

KOENIG SOLUTIONS • COURSE OUTLINE

DP-3028: Implement Generative AI Engineering with Azure Databricks

Learn to build, fine-tune, evaluate and operationalize generative AI solutions with large language models and RAG on Azure Databricks.

8 Hours

DURATION

7

MODULES

35

TOPICS

7

HANDS-ON EXERCISES

COURSE OVERVIEW

This learning path explores how to design, build, fine-tune, evaluate, and operationalize generative AI solutions using Azure Databricks. By combining Apache Spark's scalability with collaborative capabilities, you will develop robust AI systems integrating large language models (LLMs), Retrieval-Augmented Generation (RAG), multi-stage reasoning, and more.

WHO THIS COURSE IS FOR

AI Engineers

Data Scientists

Machine Learning Engineers

NLP Developers

MLOps Engineers

PREREQUISITES

- Familiarity with fundamental AI concepts and Azure Databricks (Recommended: "Get started with artificial intelligence" and "Explore Azure Databricks" modules)

LEARNING OBJECTIVES

- Understand LLM fundamentals and their NLP applications
- Implement Retrieval-Augmented Generation (RAG) workflows
- Apply multi-stage reasoning frameworks
- Fine-tune Azure OpenAI language models
- Evaluate LLM performance with standard metrics
- Adopt responsible AI practices in LLM workflows
- Manage LLM operations using LLMOps with Azure Databricks

7 Modules, 35 Topics

01

Exercise

Get Started with Language Models in Azure Databricks

TOPICS

- Introduction
- Understand Generative AI
- Understand Large Language Models (LLMs)
- Identify key components of LLM applications
- Use LLMs for Natural Language Processing (NLP) tasks

02

Exercise

Implement Retrieval-Augmented Generation (RAG) with Azure Databricks

TOPICS

Introduction · Explore the main concepts of a RAG workflow · Prepare your data for RAG · Find relevant data with vector search · Rerank your retrieved results

03

Exercise

Implement Multi-Stage Reasoning in Azure Databricks

TOPICS

Introduction · What are multi-stage reasoning systems? · Explore LangChain · Explore LlamaIndex · Explore Haystack · Explore the DSPy framework

04

Exercise

Fine-Tune Language Models with Azure Databricks

TOPICS

Introduction · What is fine-tuning? · Prepare your data for fine-tuning · Fine-tune an Azure OpenAI model

05

Exercise

Evaluate Language Models with Azure Databricks

TOPICS

Introduction · Compare LLM and traditional ML evaluations · Evaluate LLMs and AI systems · Evaluate LLMs with standard metrics · Describe LLM-as-a-judge for evaluation

06

Exercise

Review Responsible AI Principles for Language Models

TOPICS

- Introduction
- What is responsible AI?
- Identify risks
- Mitigate issues
- Use key security tooling to protect your AI systems

07

Exercise

Implement LLMOps in Azure Databricks

TOPICS

Introduction · Transition from traditional MLOps to LLMOps · Understand model deployments · Describe MLflow deployment capabilities · Use Unity Catalog to manage models

HANDS-ON EXERCISES

Practise What You Learn

#	MODULE	ACTIVITY
01	Get Started with Language Models in Azure Databricks	Explore language models
02	Implement Retrieval-Augmented Generation (RAG) with Azure Databricks	Set up RAG
03	Implement Multi-Stage Reasoning in Azure Databricks	Implement multi-stage reasoning with LangChain
04	Fine-Tune Language Models with Azure Databricks	Fine-tune an Azure OpenAI model
05	Evaluate Language Models with Azure Databricks	Evaluate an Azure OpenAI model
06	Review Responsible AI Principles for Language Models	Implement responsible AI
07	Implement LLMOps in Azure Databricks	Implement LLMOps

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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