

Configuration Manual

MSc Research Project
Data Analytics

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MSc Project Submission Sheet
School of Computing



Student Name: Kapil Tyagi
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Enhancing Accuracy and Robustness
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I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.

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Date: 14/12/2023

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1 Software and Hardware Details

Table 1. Software

Name	Properties/version
Notepad++	Any free version / paid version
Ms Office	Excel, Word
OS	Mac, Windows 11 or lower
Anaconda Navigator	2023.09-0 or lower
Jupyter Notebook	6.5.4

Table 2. Hardware

Name	Properties/Version
Processor	Apple M2, or lower
Ram	16 Gb/ 8Gb
System Type	64- bit operating system

2 Project Installation

Installing the project and preparing it for operation are covered in this section.

- Open Jupyter notebook from anaconda navigator
- Click on upload and upload the project folder. After this all the content in the folder can be seen
- Go to Project code and click it to open the code artefact.
- Run and restart the kernel to run the program without any interruption.
- All these steps are highlighted are shown in the images below.

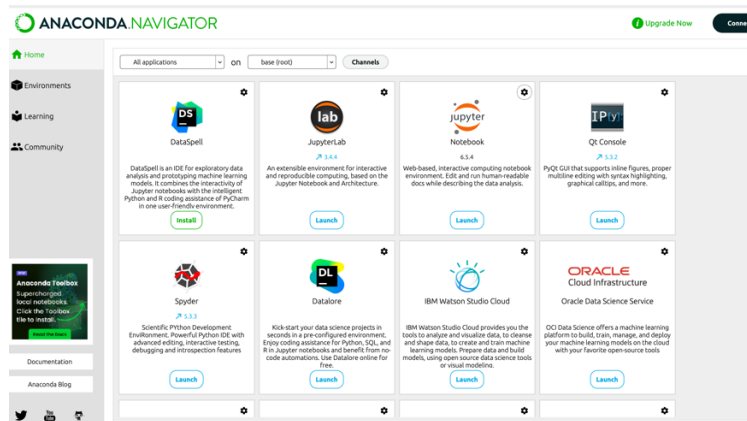


Fig.1 displays from where to launch Jupyter Notebook

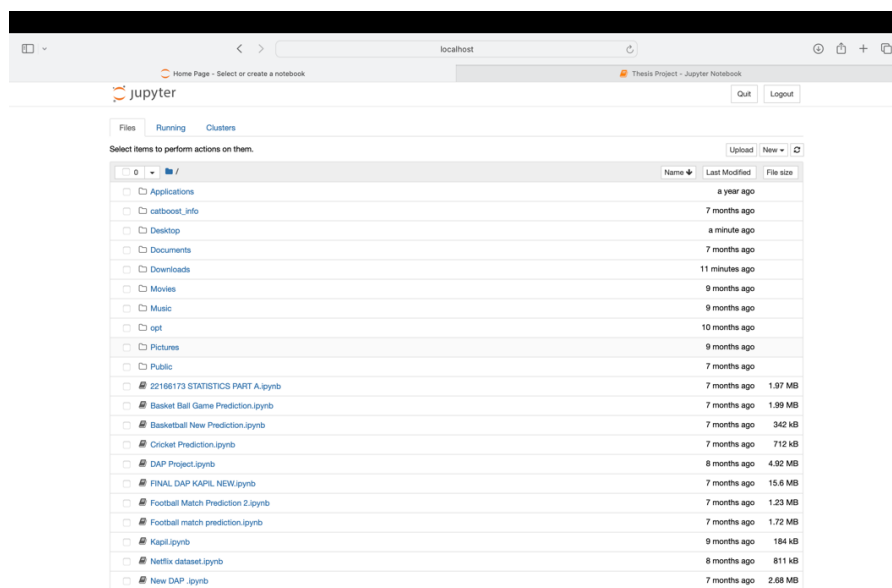


Fig. 2 displays where to find the code artefact



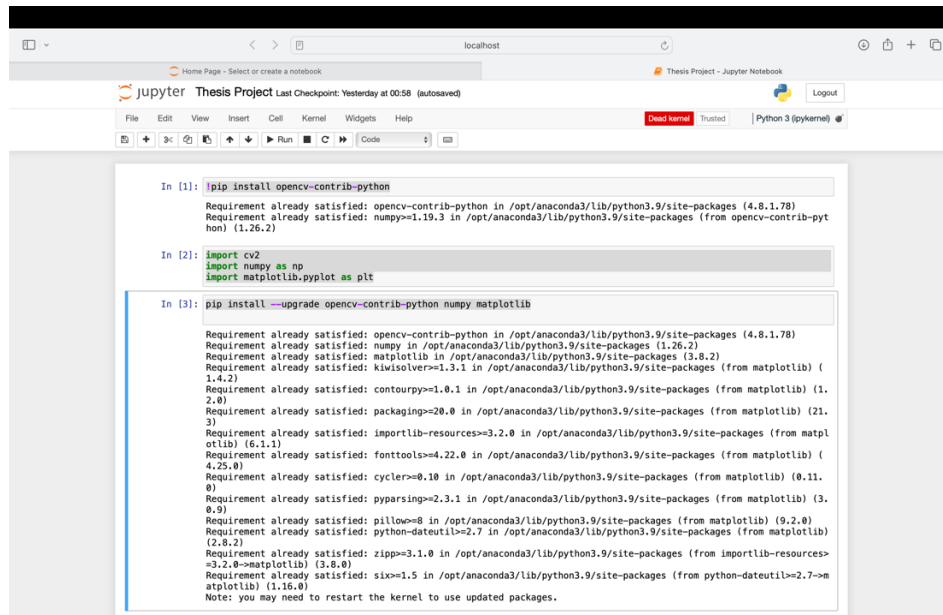
Fig.3 displays the file that needs to be run.

- Install all packages with the commands mentioned below -
 - !pip install OpenCV-contrib-python
 - import cv2
 - import numpy as np

- import matplotlib.pyplot as plt
- pip install --upgrade opencv-contrib-python numpy matplotlib
- ... add any package "pip install " command ...
-

3 Project Code execution

Run the file Thesis Project.ipynb to start the project.



```

In [1]: pip install opencv-contrib-python
Requirement already satisfied: opencv-contrib-python in /opt/anaconda3/lib/python3.9/site-packages (4.8.1.78)
Requirement already satisfied: numpy>=1.19.3 in /opt/anaconda3/lib/python3.9/site-packages (from opencv-contrib-python) (1.26.2)

In [2]: import cv2
import numpy as np
import matplotlib.pyplot as plt

In [3]: pip install --upgrade opencv-contrib-python numpy matplotlib
Requirement already satisfied: opencv-contrib-python in /opt/anaconda3/lib/python3.9/site-packages (4.8.1.78)
Requirement already satisfied: numpy in /opt/anaconda3/lib/python3.9/site-packages (1.26.2)
Requirement already satisfied: matplotlib in /opt/anaconda3/lib/python3.9/site-packages (3.8.2)
Requirement already satisfied: kiwisolver<=1.3.1 in /opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (1.4.2)
Requirement already satisfied: contourpy<=1.0.1 in /opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (1.2.0)
Requirement already satisfied: packaging<=20.0 in /opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (21.3)
Requirement already satisfied: importlib-resources<=3.2.0 in /opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (6.1.1)
Requirement already satisfied: fonttools<=4.22.0 in /opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (4.25.0)
Requirement already satisfied: cycler<=0.10 in /opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (0.11.0)
Requirement already satisfied: pyparsing<=2.3.1 in /opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (3.0.9)
Requirement already satisfied: pillow<=8 in /opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (9.2.0)
Requirement already satisfied: python-dateutil<=2.7 in /opt/anaconda3/lib/python3.9/site-packages (from matplotlib) (2.8.2)
Requirement already satisfied: zipp<=3.1.0 in /opt/anaconda3/lib/python3.9/site-packages (from importlib-resources<=3.2.0->matplotlib) (3.8.0)
Requirement already satisfied: six<=1.5 in /opt/anaconda3/lib/python3.9/site-packages (from python-dateutil<=2.7->matplotlib) (1.16.0)
Note: you may need to restart the kernel to use updated packages.

```

Fig. 4 displays the code artefact

4 Project Code Outcome

To see the output, restart and run all the kernel, as the kernel keeps on breaking. To correctly check the code running, restart and run all kernel.

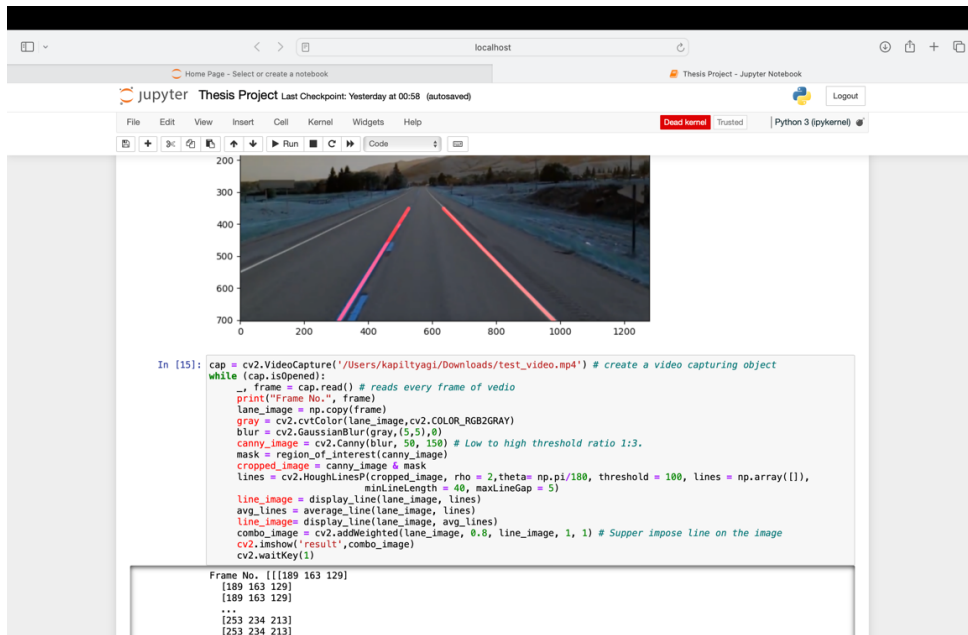


Fig. 5 displays the output

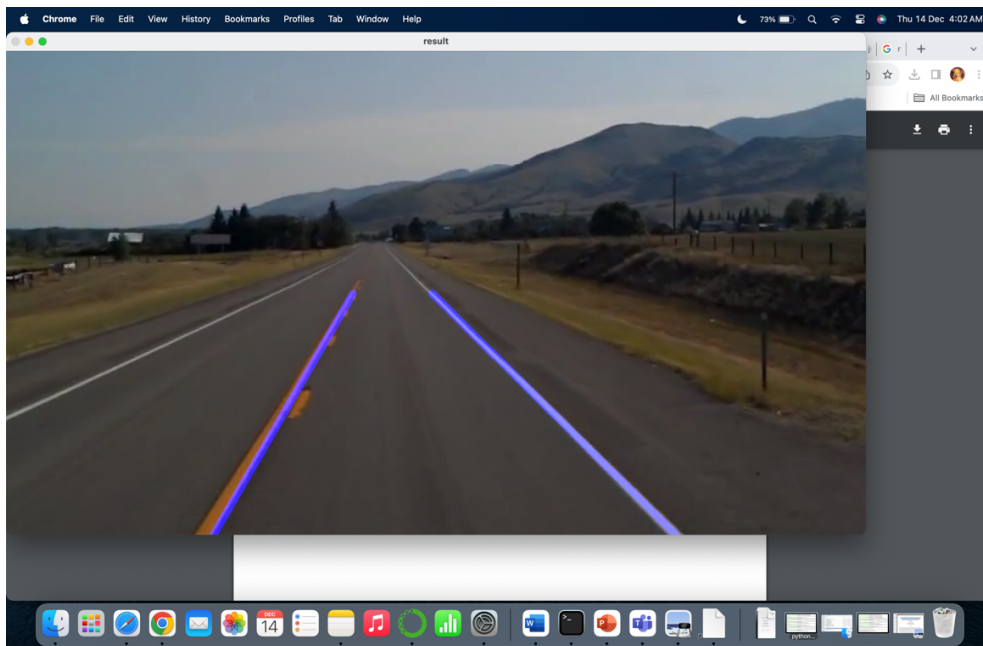


Fig. 6 shows the output video generation