

# Checklist: Guideline to Build Your Final Project

## Problem Identification

- ☐ Choose a real-world problem to solve
- ☐ Clearly outline what the project aims to achieve.
- ☐ Identify the primary target audience or users.

## Data Collection

- ☐ Web scraping
- ☐ API integration
- ☐ Public datasets
  - ☐ Kaggle
  - ☐ UCI Machine Learning Repository
  - ☐ data.gov
  - ☐ Bangladesh Bank

## Exploratory Data Analysis (EDA)

- ☐ Create a data summary report
- ☐ Develop a dashboard for data visualization

## Data Preparation

- ☐ Split data into training and testing sets

Apply Data Preprocessing Techniques: ( ONLY FOR TRAIN DATA )

- ☐ Data Cleaning
  - ☐ Handling missing values
  - ☐ Outlier detection and treatment
  - ☐ Data normalization or standardization
  - ☐ Encoding categorical variables
- ☐ Feature Engineering
  - ☐ Create new features
  - ☐ Transform existing features
- ☐ Feature Selection
  - ☐ Identify relevant features
  - ☐ Remove irrelevant features
- ☐ Document data preprocessing steps thoroughly

After Preprocessing try to build a pipeline so that you can use the same pipeline for test data.

## Model Development and Evaluation

- ☐ Create a baseline model using simple algorithms like Linear Regression or Decision Trees
- ☐ Experiment with different machine learning algorithms
- ☐ Evaluate models using appropriate metrics
- ☐ Perform hyperparameter tuning and model optimization
- ☐ Implement ensemble methods for improved performance
- ☐ Document the model development process

You can use MLFlow to track your experiments and models.

## Build an Application

- ☐ Develop a user-friendly interface
  - ☐ Use Flask, FastAPI, Streamlit, Django

## Model Deployment (Optional)

- ☐ Share the trained model:

☐ Hugging Face

☐ TensorFlow Hub

☐ Deploy the application:

☐ Heroku

☐ AWS

☐ Azure

☐ Google Cloud Platform (GCP)

☐ Docker

☐ Kubernetes