Hasan Rafiq

Follow 27 Followers About

How I cracked the GCP Professional ML Engineer certification in 8 days!

Hasan Rafiq 3 hours ago · 3 min read

After having successfully aced Google's most recent certification — **Google Certified professional Machine Learning Engineer**, many people reached out to me on my LinkedIn recently for suggestions on how to prepare for the exam. So I thought why not put a guide of everything I did to ace this exam.

Talking about my professional experience, I have been working as a Machine Learning Architect / Engineer for more than 5 years and have created numerous ML powered enterprise applications on various platforms. So more or less working with Tensorflow / GCP stack is a part of my weekly curriculum.

Now talking about the exam specifically, GCP Professional ML Engineer exam focuses mostly on **three core areas**:

1. Knowledge of ML concepts and related tools — Tensorflow, Keras, XGB
2. Knowledge of GCP ML services — AI Platform, ML APIs, BQML
3. Knowledge of MLOps and related tools — TFX, Kubeflow, Best practices

The exam has **60** questions:

1. **35** pretty straight forward and span only on 1 area
2. **15** questions span on 2 areas
3. **10** difficult which span across all 3 or even beyond

It took me around 8 days, 4 years of GCP ML experience and 5+ years of ML experience. Hence below is a complete summary of how one should prepare for the exam. Preparation duration can span all the way from 8 days to 2+ months subjected to your expertise in the 3 core areas.

One should plan to study these topics in the order of mention:

1. ML Crash course by Google — https://developers.google.com/machine-learning/crash-course/
2. GCP AutoML Training — https://cloud.google.com/automl/docs
3. GCP ML APIs — Natural Language API, Vision API, Audio API

5. AI Platform Built-in algos — https://cloud.google.com/ai-platform/training/docs/algorithms
6. AI Platform Prediction — https://cloud.google.com/ai-platform/prediction/docs
7. AI Platform DL containers — https://cloud.google.com/ai-platform/deep-learning-containers/docs
8. AI Platform explanation — https://cloud.google.com/ai-platform/prediction/docs/ai-explanations/overview
9. Continuous evaluation — https://cloud.google.com/ai-platform/prediction/docs/continuous-evaluation
10. TF Profiler — https://www.tensorflow.org/guide/profiler
11. TF Distributed — https://www.tensorflow.org/guide/distributed_training
12. TFX pipelines and components — https://www.tensorflow.org/tfx/guide/understanding_tfx_pipelines
13. AI Platform pipelines — https://cloud.google.com/ai-platform/pipelines/docs
14. BQML Syntaxes and types of Algos — https://cloud.google.com/bigquery-ml/docs/tutorials
15. Basics of Non-ML services: Dataflow, Dataproc, PubSub, DataFusion
16. Different type of ML Accuracy metrics

Some tips for the exam and special topics:

1. Always remember, every ML solutioning has to go in this order: Start with GCP ML APIs to check any existing API that can be leveraged -> Else AutoML Training -> Else AI Platform Inbuilt algo -> Else AI Platform Custom Training on TF -> Else AI Platform Custom Training on Containers
2. Should have knowledge of SKLearn Pipelines, Keras sequential models

5. Attribution techniques for image model explanation
6. Containerized Training / Containerized Prediction
7. Custom prediction routines on AI platform
8. TF Dataset optimization techniques
9. Read about different parameters in Tensorflow model serving
10. Study about streaming data systems design with DataFlow & PubSub
11. Should know the difference between CNNs and RNNs
12. Difference between Precision and Recall for binary classification

This information is more than sufficient to crack the certification examination, I would suggest at-least **2 revisions** of the whole content. First with an intent to rememorize and second with the intent to speedup.

All the best for the certification !

Google Cloud Platform Machine Learning Engineer Gcp Certification TensorFlow Machine Learning