

# ADTA 5770: Generative AI with LLM

## Semester Project – Important Notes

### 1. Overview

For the AI software application development using GCP: Vertex AI, the developer should follow entity-naming rules closely to avoid unnecessary errors that may be very costly in time and work to debug and update code.

### 2. Entity-Naming Rules in GCP

#### 2.1 General Requirements

The developer must follow different rules for naming entities while developing AI software applications using GCP: Vertex AI platform.

Generally, there are two types of entities:

- Google Cloud Platform (GCP) entities
  - These entities are GCP subsystems, components, or elements created by GCP and managed by GCP.
  - For example:
    - GCP Projects → GCP project IDs → GCP project names, ...
    - GCP: GCS: Buckets → bucket subfolders, ...
    - ...
- User-Defined Identifiers
  - These identifiers are declared and managed by the developer while they write code to develop AI software applications
  - For example:
    - Constant identifiers
    - Variable identifiers
    - ...

### 3. Entity-Naming Rules in GCP: GCP Items

#### 3.1 Requirements

For **GCP entities**, the name:

- > 1: Must be all **lowercase**
- > 2: Must start with a **letter**
- > 3: Must include only letters, numbers, and **hyphens**

#### 3.2 Example 1

For example:

- PROJECT\_ID = "project-id-of-a-project"
- REGION = "us-central1"
- BUCKET = "a-bucket-name"
- BUCKET\_URI = f"gs://{BUCKET}"

#### **IMPORTANT NOTES:**

- > *"project-id-of-a-project" is the ID of the project, a **GCP entity***
  - *PROJECT\_ID is a user-defined constant of the string*

### 4. Entity-Naming Rules in GCP: User-Defined Identifiers

#### 4.1 Requirements

For **user-defined identifiers**, including constant and variable identifiers, the name:

- > 1: Can be either lowercase or uppercase
- > 2: Must start with a **letter**
- > 3: Must include only letters, numbers, and **underscores**

#### 4.2 Example 1

For example:

- PROJECT\_ID = "project-id-of-a-project"
- REGION = "us-central1"
- a\_vector\_search\_index = ...
- an\_index\_endpoint = ...

- ) PROJECT-ID and REGION are user-defined constant identifiers.
- ) a\_vector\_search\_index and an\_index\_endpoint are user-defined variable identifiers

The naming rules require that only **underscores**, not hyphens, **can be used** in the names of **user-defined identifiers**.