Google Cloud Machine Learning & AI Training Report - Week 2

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Department: Business Applications – Data Center 2

Duration: 30 hours

1. Work Description

During the second week of my internship at Jedco, instead of the initially scheduled activity on the Dataiku platform, our supervisor directed us to complete a comprehensive training course offered by Google Cloud titled "Machine Learning and Artificial Intelligence". The aim was to build a strong foundation in AI concepts before moving on to practical work with data platforms.

2. Reason for Adjustment in Training Sequence

The decision to begin with the Google Cloud Machine Learning & AI course was made by our training supervisor. Rather than removing the second item of the training plan (Dataiku platform), it was rescheduled to be covered alongside the fifth item.

This adjustment aimed to better prepare us for working with data platforms by first building a solid foundation in machine learning concepts. The course enabled me to understand AI-powered workflows, data modeling principles, and modern data processing approaches which will make my engagement with tools like Dataiku more effective and insightful when introduced later in the program.

3. Course Overview

The course was structured across three learning paths:

1. Beginner: Introduction to Generative AI

This part provided a broad overview of Generative AI and how to use it without coding through Google's prebuilt tools. It introduced key topics such as: - What is Generative AI and how it differs from traditional ML - Introduction to Large Language Models (LLMs) - Responsible AI principles - Prompt design using Vertex AI - Applying responsible AI in real-world use cases

Hands-on highlight: I created a chatbot that helps insurance professionals summarize client information for risk analysis using prompt-based design.

2. Intermediate: Gemini for Google Cloud

This section explored how Gemini, Google's AI-powered collaborator, can assist professionals across different roles: - Application developers, data scientists, security engineers, and cloud architects - Recommending services, analyzing logs, querying data, and writing code.

Hands-on highlight: I used the Gemini model to generate ad copy from a product image by prompting a multimodal model.

3. Advanced: Generative AI for Developers

This track had a technical focus on understanding and building AI models. It covered: Transformer and BERT architectures - Image generation models - Attention and encoder-decoder mechanisms - Vector search and embeddings - Multimodal Retrieval-Augmented Generation (RAG) - Responsible AI concepts: fairness, transparency, privacy - Introduction to Vertex AI Studio and deploying apps with Streamlit and Cloud Run.

Hands-on highlight: I explored multimodal prompts that extract insights from text and image content together, such as generating video descriptions and answering queries about visual content.

4. Key Learnings

- Improved my understanding of the entire ML lifecycle, including responsible design, training, evaluation, and deployment
- Learned to use no-code tools and prompt engineering to build useful AI solutions
- Gained exposure to cloud-based deployment, RAG, and multimodal models
- Developed awareness of ethical AI practices and how Google Cloud enforces them

5. Relevance to Internship Goals

This course built the technical and ethical foundation needed for my later tasks involving Dataiku and business applications. It also introduced me to many concepts that are directly aligned with Jedco's focus areas in data science and AI-driven automation. I now feel more confident engaging with real-world data projects and contributing meaningfully to my team.