



Vertex AI

- ✓ Managed machine learning platform for ML practitioners
- ✓ Covers end to end Lifecycle of a Machine Learning Model :
 1. Data preparation/gathering
 2. Model Training/versioning
 3. Model Evaluation
 4. Model Deployment
- ✓ Supports both UI based and code-based Model development/deployments
- ✓ Jupyter Notebook based environment for development
- ✓ Supported Frameworks :
 - Scikit-learn
 - XGBoost
 - Tensorflow
 - PyTorch



Vertex AI

- ✓ Interactive Model development using Jupyter Notebooks
- ✓ Model containerization and model training using Vertex AI Training (UI and SDK)
- ✓ Model Registry (UI and Python SDK)
- ✓ Model production deployment to an endpoint (UI and SDK)
- ✓ Prediction Model serving (Online and Batch)
- ✓ Kubeflow Pipelines (ML Orchestration)
- ✓ Focuss on Scikit-learn framework
- ✓ Custom predictions/routines (Not automl)



Vertex AI - Model Training

VertexAI - Workbench Spin up Jupyter NB

Upload training/docker files

Build docker image

Push Image to Container Registry

Deploy Vertex AI Training Job



Vertex AI - Model Training & Endpoint Deployment | Python SDK

Step-1

Model Training Using Python SDK/Web Console



Step-2

Upload Model to Vertex AI Model Registry - Python SDK



Step-3

Deploy Model to Vertex AI Endpoint



Vertex AI - Model Training & Endpoint Deployment | Python SDK

vertex-training-endpoint-deployment-sdk

src_dir

predictor.py

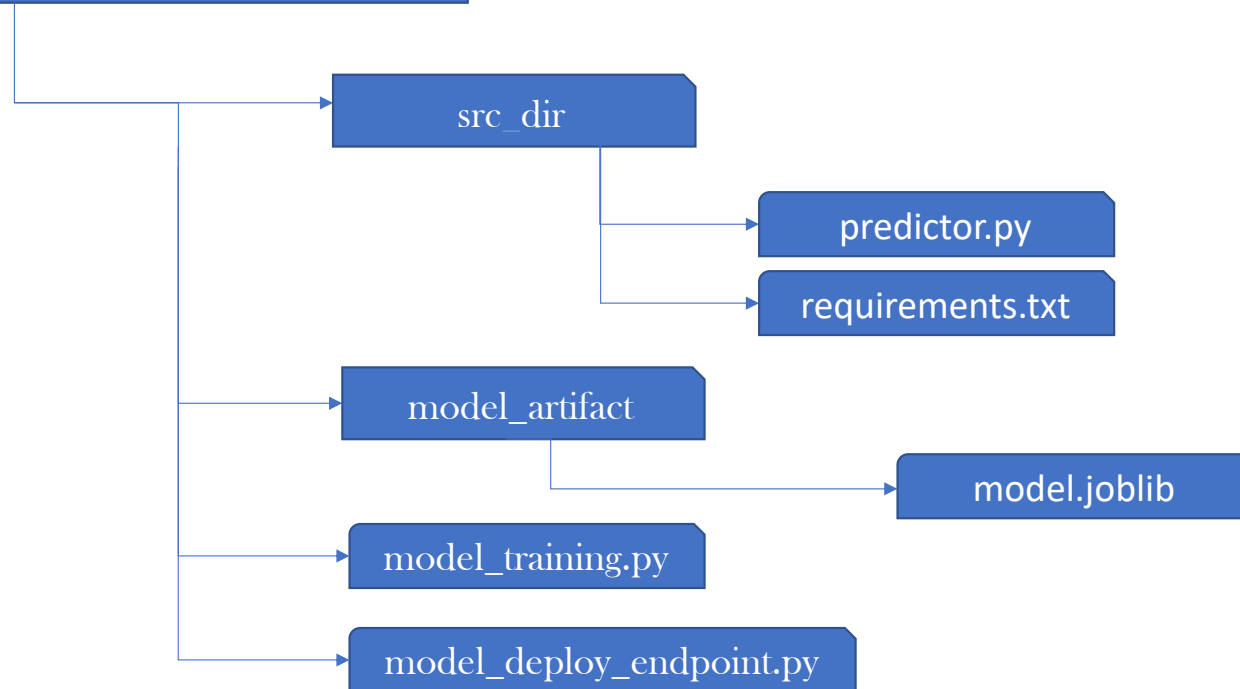
requirements.txt

model_artifact

model.joblib

model_training.py

model_deploy_endpoint.py





Vertex AI

1. Train Model using Python SDK
 1. Model artifact in local **src_dir** folder
 2. Upload the artifact to **gcs bucket**
2. Build and Deploy model to a local endpoint as a Docker image including the predictor
3. Run predictions/health-checks using the local endpoint
4. Push and upload model from local endpoint to **Vertex AI Model Registry**
5. Deploy model from **Model Registry** to **Vertex AI Endpoint**
6. Run predictions on the endpoint