Game Hardware 3

CA Project

Submitted by Liam Ross (A00282639)

**Detections:**

Face and Eye Detection

Number Plate Detection

Car Detection

**Software Used:**

OS:

* macOS Monterey – Version 12.4

Python:

* Version: 3.10

Packages:

* OpenCV – Version: 4.6.0.66
* Numpy – Version: 1.23.5

Environment

* PyCharm

Classifiers:

* haarcascade\_russian\_plate\_number.xml
* haarcascade\_car.xml
* haarcascade\_frontalface\_default.xml
* lbpcascade\_frontalface\_improved.xml
* haarcascade\_eye.xml
* haarcascade\_mcs\_mouth.xml

Python Code:

* Found in \*whatever directory\*

**References:**

**Images:**

Cars on highway (cars.jpeg): <https://pixabay.com/photos/highway-city-cars-traffic-road-7213206/>

Cat (cat.jpeg): <https://pixabay.com/photos/cat-pet-feline-animal-fur-kitty-7584624/>

Brooklyn Nine Nine (b991.JPG): <https://www.tvinsider.com/949404/brooklyn-nine-nine-police-brutality-season-8-storyline/>

Brooklyn Nine Nine (b992.JPG): <https://www.tvinsider.com/949404/brooklyn-nine-nine-police-brutality-season-8-storyline/>

Post Malone (post.JPG): <https://www.pinterest.ie/pin/389631805266435293/?amp_client_id=CLIENT_ID%28_%29&mweb_unauth_id=&amp_url=https%3A%2F%2Fwww.pinterest.com%2Famp%2Fpin%2F389631805266435293%2F&amp_expand=true>

Tommy Shelby (tommy.JPG): <https://nyla-hurst.blogspot.com/2021/04/tommy-shelby-peaky-blinders-wallpaper.html>

Number Plate (numberPlate.jpg): <https://licenseplatemania.com/landenpaginas/rusland.htm>

Number Plater (numberPlate1.jpg): <https://platesmania.com/ru/nomer11962743>

Chevy Chevelle (chevelle.jpg): <https://www.barrett-jackson.com/Events/Event/Details/1970-CHEVROLET-CHEVELLE-SS-454-180621>

**Videos:**

Cars on highway video (cars.mp4): <https://pixabay.com/videos/traffic-car-highway-street-27260/>

Pedestrians: (pesestrains.mp4): <https://www.pexels.com/video/people-and-vehicles-on-the-streets-during-daytime-2954065/>

Number plate video (numberPlateVid.mp4): <https://www.youtube.com/watch?v=18f3-Znp32I>

Haarcascade xml files sourced from:

<https://github.com/opencv/opencv/tree/master/data/haarcascades>