

You have to implement one ML & DL project during the semester which include following criteria.

Objective :

Create Complete ML & DL project using Flask/ Fast API of given problem statement with neat and clean UI. The project includes a clean UI for data input and prediction visualization.

Project should Include following:

Objective	Title	Description	Week No.
1	Problem Definition and Dataset Exploration	Problem statement, dataset summary, and initial observations.	1
2	Data Cleaning and Pre-processing	Handle missing values Identify and handle outliers. Encode categorical variables Normalize/scale numerical features. EDA	2
3	Model Creation & Evaluation	Find out appropriate algorithm for training for your dataset. Implement selected Algorithm without use of Library. & Test the model on the test dataset and compute metrics. Check for overfitting or underfitting. Hyperparameter Tuning	3
4	Visualization of metrics and graph & Flask Project Setup, Create Front end	Display all types of graph associated with performance metrics & Learn How to setup project on Flask Create simple flask application which use form .	4
5	Create backend & Deployment	Setup backend to handle user request & Final Project Deployment to available free hosting site.	5
After week 5 Deep learning project will be given			

Library for development:

You can used numpy, pandas, matplotlib, plotly, sklearn, seaborn

Evaluation of Objective:

Evaluation of project will be done **in regular lab**. For every one objective have **one marks** for end semester evaluation.

Use Following dataset for ML task:

- 1) Cardiovascular Disease Dataset (Healthcare) -
<https://www.kaggle.com/datasets/sulianova/cardiovascular-disease-dataset>