Cloud Hero: GenAI Search and Conversation Training

Duration: **1 Day**

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Cloud Hero: GenAI Search and Conversation is a practical course for professionals who want to incorporate generative AI capabilities into applications using Vertex AI and Gemini. The programme focuses particularly on generative AI search, multimodal processing, embeddings, and AI-powered application integration.

Throughout the course, participants learn how to create applications from prompts, design effective prompts, and configure Gemini model behaviour using model parameters and system instructions. Learners also work with different types of multimodal information, including audio, code, and video, to understand how generative AI can operate beyond text-based interactions.

Another major area of the course is integrating search capabilities into applications. Using**Vertex AI Agent Builder**, participants explore how to index public website content together with structured and unstructured data, perform searches across indexed information, and integrate search experiences into web applications.

The course also introduces text and multimodal embeddings. Participants learn how embeddings can support search experiences involving text, images, and video. Hands-on labs reinforce practical skills in prompt engineering, model configuration, search, and application integration.

Prerequisites

Participants should have some previous experience with or general familiarity with**Vertex AI**.

Who Should Attend

This course is designed for professionals who already have a general understanding of Vertex AI and want to introduce capabilities such as:

- Generative AI-powered search,
- Gemini functionality,
- Multimodal AI,
- Embedding-based search and content discovery

into their applications.

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What You Will Learn

By the end of this course, participants will be able to:

- Create and manage applications using prompts,
- Design and engineer effective prompts, including multimodal prompts,
- Generate text and control reasoning behaviour with Gemini,
- Configure model parameters and system instructions,
- Process multimodal information including audio, code, and video,
- Apply advanced capabilities such as function calling and code execution,
- Integrate search and embedding functionality into applications.

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Training Outline

Getting Started with Vertex AI Studio

This section introduces prompt-based application development and prompt management within Vertex AI Studio.

- Create applications from prompts
- Design effective prompts
- Engineer and manage prompts
- Work with multimodal prompts

Getting Started with the Vertex AI Gemini 1.5 Pro Model

Explore Gemini capabilities for text generation, reasoning, configuration, and multimodal processing.

- Generate text and control reasoning using thinking levels
- Configure model parameters
- Define and use system instructions
- Process multimodal data including audio, code, and video
- Implement advanced capabilities such as function calling
- Use code execution

Integrating Search into Applications with Vertex AI Agent Builder

This section focuses on preparing different sources of information for search and integrating search functionality into applications.

- Index public website content
- Index structured and unstructured data
- Search across indexed information
- Configure how search results are displayed
- Integrate Agent Search with web applications

Introduction to Vertex AI Embeddings: Text and Multimodal

Participants explore how embeddings can support search and discovery across different content types.

- Use the Agent Platform Text Embeddings API
- Work with the Agent Platform Multimodal Embeddings API for images and video
- Build a simple search experience using e-commerce data
- Find products using text queries
- Search for products using images
- Discover relevant products using video inputs