Debugging and Monitoring

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Overview

Why is TensorFlow different?

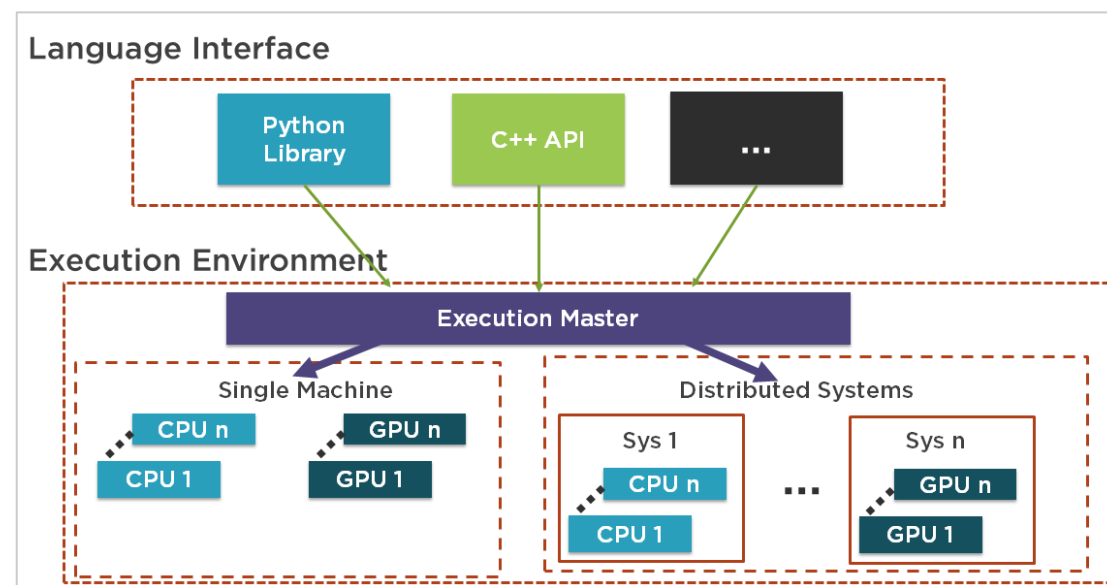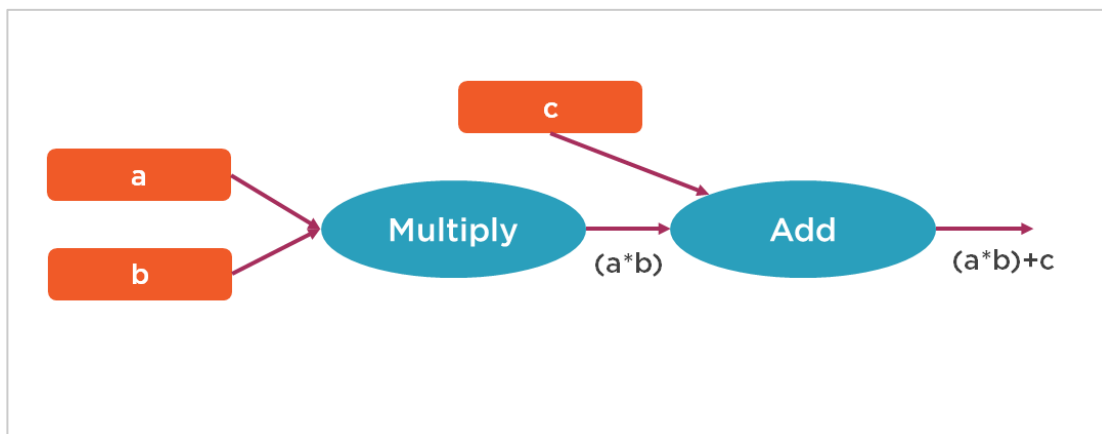Name and Name Scope

TensorBoard

Why is TensorFlow Debugging Different?

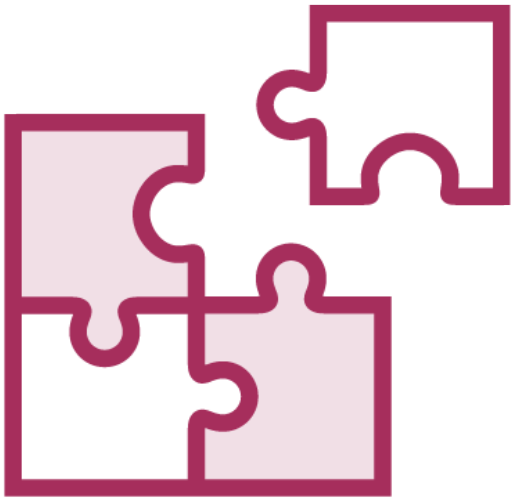# Unique Features

Unique Challenges

Run in session context

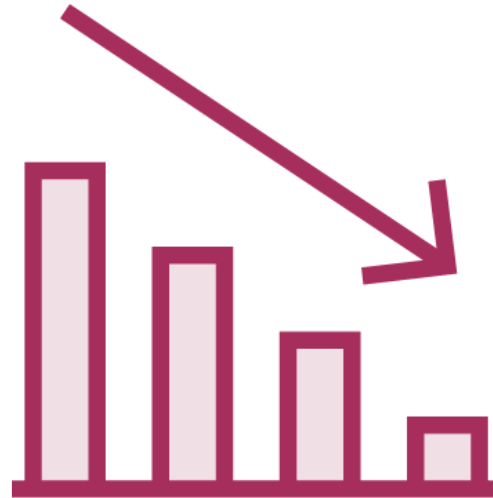– Python debugger limited usefulness

Session locality varies

– Local CPU
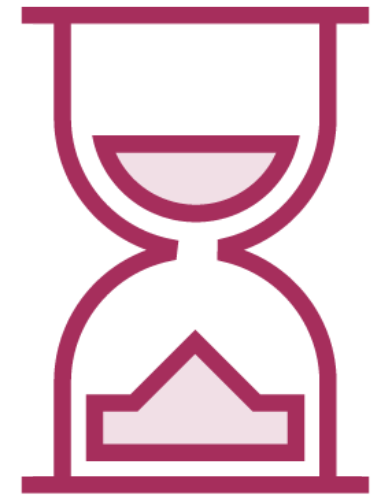
– Local GPU

– Remote System (GPU/CPU)

– Remote Cluster

Machine Learning Issues

Complex models

Data and trends

Long run times

TensorFlow Features and Tools

Name

Name Scope

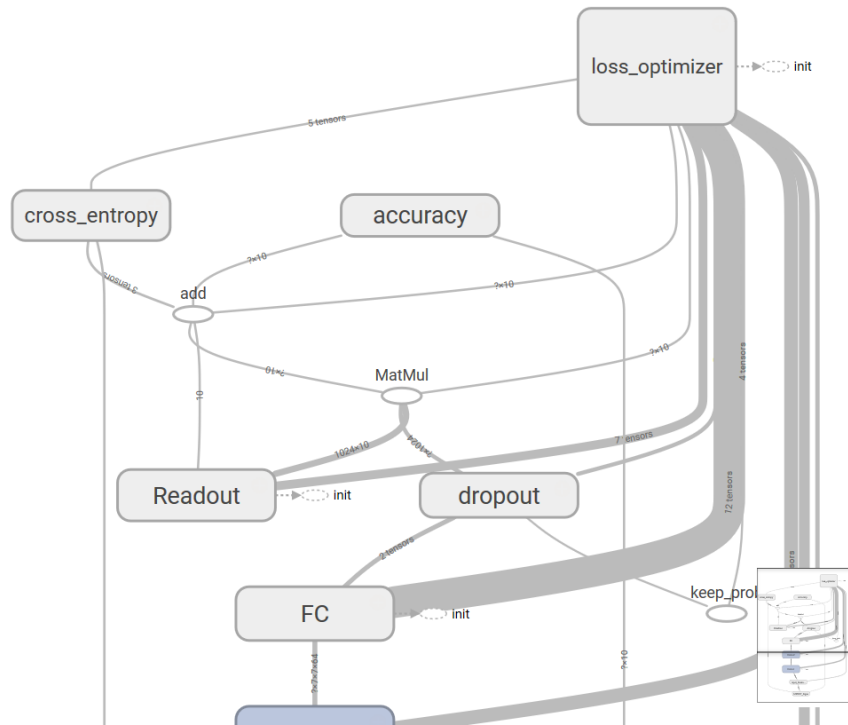**Summary Methods**

TensorBoard

Demo

Name and Name Scope

TensorBoard

Visualizing Learning

Visualize Computation Graph

Monitor performance

Adding Support for TensorBoard

Define log file location

Define names and name scopes

Add Summary methods

Train

Run TensorBoard

TensorBoard Summary

Visualizes Computation Graph

Shows internal operations

Better Name Scope, better visualization

Summary

TensorFlow Architecture challenges

Name and Name Scope

Printing values

TensorBoard
- Computation Graph
- Hierarchy of operations and tensors
- Summary statistics
- Distributions