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Advanced: Generative AI for Developers Learning Path

school 12 activities   update Last updated about 1 month   person Managed by Google Cloud

A Generative AI Learning Path with a technical focus, built for App Developers, Machine Learning Engineers, and Data Scientists. Recommended prerequisite: Introduction to Generative AI learning path.

Start learning path

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**Introduction to
Image Generation**

(/paths/183/course_templates/541)

01 Introduction to Image Generation

book Course
access_time 30 minutes
show_chart Introductory

This course introduces diffusion models, a family of machine learning models that recently showed promise in the image generation space. Diffusion models draw inspiration from physics, specifically thermodynamics. Within the last few years, diffusion models became popular in both research...

Start course

(/paths/183/course_templates/537)

02 Attention Mechanism

book Course
access_time 30 minutes
show_chart Intermediate

This course will introduce you to the attention mechanism, a powerful technique that allows neural networks to focus on specific parts of an input sequence. You will learn how attention works, and how it can be used to improve the...

Start course

**Encoder-Decoder
Architecture:
Overview**

03 Encoder-Decoder Architecture

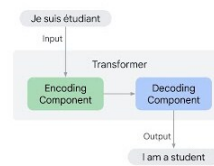book Course
access_time 30 minutes
show_chart Intermediate

This course gives you a synopsis of the encoder-decoder architecture, which is a powerful and prevalent machine learning architecture for sequence-to-sequence tasks such as machine translation, text summarization, and question answering. You learn about the main components of the encoder-decoder...

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Transformer Models and BERT Model: Overview
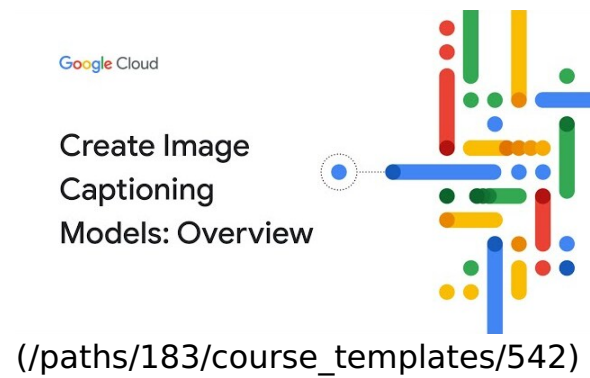
04 Transformer Models and BERT Model

book Course
access_time 30 minutes
show_chart Intermediate

This course introduces you to the Transformer architecture and the Bidirectional Encoder Representations from Transformers (BERT) model. You learn about the main components of the Transformer architecture, such as the self-attention mechanism, and how it is used to build the...

Start course

Create Image
Captioning
Models: Overview

Google Cloud

(/paths/183/course_templates/542)
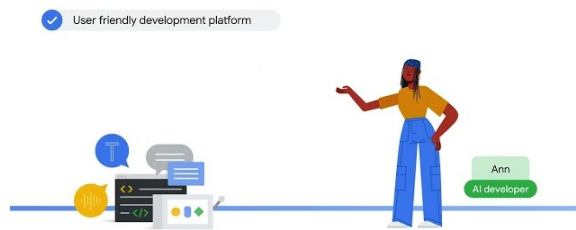
05 Create Image Captioning Models

book Course
access_time 30 minutes
show_chart Intermediate

This course teaches you how to create an image captioning model by using deep learning. You learn about the different components of an image captioning model, such as the encoder and decoder, and how to train and evaluate your model....

Start course

(/paths/183/course_templates/552)

06 Introduction to Vertex AI Studio

book Course
access_time 2 hours
show_chart Introductory

This course introduces Vertex AI Studio, a tool to interact with generative AI models, prototype business ideas, and launch them into production. Through an immersive use case, engaging lessons, and a hands-on lab, you'll explore the prompt-to-product lifecycle and learn...

Start course

R
A
G

07 Vector Search and Embeddings

book Course
access_time 4 hours
show_chart Intermediate

Explore AI-powered search technologies, tools, and applications in this course. Learn semantic search utilizing vector embeddings, hybrid search combining semantic and keyword approaches, and retrieval-augmented generation (RAG) minimizing AI hallucinations as a grounded AI agent. Gain practical experience with Vertex...

Start course

(/paths/183/course_templates/981)

08 Inspect Rich Documents with Gemini Multimodality and Multimodal RAG

book Course
access_time 5 hours
show_chart Intermediate

Complete the intermediate Inspect Rich Documents with Gemini Multimodality and Multimodal RAG skill badge to demonstrate skills in the following: using multimodal prompts to extract information from text and visual data, generating a video description, and retrieving extra information beyond...

Start course

01 Define what is Responsible AI

(/paths/183/course_templates/985)

09 Responsible AI for Developers: Fairness & Bias

book Course
access_time 4 hours
show_chart Intermediate

This course introduces concepts of responsible AI and AI principles. It covers techniques to practically identify fairness and bias and mitigate bias in AI/ML practices. It explores practical methods and tools to implement Responsible AI best practices using Google Cloud...

Start course

(/paths/183/course_templates/989)

10 Responsible AI for Developers: Interpretability & Transparency

book Course
access_time 3 hours
show_chart Intermediate

This course introduces concepts of AI interpretability and transparency. It discusses the importance of AI transparency for developers and engineers. It explores practical methods and tools to help achieve interpretability and transparency in both data and AI models.

Start course

01 Define what AI privacy is.

(/paths/183/course_templates/1036)

11 Responsible AI for Developers: Privacy & Safety

book Course
access_time 5 hours
show_chart Intermediate

This course introduces important topics of AI privacy and safety. It explores practical methods and tools to implement AI privacy and safety recommended practices through the use of Google Cloud products and open-source tools.

Start course