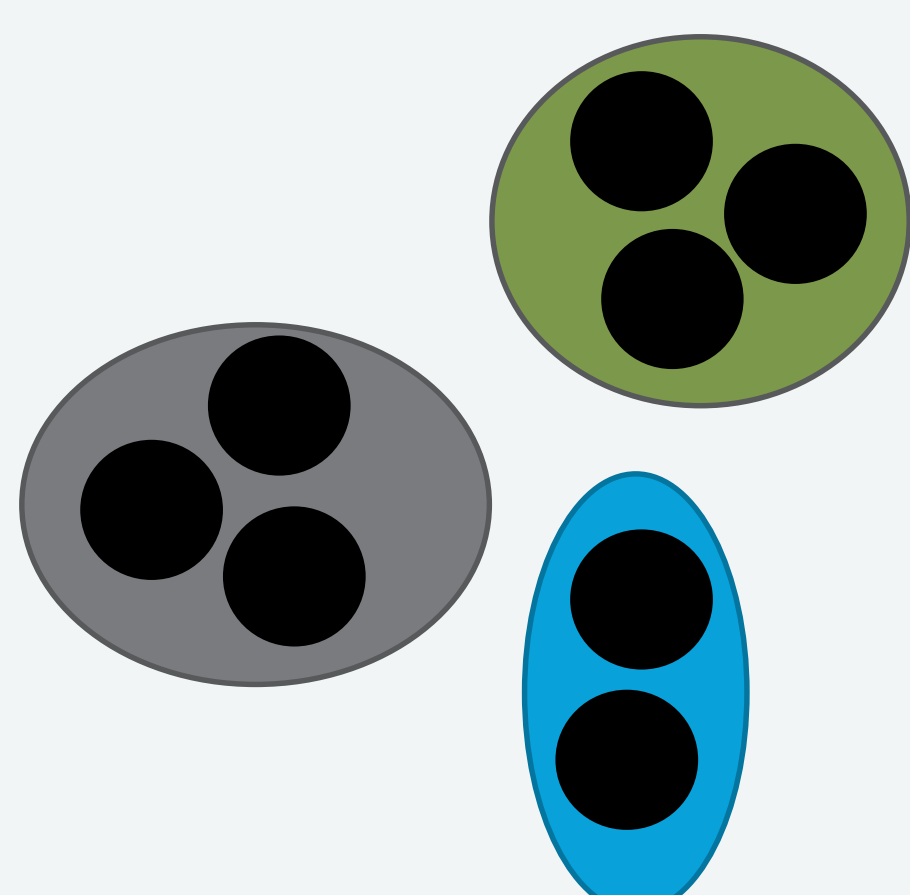
Work in Progress

- ① Root cause of the spikes
- ② Effect on player performance

What else can we learn from our data?



Anomaly detection



Timeseries clustering

- ① Correlations between users
- ② Finding Internet events
- ③ Classify users by their latency profile