

Course : Machine Learning on Google Cloud

Machine learning on Google Cloud

Practical course - 5d - 35h00 - Ref. MLG

Price : 4850 € E.T.

 5 / 5

With this training course, you'll learn how to write distributed machine learning models that scale in TensorFlow 2.x, perform feature engineering with BQML and Keras, evaluate loss curves, perform hyperparameter tuning, and train large-scale models with Cloud AI Platform. You'll get the answers to your questions: what is machine learning? What kinds of problems can it solve? Why are neural networks popular? How can we improve data quality and perform exploratory data analysis?

Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Present a commercial use case as a machine learning problem
- ✓ Describe how to improve data quality
- ✓ Perform exploratory data analysis
- ✓ Building and training supervised learning models
- ✓ Optimize and evaluate models using loss functions and performance measures
- ✓ Create scalable, repeatable training, assessment and test data sets
- ✓ Implement machine learning models using Keras and TensorFlow
- ✓ Understand the impact of gradient descent parameters on accuracy, training speed, sparsity, etc.
- ✓ Represent and transform entities
- ✓ Training large-scale models with AI Platform

Intended audience

Machine learning and data engineers, machine learning scientists, data scientists and data analysts wanting exposure to machine learning in the cloud with TensorFlow 2.x and Keras.

PARTICIPANTS

Machine learning and data engineers, machine learning scientists, data scientists and data analysts wanting exposure to machine learning in the cloud with TensorFlow 2.x and Keras.

PREREQUISITES

Knowledge of basic machine learning concepts. Basic command of a scripting language - Python preferred.

TRAINER QUALIFICATIONS

The experts who lead the training courses are specialists in the subjects covered. They are approved by the publisher and certified for the course. They have also been validated by our teaching teams in terms of both professional knowledge and teaching skills for each course they teach. They have at least three to ten years of experience in their field and hold or have held positions of responsibility in companies.

Prerequisites

Knowledge of basic machine learning concepts. Basic command of a scripting language - Python preferred.

Certification

Official course without certification.

[Comment passer votre examen ?](#)

Practical details

Teaching methods

Training in French. Official course material in English.

Course schedule

1 How Google does machine learning

- Develop a data strategy around machine learning (ML).
- Examine use cases that are then reinvented through a machine learning (ML) approach.
- Recognize the biases that machine learning (ML) can amplify.
- Leverage Google Cloud Platform tools and environment for ML.
- Learn from Google's experience to avoid common pitfalls.
- Perform data science tasks in collaborative online notebooks.
- Call pre-trained ML models from Cloud AI Platform.

2 Getting started with machine learning

- Describe how to improve data quality.
- Perform exploratory data analysis.
- Building and training supervised learning models.
- Optimize and evaluate models using loss functions and performance measures.
- Mitigate common problems that arise in the ML.
- Create scalable, repeatable training, assessment and test data sets.

3 Introduction to TensorFlow 2.x

- Create TensorFlow 2.x and Keras machine learning models.
- Describe the key components of Tensorflow 2.x.
- Use the tf.data library to manipulate data and large datasets.
- Use Keras sequential and functional APIs to create simple and advanced models.
- Train, deploy and produce large-scale machine learning (ML) models with Cloud AI Platform.

4 Feature engineering

- Compare the main aspects required of a good feature.
- Combine and create new feature combinations through feature crossovers.
- Perform feature engineering using BigQuery Machine Learning (BQML), Keras and Tensorflow 2.x.
- Discover how to pre-process and explore features with Cloud Dataflow and Cloud Dataprep.
- Understand and apply how TensorFlow transforms features.

ASSESSMENT TERMS

Assessment of targeted skills prior to training.

Assessment by the participant, at the end of the training course, of the skills acquired during the training course.

Validation by the trainer of the participant's learning outcomes, specifying the tools used: multiple-choice questions, role-playing exercises, etc.

At the end of each training course, ITTCERT provides participants with a course evaluation questionnaire, which is then analysed by our teaching teams. Participants also complete an official evaluation of the publisher.

An attendance sheet for each half-day of attendance is provided at the end of the training course, along with a certificate of completion if the participant has attended the entire session.

TEACHING AIDS AND TECHNICAL RESOURCES

The teaching resources used are the publisher's official materials and practical exercises.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training course.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you have specific accessibility requirements? Contact Ms FOSSE, disability advisor, at the following address: psh-accueil@orsys.fr so that we can assess your request and its feasibility.

5 The art and science of machine learning

- Optimize model performance by adjusting hyperparameters.
- Experiment with neural networks and refine performance.
- Enhance ML model functionality with embedded layers.

Dates and locations

REMOTE CLASS

2026: 13 Apr., 15 June, 17 Aug., 19 Oct., 7 Dec.

PARIS LA DÉFENSE

2026: 13 Apr., 15 June, 17 Aug., 19 Oct., 7 Dec.