# Landmark Image Classification Model

## Project Overview

This project aims to build and train an image classification model capable of identifying various landmarks in Sri Lanka. The model is trained using a custom dataset of landmark images, structured for machine learning workflows.

## Dataset

The dataset used for training this model is a large collection of images covering 14 distinct Sri Lankan landmarks. Due to its size, the full dataset is not included directly in this repository but is stored on Google Drive.

**Original Dataset Location:** You can find the original dataset at: <https://drive.google.com/drive/folders/1wNb4ML2NjUKD5e237Tg6HrCXS7s-Timc?usp=drive_link>

**Split Dataset Location:** The dataset used for training, validation, and testing is located at: <https://drive.google.com/drive/folders/1ea1F0ETTeJ8tWVz6G1zYC9HoSp2DcAFF?usp=drive_link>

The dataset is organized into train, validation, and test sets, with subdirectories for each landmark class.

## Model

The image classification model is built using **Transfer Learning** with a pre-trained **EfficientNetB0** model as the base. Data augmentation techniques are applied during training to improve the model's robustness and generalization capabilities.

The model is trained to classify images into the 14 landmark categories present in the dataset.

## Performance

The model's performance was evaluated on the test dataset. The key metrics are summarized below:

* **Test Accuracy:** 88.64%

A detailed classification report and confusion matrix are available in the notebook to provide a deeper understanding of the model's performance on individual classes.

## Trained Model Artifacts

The trained model is saved in two formats for potential deployment:

* **Keras H5 format:** Suitable for loading and using the model in various Python environments.
* **TensorFlow Lite (TFLite) format:** Optimized for deployment on mobile and edge devices.

**Model Artifacts Location:** The saved model files can be found on Google Drive at: /content/drive/MyDrive/Travelgine\_Landmarks/sri\_lanka\_landmark\_classifier.keras /content/drive/MyDrive/Travelgine\_Landmarks/sri\_lanka\_landmark\_classifier.tflite

## Usage

To use this model or reproduce the results, you will need access to the dataset and the trained model files from the specified Google Drive locations. The accompanying Jupyter Notebook provides the code used for data preparation, model building, training, and evaluation.

## Contact

For any questions or further information, please refer to the project notebook or contact the project me.

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