



Generative AI Explorer

Course description

Explore Vertex AI, Gemini, Vertex AI Studio, Prompt Engineering, and Custom Model Development. Learn to build, train, deploy, and interact with Generative AI solutions through hands-on Cloud Hero challenges.

Through guided labs and practical exercises, learners will gain foundational experience with Generative AI development workflows, Vertex AI services, model deployment, and prompt engineering techniques.

- Course level: Introductory
- Duration: 1 day

Activities

This course includes gamified cloud hero learning experience, hands-on ai labs, prompt engineering exercises, generative ai workshops, model deployment activities, ai studio exploration sessions, and real-world ai development challenges to reinforce learning.

Course objectives

In this course, you will learn to:

- Understand the core capabilities of Vertex AI.
- Build and deploy machine learning models using Vertex AI.
- Interact with Gemini models for text generation and analysis.

- Design effective prompts for Generative AI applications.
- Use Vertex AI Studio for rapid AI experimentation.
- Prepare and manage data for AI workloads.
- Understand end-to-end AI development workflows.
- Explore modern Generative AI use cases and solutions.

Key features

- Introduction to Vertex AI
- End-to-End Machine Learning Development
- Gemini Model Exploration
- Prompt Engineering Fundamentals
- Vertex AI Studio for Rapid Prototyping
- Model Deployment and Prediction
- Generative AI Best Practices
- Hands-On Challenge-Based Learning

Intended audience

This course is intended for:

- AI Enthusiasts
- Application Developers
- Machine Learning Practitioners
- Cloud Engineers
- Data Scientists
- Technical Professionals Exploring Generative AI
- Learners Interested in Vertex AI Capabilities

Prerequisites

We recommend that attendees of this course have:

- Experience working with Jupyter Notebooks.
- Familiarity with the Google Cloud Console.
- Basic understanding of machine learning concepts is beneficial.

Products covered

- Vertex AI
- Vertex AI Workbench
- Gemini
- Vertex AI Studio
- BigQuery

Course outline

Module 01 - Vertex AI: Qwik Start

- Vertex AI Fundamentals
- Model Training
- Model Deployment
- Prediction Services
- AI Workflow Overview

Module 02 - Getting Started with the Vertex AI Gemini 1.5 Pro Model

- Gemini 1.5 Pro
- Generative AI Fundamentals
- Text Generation
- Multimodal AI
- Foundation Models

Module 03 - Generative AI with Vertex AI: Prompt Design

- Prompt Engineering Fundamentals
- Prompt Structures
- Prompt Optimization
- AI Response Quality
- Prompting Best Practices

Module 04 - Get Started with Vertex AI Studio

- Vertex AI Studio
- Prompt Testing
- AI Prototyping

- Foundation Model Exploration

Certification details

Participants receive a Cloud Hero completion badge and recognition upon successful completion of all challenge activities.

FAQs

Who should attend this Cloud Hero?

This Cloud Hero is designed for learners who want to explore Vertex AI capabilities and develop foundational Generative AI skills.

Is prior machine learning experience required?

Basic familiarity with machine learning concepts is beneficial, but the challenge focuses on practical hands-on learning.

Is this a hands-on learning experience?

Yes. The Cloud Hero consists entirely of guided labs and challenge-based activities.

What Generative AI topics are covered?

The course covers Gemini models, prompt engineering, Vertex AI Studio, AI prototyping, and model deployment workflows.

Will prompt engineering be covered?

Yes. Prompt design and optimization are major focus areas, including dedicated hands-on exercises.

What products are used?

The challenge primarily uses Vertex AI, Vertex AI Workbench, Gemini, Vertex AI Studio, and BigQuery.

How long does the Cloud Hero take?

The complete Cloud Hero experience takes approximately 330 minutes.

Will I receive a certificate?

Participants typically earn a Cloud Hero completion badge upon successful completion of all challenge activities.