Readme:

The files included for the Project part1 submission are

Report_AI: This is a text document regarding the part1 of our project which includes all the necessary details.

Dataset: This text document consists of the information about all categories of the dataset and their source with some sample images.

Originality_form: This form is attesting to the originality of our work with the sign of all our team members.

DataCleaning.py: This is a python file which has the complete code for part1 of the project. Both data cleaning and data visualization are coded in this single file. To successfully execute the code a python compiler needs to be there with the following packages installed.

- numpy
- torchvision
- PIL
- Matplotlib

The path of the datasets needs to be clearly mentioned and after running the code a folder named “resize” is automatically created with the cleaned images. After the images are cleaned then automatically the histogram for pixel intensity, 5x5 image grid and barchart to show distribution of images in each class will be shown. You need to wait a moment for the visualization to be displayed. After closing the images the labels of the duplicates would be displayed.

Training.py: This is the code for second part of project which includes training of the datasets and finding the accuracy of the Main architecture. After that two variants of the main model are also defined and trained with the datasets. Based on the accuracy and confusion matrix values best model among the three models is found. To run the program, you need to have python compiler with the necessary packages installed. As the datasets are large it will take some time to get the output.