Slides That are used a thumbnails in the github/statmike/vertex-ai-mlops repository

Notes:

- Do not insert new slides or reorder without updating the notebooks. The slides are exported to numbered .png files that are referenced in the notebooks

Process

- Save as PDF
- Copy to github/statmike/vertex-ai-mlops/architectures/thumbnails
- Convert PDF to PNG images
    - Use Notebook: /architectures/Create Images.ipynb
    - OUTPUT:
        - To: /architectures/thumbnails/plain
        - To: /architectures/thumbnails/playbutton

Vertex AI

readme.md

Vertex AI for Machine Learning Operations

👋 I'm Mike

I want to share and enable Vertex AI from Google Cloud with you. The goal here is to share a comprehensive set of end-to-end workflows for machine learning that each cover the range of data to model to serving and managing - even automating the flow. Regardless of your data type, skill level or framework preferences you will find something helpful here.

Considerations

Data Type

- Tables: Tabular, structured data in rows and columns
- Language: Text for translation and/or understanding
- Vision: Images
- Video

Convenience Level

- Use Pre-Trained APIs
- Automate building Custom Models
- End-to-end Custom ML with core tools in the framework of your choice

Framework Preferences

- Scikit-learn
- XGBoost
- Tensorflow
- Pytorch
- More!

Overview

This is a series of workflow demonstrations that use the same data source to build and deploy the same machine

Introduction

Vertex AI

Environment Setup

Vertex AI

Data Source

Vertex AI

End-To-End: No Code

Vertex AI

End-To-End: Interactive Code

Vertex AI

End-To-End: Pipeline Orchestration

BigQuery Machine Learning

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End-To-End with SQL

BigQuery Machine Learning

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BQML to Online Predictions

BigQuery Machine Learning

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End-To-End Pipeline Orchestration

Conditionally Update Endpoints

Custom Training

Vertex AI

TensorFlow

Custom Training in Notebook

Custom Training

TensorFlow

Vertex AI

Custom Job

With Python File

Custom Training

Vertex AI

Custom Job

With Python Source Distribution

Custom Training

TensorFlow

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Training Pipeline

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Custom Training

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Training Pipeline

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Custom Training

Vertex AI

Hyperparameter Tuning Job

With Python File

Custom Training

TensorFlow

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Hyperparameter Tuning Job

With Python Source Distribution

Vertex AI

Vizier Optimization Service

Vertex AI

Feature Store