

CS 925

# Lecture 19

## Adaptive Bitrate Streaming

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Tuesday, April 9, 2024

# Adaptive Streaming

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- ▶ Adaptive Bitrate Streaming (ABR)
- ▶ Network conditions observed:
  - client-side: measured bandwidth, buffer occupancy
  - server-side ?
- ▶ Delivered rate adjusted:
  - client: segments with best possible rate requested
  - server-side, network ?

# Basic ABR Methods

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## ▶ Throughput-based

- the throughput of the next segment download will be similar to that of the past segments
- startup behavior: optimistic vs pessimistic initial guess

## ▶ Buffer-based

- the fewer segments in the buffer the lower the rate of the requested segment
- startup behavior: aggressive buffer fill vs aggressive high rate

## ▶ Combined...