

Short summary of the project-First year, semester B

In this project, we asked to write 4 notebooks-

1. Continues of classification notebook from last semester
2. Cat VS Dogs notebook
3. Fashion MNIST
4. Hands Positions

In those notebooks we asked to use all methods and models we learned during last semester.

Among other things, the focus was on image processing by using Ensemble learning .

During the work, I referred to various models such as-

Random Forests, XGBoost, AdaBoost, Stacking, Bagging&Pasting, and Voting -
in addition to simple classification models such as KNN and Logistic Regression we learned in first semester.

By using each of the models I learned the pros and cons of each model- when It better to use one, and when It is better to use another.

By using methods like PCA, and Scaling I learned how to handle better with large amount of data, although, unfortunately I have to admit that my PC could not handle some of the method I tried to ran such as Grid Search- that I wanted to use in order to improve the model I chose as the best model (after considering both conditions of accuracy and runtime), and It was very challenging to deal with large data by using simple PC such as mine.

More of what I have been used during the Project is all simple methods of score's measuring, such as classification method, confusion matrix and ROC-curve to show the tpr & fpr values for each threshold for positive classification.

This project gave me the ability to experiment and learn about image processing and better handling with different kind of data as I used to handle with till now.