Web Application for Object Identification (Artificial Intelligence)

My project is a web application for object identification; we built the site with the help of the Django framework and the files I created were forms.py and upload.py, which allow me to upload an image for identification. In the background, I trained a model with keras in TensorFlow and then linked that backend to an HTML page, where the results could be uploaded and inspected.

Customer Segmentation (Data Visualisation)

In this project, we will assist them in determining answers to their business difficulties. We will use seaborn to display the dataset and map correlations and patterns. We utilised an example dataset called mall customers dataset, which has attributes such as age, income, spending score, and gender.

Support Vector Machine without Packages (Data Mining)

Support Vector Machine or SVM is a supervised and linear Machine Learning algorithm most used for solving classification problems and is also referred to as **Support Vector Classification**. There is also a subset of SVM called SVR which stands for **Support Vector Regression** which uses the same principles to solve regression problems. SVM also supports the kernel method also called the **kernel SVM** which allows us to tackle non-linearity**.**

The **main algorithm** can basically be broken down into 4 steps:

1. Basic setup and initialization of the weights and biases
2. Map the class labels from {0, 1} to {-1, 1}
3. Perform gradient descent for *n* iterations, which involves the computation of the gradients and updating the weights and biases accordingly.
4. Make the final prediction

Student Analysis

Same as data visualization but columns names are student age, gender, parental level of education, lunch, test preparation hours, math score, reading score