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

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End-To-End: Interactive Code

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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

Custom Training

Vertex AI

TensorFlow

Custom Training in Notebook

Custom Training

TensorFlow

Vertex AI

Custom Job

With Python File

Custom Training

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Custom Job

With Python Source Distribution

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TensorFlow

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Training Pipeline

With Python File

Custom Training

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Training Pipeline

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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