



Cloud Hero: GenAI Search and Conversation

Course description

Learn how to build intelligent search and conversational AI applications using Vertex AI, Gemini, Vertex AI Studio, Vertex AI Agent Builder, and Embedding Models through hands-on Cloud Hero challenges.

Through guided labs and practical scenarios, learners will gain hands-on experience building conversational AI solutions, integrating enterprise search capabilities, creating semantic search applications, and leveraging embeddings to power modern AI-driven user experiences.

- Course level: Introductory
- Duration: 1 day

Activities

This course includes gamified cloud hero learning experience, hands-on labs, ai development challenges, search application workshops, multimodal ai exercises, semantic search activities, and conversational ai development tasks to reinforce learning.

Course objectives

In this course, you will learn to:

- Understand the fundamentals of Vertex AI and Gemini.
- Build and experiment with AI models using Vertex AI Studio.

- Work with Gemini multimodal capabilities for text, images, audio, and video.
- Integrate search experiences into applications using Vertex AI Agent Builder.
- Generate and use embeddings for semantic search and retrieval.
- Build conversational AI applications powered by generative AI.
- Understand retrieval-augmented search architectures.
- Develop practical skills for modern AI application development.

Key features

- Introduction to Generative AI on Vertex AI
- Vertex AI Studio Development
- Gemini Multimodal AI
- Search-Powered AI Applications
- Vertex AI Agent Builder
- Embeddings and Semantic Search
- Conversational AI Development
- Gamified Hands-On Learning

Intended audience

This course is intended for:

- AI Developers
- Cloud Developers
- Software Engineers
- Generative AI Practitioners
- Application Architects
- Technical Professionals Exploring AI Search Solutions
- Google Cloud AI Learners

Prerequisites

We recommend that attendees of this course have:

- Prior experience with Vertex AI recommended.

- Familiarity with Google Cloud fundamentals.
- Interest in generative AI and conversational applications.
- Basic understanding of application development concepts.

Products covered

- Vertex AI
- Gemini
- Vertex AI Studio
- Vertex AI Agent Builder
- Embeddings

Course outline

Module 01 - Get Started with Vertex AI Studio

- Vertex AI Studio Overview
- Prompt Engineering Fundamentals
- AI Prototyping
- Foundation Models

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

- Gemini 1.5 Pro Overview
- Multimodal AI
- Text Analysis
- Image Understanding
- Audio and Video Processing

Module 03 - Integrate Search in Applications using Vertex AI Agent

- Enterprise Search
- Vertex AI Agent Builder
- Search Integration
- Conversational Retrieval

Module 04 - Introduction to Vertex AI Embeddings: Text and Multimodal

- Embedding Fundamentals
- Text Embeddings
- Multimodal Embeddings
- Semantic Search
- Similarity Matching

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 developers and AI practitioners who want to build search-enabled and conversational AI applications using Google Cloud technologies.

Is prior Vertex AI experience required?

Yes. General familiarity with Vertex AI is recommended.

Is this a hands-on learning experience?

Yes. The Cloud Hero consists entirely of practical labs and challenge-based exercises.

What AI capabilities are covered?

The course covers multimodal AI, semantic search, conversational AI, enterprise search integration, embeddings, and generative AI application development.

Will I learn about AI-powered search?

Yes. Search integration using Vertex AI Agent Builder is one of the primary focus areas.

What products are used?

The Cloud Hero uses Vertex AI, Gemini, Vertex AI Studio, Vertex AI Agent Builder, and Vertex AI Embeddings.

How long does the Cloud Hero take?

The complete challenge takes approximately 330 minutes.

Will I receive a certificate?

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