

Documentation

Dataset Preperation

1. Dataset is taken from Kaggle. (<https://www.kaggle.com/datasets/kailaspsudheer/tiny-object-detection>)
2. Dataset was in COCO format which was converted to Yolo format.
3. Jupyter notebook is uploaded in Repo for data preperation and training

Model Training

1. Custom Model was trained with above dataset.
2. Ultralytics repo was used for training custom model.
3. Model was trained with GPUP100 on Kaggle

APIs

Fastapi and Streamlit Services are created using the official documentation and with help of ChatGPT. (<https://fastapi.tiangolo.com/tutorial/path-params-numeric-validations/#import-path>)

Docker

- A separate **Dockerfile** was created for each service (FastAPI and Streamlit).
- Docker images were built and tested to ensure services run in isolated containers.
- Docker Compose was used to orchestrate multiple services for easier deployment and management.

GitHub Repo

1. Git repo is created (https://github.com/deveshklt/Yolo_Docker/tree/main)
2. LFS is used to upload large weight files in the Repo.