Model Deployment

AIC - Machine Learning Specialization C6.V1

Project Overview

Congratulations for making it this far... You should be very proud of yourself. You successfully reached your Final Project! Wishing you all the best.

Objective

In this final project, you will take **one of the models** you've built in a previous project, and deploy it using Flask and Docker:

- ❏ Machine Translation Model
- ❏ Object Detection Model
- ❏ MedBot

Your goal is to create a minimal but functional interface for your model and make it accessible online.

This project brings together everything you've learned, and allows you to demonstrate your ability to apply machine learning in a real-world, user-facing application.

Choose the project you feel most confident about or most interested in deploying.

Project Overview

Expected Work

Your work must include:

- ❏ **Model Selection and Packaging**
  - ❏ Choose one of your previously developed models.
  - ❏ Ensure the model is saved and ready to be loaded during deployment.
- ❏ **Flask Application**
  - ❏ Build a minimal Flask app that allows users to interact with your model.
  - ❏ Your app must include a user interface (web form or input box) that takes user input and returns the model's output.
- ❏ **Dockerization**
  - ❏ Create a Dockerfile to containerize your Flask app.
  - ❏ Ensure your project can be built and run inside a Docker container.
- ❏ **Online Deployment**
  - ❏ Deploy your Dockerized application on any online hosting platform of your choice.
  - ❏ Make sure your app responds correctly to user input.

You are required to use Docker for this challenge. If you face limitations on one platform, try another. Deployment method is flexible, but **containerization is mandatory**.

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Deliverables (Read Carefully!)

Your submission should be uploaded to a Google Drive folder:

- ❏ **Model File(s)**
  - ❏ The trained model file(s) from the chosen project
  - ❏ Any tokenizer or config files if needed for loading the model during runtime
- ❏ **Flask App Files**
  - ❏ app.py (or equivalent): the main script running the Flask application
  - ❏ Folders using HTML/CSS for the frontend
  - ❏ Any additional Python files used in the project
- ❏ **Dockerization Files**
  - ❏ requirements or environment.yml
  - ❏ Dockerfile
- ❏ **Deployment Link**
  - ❏ A **publicly accessible link** to the hosted application (hosted on Render, Hugging Face Spaces, Railway, Fly.io, etc.)
  - ❏ A .txt file containing the link to the slides you'll use for a **LIVE presentation** explaining your solution.
- ❏ 🚫 **Do not** upload the Docker image itself **or** zip your project

Important Notes:

- ❏ There's **no one "correct"** way to approach this project. Use your creativity and critical thinking to guide your decisions.
- ❏ Any submission flagged for plagiarism, unauthorized collaboration, or AI-generated answers **will either receive a penalty or be rejected entirely.**

The Extra Mile *(Optional – Earn extra points)*

Each challenge gives you a chance to go beyond what's required. We call this **The Extra Mile**. It is no different in this final project.

Your Extra Mile task is to upload your entire project to **GitHub**, and include a clear and helpful **README** file that:

- Describes what your model does
- Includes setup instructions for running it locally via Docker
- Describes how to use the interface
- Mentions known issues or limitations
- Adds one image or GIF preview of the app in action

You can refer to other good GitHub repositories, to see how this is usually done.

If your GitHub repo is well-documented and beginner-friendly, you'll earn extra points.

THANK YOU

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