Operationalizing Machine Learning Models

Exam Guide

Leveraging pre-built ML as a service.	• ML APIs • Customizing ML APIs • Conversational experiences

Tip: There are a few elements here. The first is building systems that use these services. The second is using additional services to augment, improve, or enhance the base functionality.

Study these:

- Cloud Vision API
- Cloud Text-to-speech API
- Cloud Speech-to-text API
- Cloud AutoML Vision
- Cloud AutoML Natural Language
- Cloud AutoML Translation
- Dialogflow

Exam Guide

Deploying an ML pipeline.	• Ingesting appropriate data • Retraining of machine learning models • Continuous evaluation

Tip: You need to know how to deploy existing models to Cloud Machine Learning Engine and to maintain them, which might involve retraining.

Tip: Continuous evaluation is setting up continuous evaluation of the machine learning model so that steps can be taken to improve it.

Study these:

- Kubeflow
- Cloud Machine Learning Engine
- Spark ML
- BigQuery ML

Exam Guide

Choosing the appropriate training and serving infrastructure.	• Distributed versus single machine • Use of edge compute • Hardware accelerators

Tip: Edge computing is the design of distributing processing in a strategic way so that model processing is pushed closer to the inputs; for example, in IoT, doing machine learning processing closer to the IoT sensors by performing work in nearby data centers or regions is edge computing.

Study these:

- GPU
- TPU

Exam Guide

Measuring, monitoring, and troubleshooting machine learning models.	• Machine learning terminology • Impact of dependencies • Common sources of error

Tip: One common source of error is accidental inclusion of biased data in the data being used for model training or validation.

Do you know these terms in a machine learning context?

- Features
- Labels
- Models
- Regression
- Classification
- Recommendation
- Supervised and unsupervised learning
- Evaluation
- Metrics
- Assumptions about data