

Google Cloud Skills Boost

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Course

02 Introduction to AI and Machine Learning on Google Cloud

Machine Learning Machine Learning Models Machine Learning Pipeline

These skills were generated by AI. Do you agree this course teaches these skills?

8 hours Introductory 10 Credits +400 pts

This course introduces the AI and machine learning (ML) offerings on Google Cloud that build both predictive and generative AI projects. It explores the technologies, products, and tools available throughout the data-to-AI life cycle, encompassing AI foundations, development, and solutions. It aims to help data scientists, AI developers, and ML engineers enhance their skills and knowledge through engaging learning experiences and practical hands-on exercises.

When you complete this course, you can earn the badge displayed here! View all the badges you have earned by visiting your profile page. Boost your cloud career by showing the world the skills you have developed!

Introduction to AI and Machine Learning on Google Cloud



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Introduction

0/1 Videos

This module covers the course objective of helping learners navigate the AI development tools on Google Cloud. It also provides an overview of the course structure, which is based on a three-layer AI framework including AI foundations, development, and solutions.

 Start module

 Video

[Course introduction](#) 4 minutes

AI Foundations



 0/9 Videos  0/1 Documents  0/1 Labs  0/1 Quizzes

This module begins with a use case demonstrating the AI capabilities. It then focuses on the AI foundations including cloud infrastructure like compute and storage. It also explains the primary data and AI development products on Google Cloud. Finally, it demonstrates how to use BigQuery ML to build an ML model, which helps transition from data to AI.

 Start module

 Video

[Introduction](#) 1 minute

 Video

[Why AI](#) 5 minutes

 Video

[AI/ML architecture on Google Cloud](#) 8 minutes

 Video

[Google Cloud infrastructure](#) 8 minutes

 Video

[Data and AI products](#) 3 minutes

 Video

[ML model categories](#) 5 minutes

 Video

[BigQuery ML](#) 5 minutes

 Video

[Lab introduction](#) 1 minute

 Lab

[Predicting Visitor Purchases with BigQuery ML](#) 1 hour 10 minutes

Want to build ML models with just SQL? Learn how with BigQuery ML on this

Want to build ML models with just SQL? Learn how with [BigQuery ML on Cloud](#)
Google Analytics ecommerce dataset

Video

[Summary](#) 1 minute

REQUIRED

Quiz

[Quiz](#) 40 minutes

Document

[Reading](#) 30 minutes

AI Development Options



0/8 Videos 0/1 Documents 0/1 Labs 0/1 Quizzes

This module explores the various options for developing an ML project on Google Cloud, from ready-made solutions like pre-trained APIs, to no-code and low-code solutions like AutoML, and code-based solutions like custom training. It compares the advantages and disadvantages of each option to help decide the right development tools.

[→ Start module](#)

Video

[Introduction](#) 1 minute

Video

[AI development options](#) 5 minutes

Video

[Pre-trained APIs](#) 6 minutes

Video

[Vertex AI](#) 4 minutes

Video

[AutoML](#) 5 minutes

Video

[Custom training](#) 5 minutes

Video

[Lab introduction](#) 4 minutes

REQUIRED

Lab

[Entity and Sentiment Analysis with the Natural Language API](#) 45 minutes

The Cloud Natural Language API lets you extract entities, and perform sentiment

and syntactic analysis on a block of text. In this hands-on lab you'll learn how t...



[Summary](#) 1 minute

REQUIRED



[Quiz](#) 30 minutes



[Reading](#) 30 minutes

AI Development Workflow



0/9 Videos

0/1 Documents

0/1 Labs

0/1 Quizzes

This module walks through the ML workflow from data preparation, to model development, and to model serving on Vertex AI. It also illustrates how to convert the workflow into an automated pipeline using Vertex AI Pipelines.

→ Start module



[Introduction](#) 1 minute



[ML workflow](#) 3 minutes



[Data preparation](#) 4 minutes



[Model development](#) 6 minutes



[Model serving](#) 3 minutes



[MLOps and workflow automation](#) 6 minutes



[Lab introduction](#) 3 minutes



[How a machine learns](#) 10 minutes

REQUIRED

Lab

[Vertex AI: Predicting Loan Risk with AutoML](#) 2 hours 30 minutes

In this lab, you will use AutoML on Vertex AI to train and serve a model with tabular data. Vertex AI is the newest AI product offering on Google Cloud, and i...

Video

[Summary](#) 1 minute

REQUIRED

Quiz

[Quiz](#) 35 minutes

Document

[Reading](#) 30 minutes

Generative AI



0/9 Videos 0/1 Documents 0/1 Labs 0/1 Quizzes

This module introduces generative AI (gen AI), the newest advancement in AI, and the essential toolkits for developing gen AI projects. It starts by examining the gen AI workflow on Google Cloud. It then investigates how to use Gen AI Studio and Model Garden to access Gemini multimodal, design prompt, and tune models. Finally, it explores the built-in gen AI capabilities of AI solutions.

→ Start module

Video

[Introduction](#) 1 minute

Video

[Generative AI and workflow](#) 6 minutes

Video

[Gemini multimodal](#) 8 minutes

Video

[Prompt design](#) 6 minutes

Video

[Model tuning](#) 5 minutes

Video

[Model Garden](#) 4 minutes

Video

[AI solutions](#) 6 minutes

Video Video

[Lab introduction](#) 1 minute

REQUIRED

Lab Lab

[Get Started with Vertex AI Studio](#) 1 hour

In this lab, you will learn how to use Vertex AI Studio to create prompts and conversations with Gemini's multimodal capabilities.

Video Video

[Summary](#) 1 minute

REQUIRED

Quiz Quiz

[Quiz](#) 30 minutes

Document Document

[Reading](#) 30 minutes

Summary

0/1 Videos 0/1 Documents

This module provides a summary of the entire course by covering the most important concepts, tools, technologies, and products.

→ Start module

Video Video

[Course summary](#) 6 minutes

Document Document

[Reading](#) 30 minutes

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