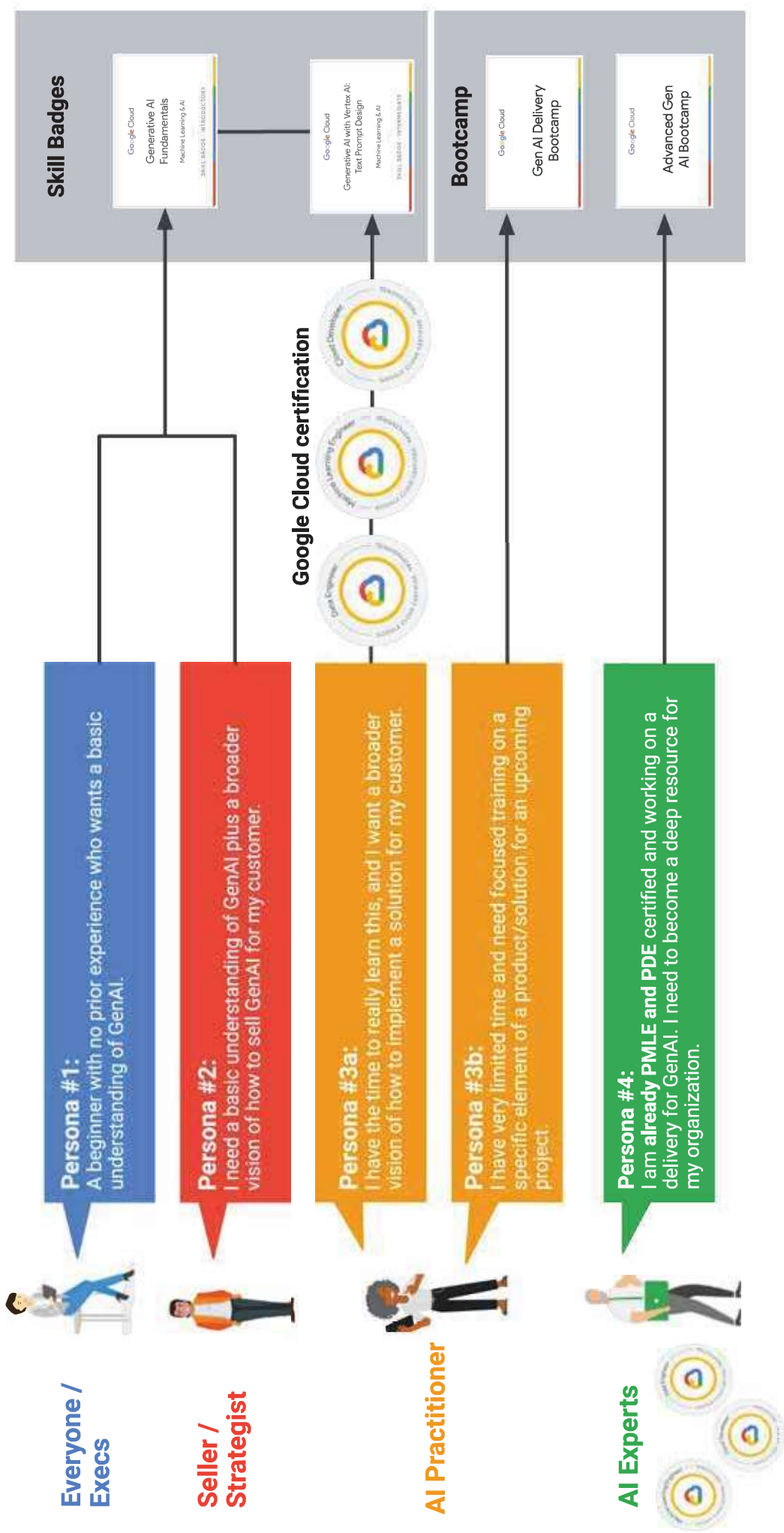















Google Cloud Learning Journeys for Generative AI: Vertex AI



 Persona	Driver	Suggested Learning Plan <div>  On-demand  Live Session </div>	Goal
Everyone / Execs	Generate awareness	 Introduction to Generative AI	# Gen AI Fundamentals Skill Badges
Seller / Strategist	Establish foundation	 Introduction to Generative AI	# Gen AI Fundamentals Skill Badges
 AI Practitioners	Build up intermediate level skills	 Generative AI for Machine Learning Engineers  Generative AI for Developers  Generative AI: A Technical Workshop for Practical Success (intermediate level)	# Intermediate level Skill Badges # Attendees to Intermediate workshop
 AI Experts	Build up advanced level skills	 Certification (ML/DE)  Bridge Courses  Generative AI Advanced Bootcamp (advanced)	# certified (PMLE/PDE/PCD) # Intermediate level skill badges # Practitioners for Advanced Bootcamp

Generative AI: A Technical Workshop for Practical Success

What level is this course?

Intermediate

How is it Delivered?

2 days Virtual Live Sessions
(5 hours each)

Who should attend?

- Partners interested in generative AI that have hands-on coding experience with Python.
- Data engineers with machine learning (ML) experience and ML engineers who want to learn about generative AI.

Course Overview

This course gives you hands-on experience, in deploying, tuning and operationalising generative AI applications for a wide array of use cases for both consumers and the enterprise, specifically on Google Cloud within Vertex AI's tools like Gen App Builder.

Prerequisites

- Knowledge of machine learning basics
- Experience in Python
- Complete the Generative AI for Machine Learning Engineers or Generative AI for Developers

Learning Objectives

- The ability to qualify, build through common blocks, and design patterns by using generative AI on Google Cloud
- Implementation-level knowledge and understanding of generative solutions currently available on Google Cloud
- Familiarity with the contents from the Google Cloud Generative AI Repository
- Solid understanding of the various design patterns when using Generative AI on Google Cloud
- Hands on experience on running and building Generative AI solutions on Google Cloud

Building Generative AI Applications with Vertex AI

What level is this course?

Advanced

How is it Delivered?

3 days Virtual Live Sessions
(8 hours each)

Who should attend?

- Experienced ML engineers, architects, app designers, and developers within HCLTech who are responsible for building complex generative AI solutions for customers.

Course Overview

This course teaches you how to design, program, test, deploy, evaluate, and troubleshoot customer applications that take advantage of Google's powerful machine learning and generative AI services and tools.

Through a combination of lecture, demos, hands on labs, and whiteboard design sessions, you learn how to integrate generative AI into your applications. You learn how to incorporate Vertex AI APIs and LangChain into generative AI applications using Python. By the end of this course, you will be able to solve complex AI problems using advanced prompt engineering, model tuning, and information retrieval methods.

This course is approximately 50% hands-on labs and activities.

Prerequisites

Partners who have following Google Cloud certifications (or equivalent knowledge):

- Professional Machine Learning Engineer
- Professional Data Engineer

Learning Objectives

- Design, program, and deploy production-ready applications that take advantage of Google foundational models, machine learning APIs, and tools
- Incorporate responsible AI best practices into generative AI solutions
- Improve AI accuracy with advanced prompt engineering and model tuning
- Evaluate, test, and troubleshoot generative AI applications
- Architect and design applications based on real-world generative AI case studies

Google Cloud Generative AI Technical Learning Paths

Introduction to Generative AI

This learning path guides you through a curated collection of content on Generative AI products and technologies, from the fundamentals of Large Language Models to how to create and deploy generative AI solutions on Google Cloud.

Level: Introductory

- Introduction to Generative AI: 45 Mins
- Introduction to Large Language Models: 30 Mins
- Introduction to Responsible AI: 30 Mins
- Responsible AI: Applying AI Principles with Google Cloud: 1 Hr 30 Mins
- Generative AI for Business Leaders: 1 Hr 45 Mins
- Introduction to Generative AI Studio: 8 Hrs
- Generative AI with Vertex AI: Text Prompt Design: 8 Hrs
- Generative AI Explorer : Vertex AI: 4 Hrs 15 Mins
- Generative AI Fundamentals: 8 Hrs
- Introduction to Image Generation: 8 Hrs

Google Cloud Generative AI | Technical Learning Paths

Generative AI for Developers

This learning path is designed for developers who want to learn about Generative AI and how to use it to build their own applications. No prior experience with machine learning or natural language processing is required.

Level: Introductory

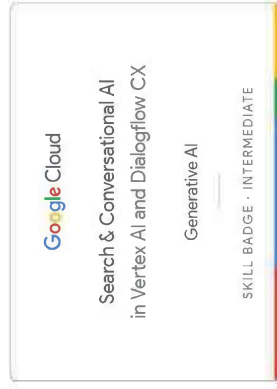
- Vector Search and Embeddings: 1 Hr 45 Mins
- Vertex AI Search: 5 Hrs
- Custom Search with Embeddings in Vertex AI: 8 Hrs
- Getting Started with the Vertex AI Gemini API: 2 Hrs
- Multi-modal Prompt Engineering with Generative AI Studio: 6 Hrs 15 Mins
- App Dev with Gemini: 3 Hrs
- Conversational AI on Vertex AI and Dialogflow CX: 5 Hrs
- Multimodality with Gemini: 3 Hrs
- Search & Conversational AI in Vertex AI and Dialogflow CX: 5 Hrs
- Orchestrating LLM solutions with LangChain in Google Cloud: 4 Hrs
- Search with Generative AI: 8 Hrs

Generative AI for Machine Learning Engineers

This path includes the content in the introduction to Generative AI learning path and also more advanced content and hands-on labs for machine learning engineers.

- Attention Mechanism: 8 Hrs
- Encoder-Decoder Architecture: 8 Hrs
- Transformer Models and BERT Model: 8 Hrs
- Create Image Captioning Models: 8 Hrs
- Implementing Generative AI with Vertex AI: 4 Hrs 30 Min
- Vector Search and Embeddings: 1 Hr 45 Min
- Custom Search with Embeddings in Vertex AI: 8 Hrs
- Search with Generative AI: 8 Hrs

Generative AI Skill Badges: Intermediate and Advanced Level



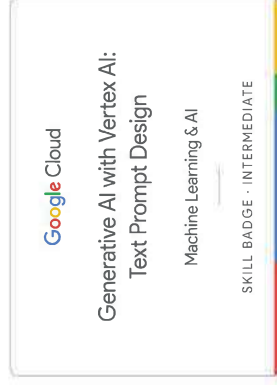
[\[Link to Skill Badge\]](#)

🕒 6 hours 45 min



Intermediate

Overview: Learn how to create end-to-end search and conversational experiences by following examples. These technologies complement predefined intent-based chat experiences created in Dialogflow with LLM-based, generative answers that can be based on your own data. Also, they allow you to provide enterprise-grade search experiences for internal and external websites to search documents, structure data and public websites.



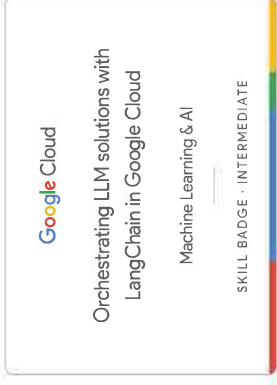
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🕒 9 hours 45 min



Intermediate

Overview: This Generative AI with Vertex AI: Text Prompt Design quest introduces you to using a generative model and prompting techniques as a creative process that to generate ideations, for example memes and marketing campaigns. It also shows how to use the PaLM API and large language models to analyze and manipulate text and answer questions.



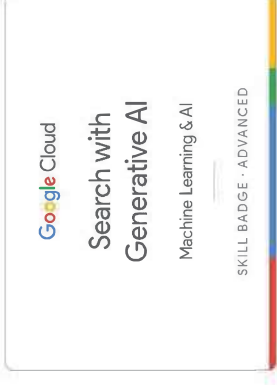
[\[Link to Skill Badge\]](#)

🕒 4 hours 45 min



Intermediate

Overview: In this quest, you will learn to use LangChain to call Google Cloud LLMs and Generative AI Services and Datastores to simplify complex applications' code.



[\[Link to Skill Badge\]](#)

🕒 5 hours



Advanced

Overview: In this quest, you'll use text embeddings for tasks like classification, outlier detection, text clustering and semantic search. You'll combine semantic search with the text generation capabilities of an LLM to build Retrieval Augmented Generation (RAG) solutions, such as for question-answering systems, using Google Cloud's Vertex AI.