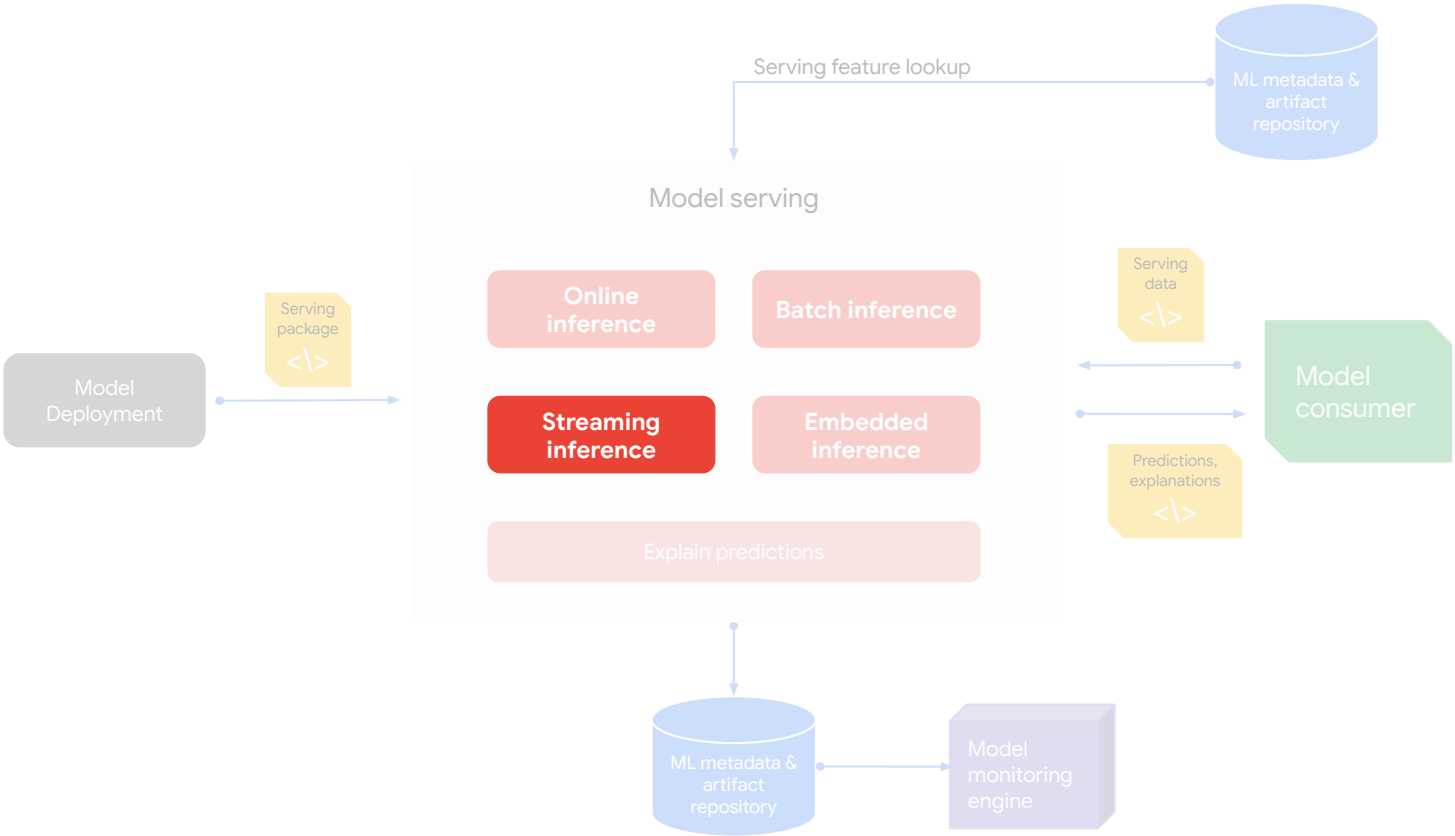
Prediction Serving Scenarios: Streaming

MLOps: Prediction Serving



Streaming Inference: **What is it?**

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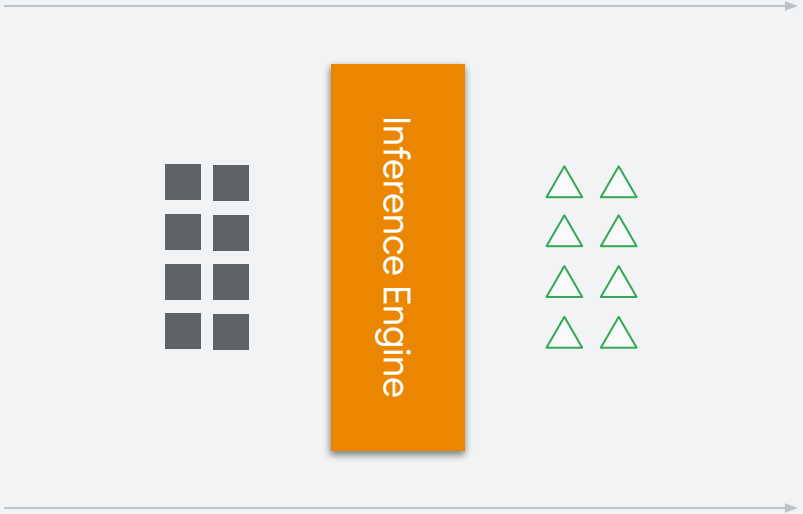
- Multiple “streams” or inputs that are concurrently coming together for **real-time** model inference



Streaming Inference: When is it useful?

- **Autonomous cars**
- Smart cities
- Fast science
- Robotics
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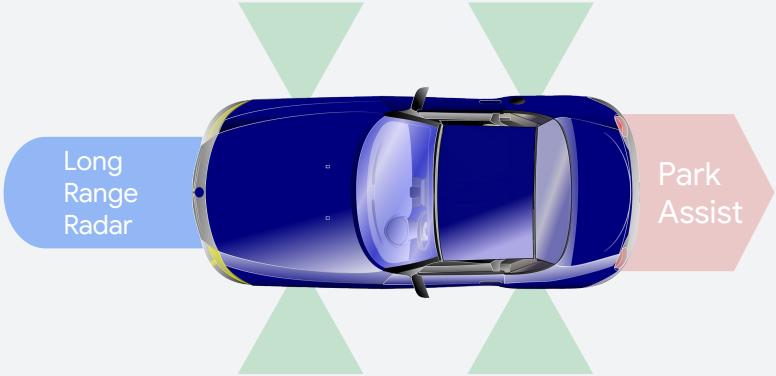

Environment Mapping

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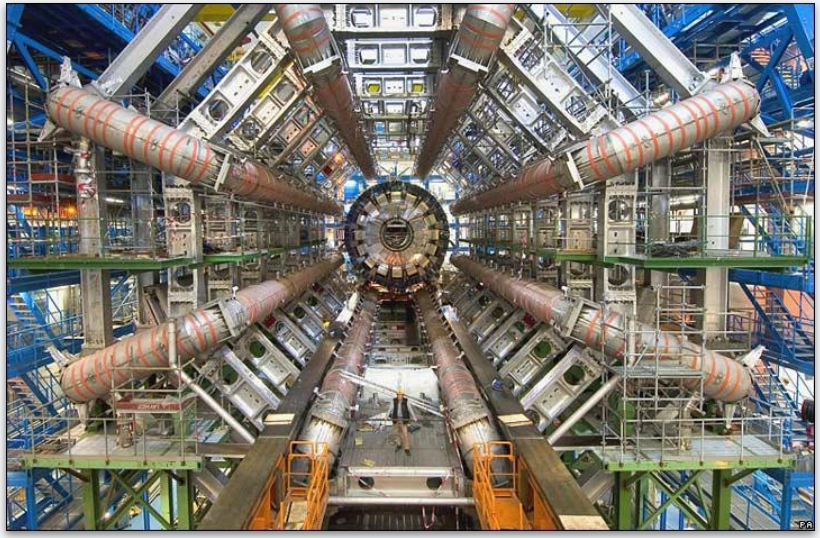

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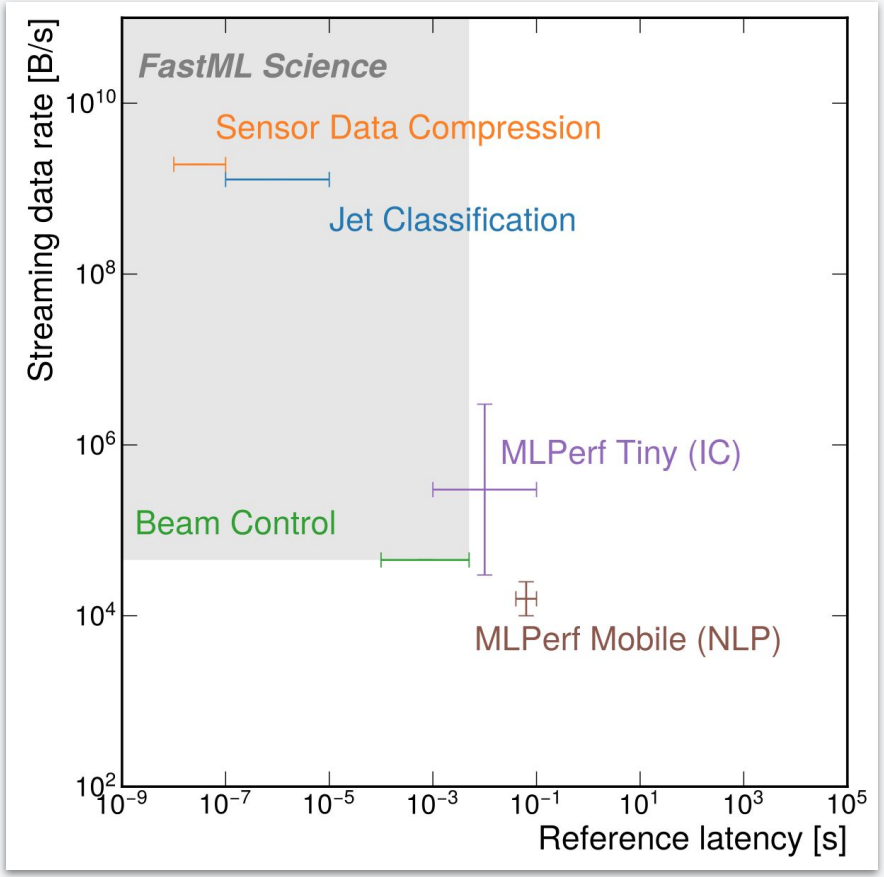
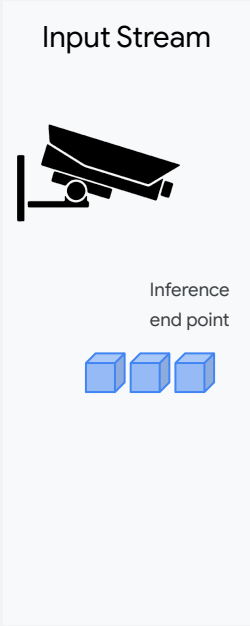


Streaming Inference: How it works?

Loosely similar to “Batch inference” in that it has to handle batches of data



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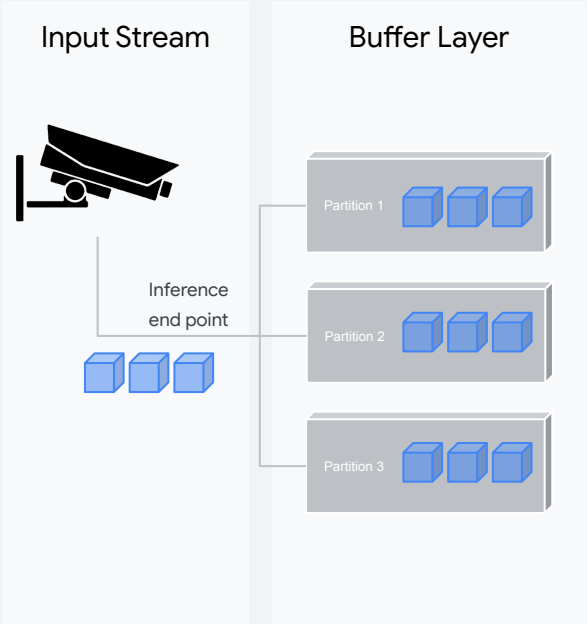

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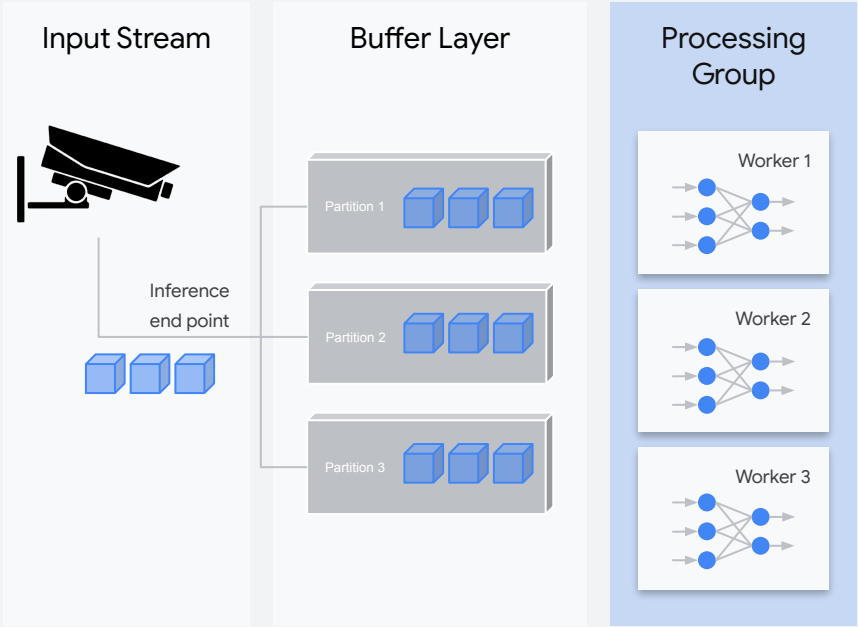
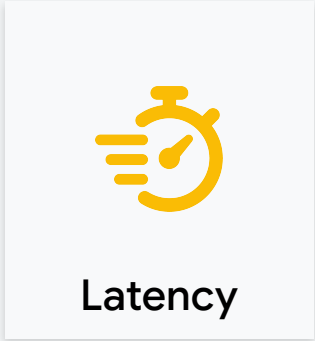


Streaming Inference: What metrics?

- Latency is important
- Throughput is also important
- Metric:

  Latency-bounded-throughput



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Scenario	Metric
Batch inference (e.g. photo sorting app)	**Throughput**
Online inference (e.g. translation app)	**QPS** subject to latency bound
 **Streaming inference** (e.g. multiple camera driving assistance)	**Number streams** subject to latency bound