**IMPLEMENTATION:**

**MODULES:**

* User
* Admin
* Yolov5 Model
* Deep Learning

**MODULES DESCRIPTION:**

**User:**

The User can register the first. While registering he required a valid user email and mobile for further communications. Once the user register then admin can activate the user. Once admin activated the user then user can login into our system. User can upload the dataset based on our dataset column matched. For algorithm execution data must be in float format. Here we took facemask dataset. User can also add the new data for existing dataset based on our Django application. User can click the Classification in the web page so that the data calculated accuracy, Loss based on the algorithms.

**Admin:**

Admin can login with his login details. Admin can activate the registered users. Once he activate then only the user can login into our system. Admin can view the overall data in the browser. Admin can click the Results in the web page so calculated accuracy, Loss based on the algorithms is displayed. All algorithms execution complete then admin can see the overall accuracy in web page.

**Yolov5 Model:**

YoloV5 is a one-stage detector and a region-based object detection network. The Yolo redefines an object detection as a regression problem leading to a high processing speed. Recently, YoloV5 has been applied in real-time person search [9], and also in vision system for apple-harvesting robot. YoloV5 has three main components: the backbone, the head and the detection. The backbone is a CNN that collects and shapes image features at different granularities. The YoloV5 implements the center and scale prediction (CSP) Bottleneck to formulate image features. The head is a series of layers to combine image features for throwing them forward to a prediction process. The YoloV5 also implements the PA-NET for feature aggregation. The detection is a process that utilize features from the head and takes box and class prediction steps. To develop the face mask detection model using YoloV5, the training dataset consisting of 685 images with labels in the VOC format were implemented. In the training model process [11], an epoch, a number of passes of the entire training dataset, has been shown to affect the performance of the model. The goal of this paper was to determine the optimal epoch for the developed training model via the YoloV5.

**Deep learning Results**:

Based on the split criterion, the cleansed data is split into 60% training and 40% test, then the dataset is subjected to CNN Deep learning classifiers. The accuracy and loss of the classifiers was calculated and displayed in my results. The classifier which bags up the highest accuracy and Loss could be determined as the best classifier.