# Files:

**pipeline.py –** The python script to run the pipeline

**Saikrishna\_Javvadi\_Assignment1\_video.mp4 –** This is the annotated video for the test video given.

**car\_type\_classifier.py –** The python script used to train the classifier that classifies the car as sedan or hatchback using transfer learning

**mobilenet\_cars.h5** – This is the file containing the trained car type classifier model

**training\_data/ –** The data used for training the car type classifier is contained in this directory.

**results.csv –** This is the output CSV file containing the model predictions

**video.mp4** – This is the **input** video from the pipeline

**all\_final\_results/** - This directory contains all the output diagrams, CSV file and annotated video for quick reference

**font/ -** This directory contains files required for adding video annotations.

**keras-yolo3-master/ -** This directory contains the code for YOLO. See further details below.

# Versions:

**Python Version:** 3.7.4

**Installations:**

pip3 install idt

pip install tensorflow==1.15

pip install keras==2.1.5

# Run command:

**python pipeline.py <query>**

Where <query> can be either Q1 , Q2

# Notes about pipeline output:

The predictions are stored in the results.csv file ,when the pipeline is run for Q2

The output videos to accompany the submission are in the output\_videos directory

# Further Details:

**Cloned YOLO code from**: <https://github.com/qqwweee/keras-yolo3>

**Downloaded the YOLO-V3 weights at:** <https://pjreddie.com/media/files/>

**Converted the following to create the Tiny YOLO weights to the correct format:**

cd keras-yolo3-master

python convert.py yolov3-tiny.cfg yolov3.weights model\_data/yolo.h5

**Made changes to:** keras-yolo3-master/yolo.py

*Changed* ***detect\_image()*** *method to return information about the bounding box*

# Details about the tool used for Image scrapping:

**https://github.com/deliton/idt**

**Execute the following commands in order:**

pip3 install idt

idt run -i “SUV” -s 400

idt run -I “Sedan” -s 400