Configuration Manual

MSc Research Project
MSc DAD_A_JAN24I

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Project Submission Sheet
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Student Name:	Maitreya Govind Lavalekar
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Configuration Manual

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1   System Requirement

Operating System	Windows 11
Version	24H2
RAM	16GB
System Type	64-bit,x64-based processor
Processor	13th Gen Intel(R)Core(TM) i7-13700HX ,2.1HZ
GPU	NVIDIA RTX 4060

Table 1: System Configuration

2   Development Tools And Programming Language

Programming Language and Versions	
Programing Language	Version
Python	3.11.7
Markup Language	
HTML	HTML 5
StyleSheet Language	
CSS	CSS3
Scritping Language	
JavaScript	ECMAScript(ES) Standard Version

Table 2: Development Tools

2.0.1   For creating images

1.Miro :- https://miro.com/
    2. App.Eraser :- https://app.eraser.io/workspace/Xpy7Nb3f19aCKuBJaUn4

3   Installation for Jupyter Notebook

3.0.1   Step 1

Install Anaconda Navigator from https://www.anaconda.com/download Or You can directily run file on Google Colab https://colab.google/Polikar (2006)

3.0.2 Step2

After Installing Anaconda Navigetor . Search Anaconda Navigor on Search bar

3.0.3 Step 3

Open Anaconda Navigetor .Its look like follwing image (Figure 3.0.3)
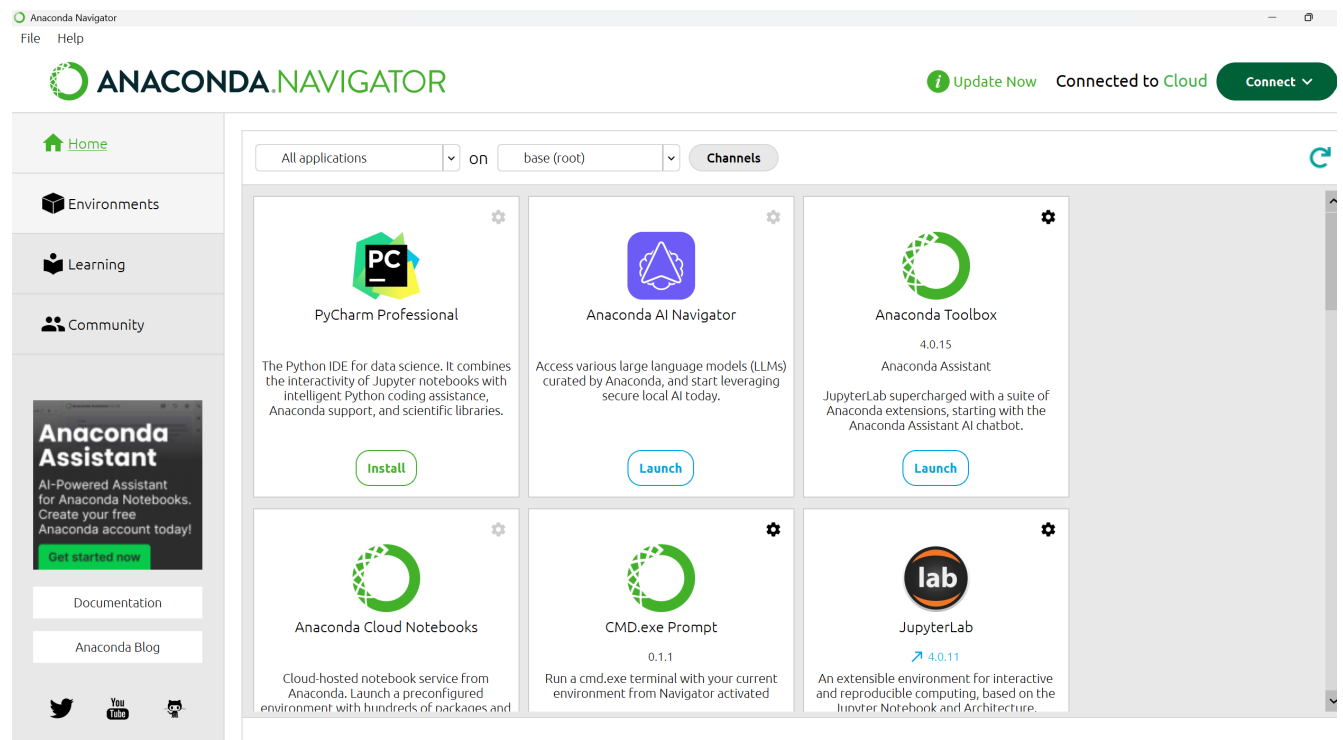
Figure 1: Anaconda Navigator Home

3.0.4 Step 4

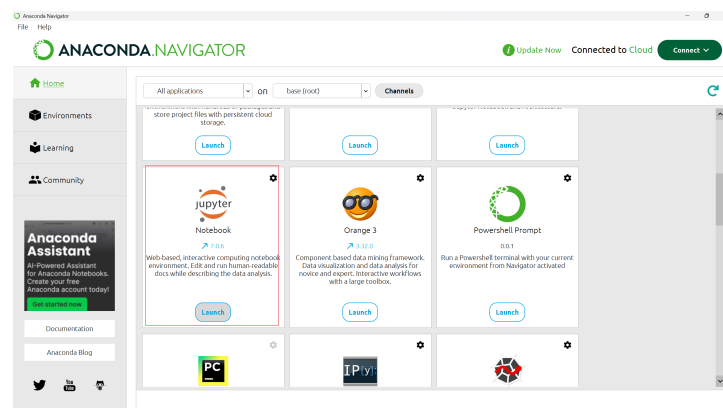Search Jupyter Notebook on Anaconda Navigator and install it.
(Figure 3.0.4)

Figure 2: Jupyter Notebook option Selection

After Installing Jupyter Notebook we see the Jupyter Notebook installed on your local environment you access using typing jupyter notebook on search bar or you can use Command Prompt for accessing this jupyter notebook.Acherjya et al. (2023)

3.0.5   Step 5

Now in this step we wil create a Python Environment in Anaconda Navigator where Jupyter Notebook will run on this python Environment
(Figure 3.0.5)
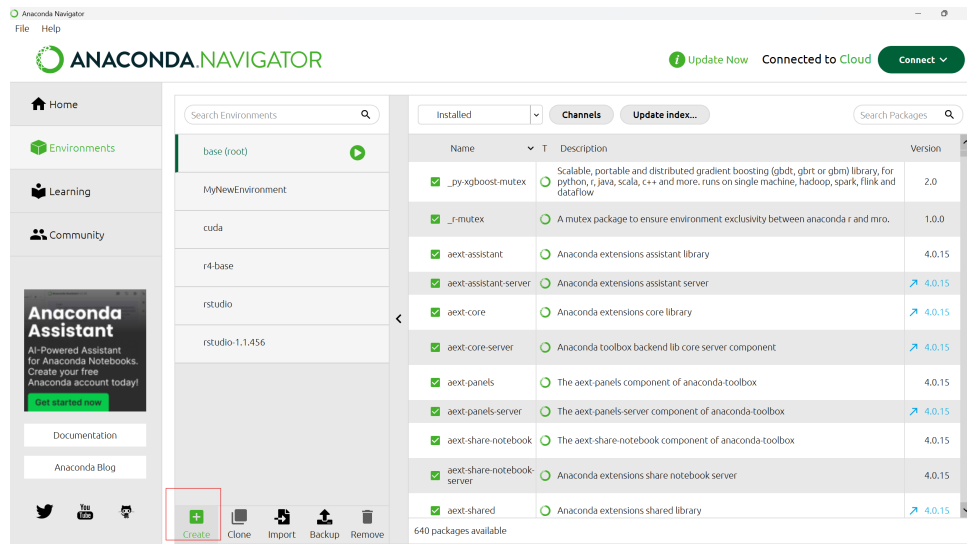
Figure 3:   Jupyter Notebook option Selection

Go to Environment Tab which is in left side of the Panel and below Home tab.After Selecting Environment Tab You will see a Create Option which is shown just like above figure (Figure 3.0.5) Click on that option .

3.0.6   Step 6

After Clicking on "CREATE " option you will get Following Figure type screen apper on your screen .
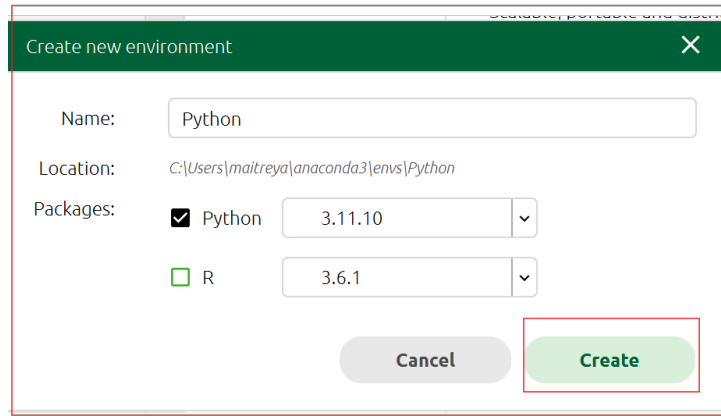
Figure 4:   Python Environment

Select Python with 3.11.10 version and hit the create Tab shown in Figure 3.0.6

4   Handelling Zip File

In below Figure You can see a named .zip file "x23209976_Maitreya Govind Lavalekar_PredictiveModellin
Of Coronary Artery Diease and HyperTension Using Machine Learning"Figure
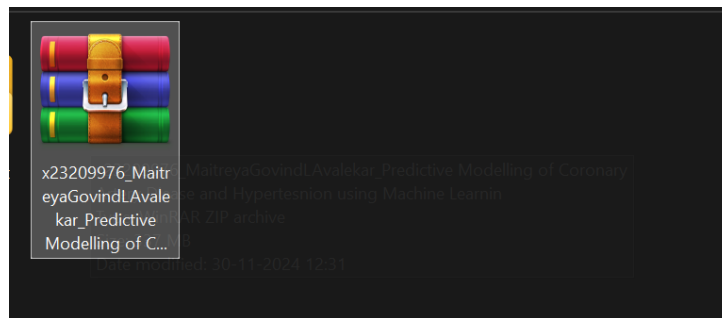
Figure 5:   .zip Folder

Extract the file above file .

5   Open Jupyter Notebook

After Extracting File open that file on Jupyter Notebook you will see a Folder named
"Coding Artifact"Figure

Figure 6:   File Selection :Jupyter Notebook

5.0.1 Step 1: Selecting Files For Jupyter Notebook For Run

Open Folder named **"Coding Artifact"**"in Jupyter Notebook.Shown in Figure.cAlqulaity and Yang (2023) Then Select **"Jupyter NoteBook File"** Option Figure 5.0.1
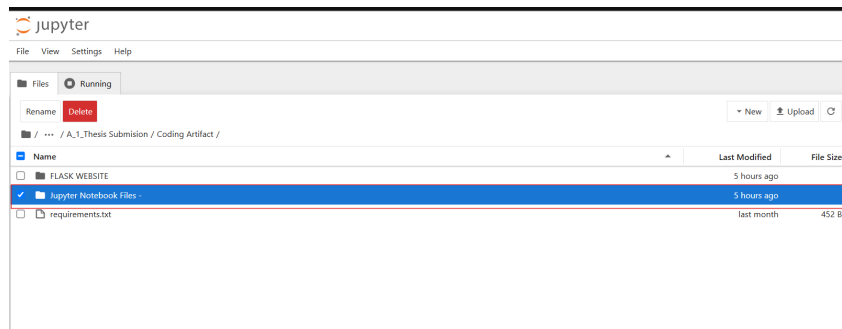
Figure 7: File Selection

5.0.2 Step 2 :Data Preprocessing File

After Selecting Folder **"Jupyter Notebook File"** You will see a 4 diffrent jupyter files .Select First File "Data Preprocessing Feature Engineering Initial Model.ipynb"Figure 5.0.2 Open File Arora and Arora (2023)
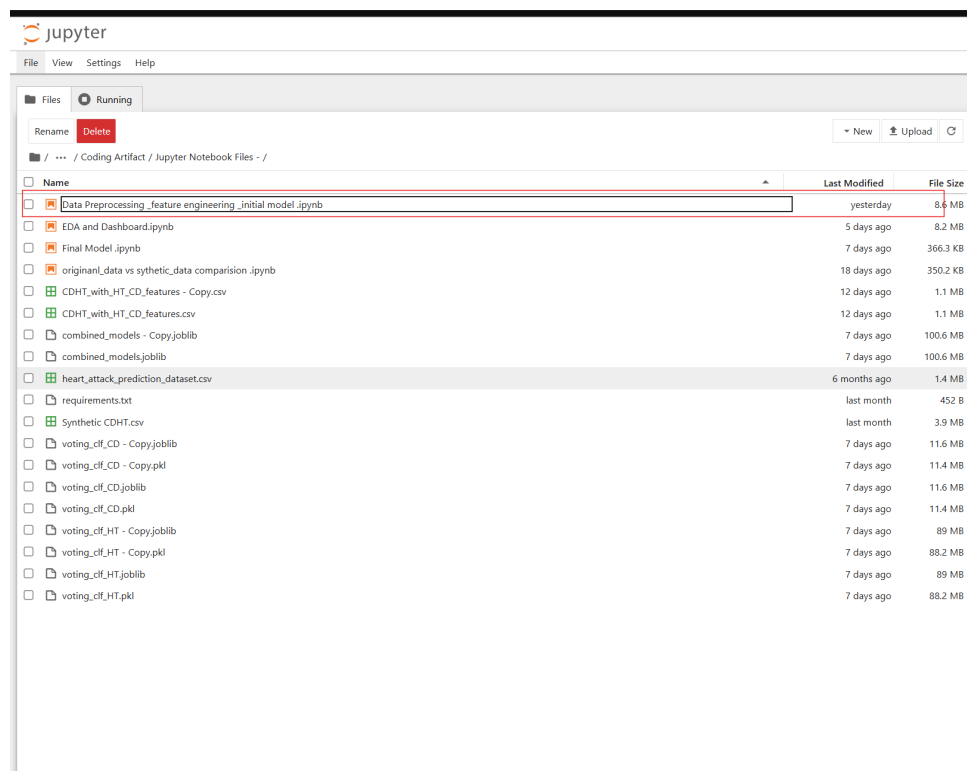
Figure 8: File Selection

After Open the file Installed the follwing libraries using pip command

,!pip install pandas==2.2.1, !pip install scipy==1.11.4!pip install numpy==1.26.4,
!pip install matplotlib==3.9.,!pip install plotly==5.23.0!.pip install scikit-learn==1.5.2
!pip install ctgan==0.10.1 !pip install imbalanced-learn==0.12.3.

Table 3: Data Preprocessing Feature enginering initial model .ipynb

After Installing all required libraries you can run the file.using option:"Restart Kernel and Run All Cells"Shown in below figure "Figure 5.0.2 Arora and Arora (2023)
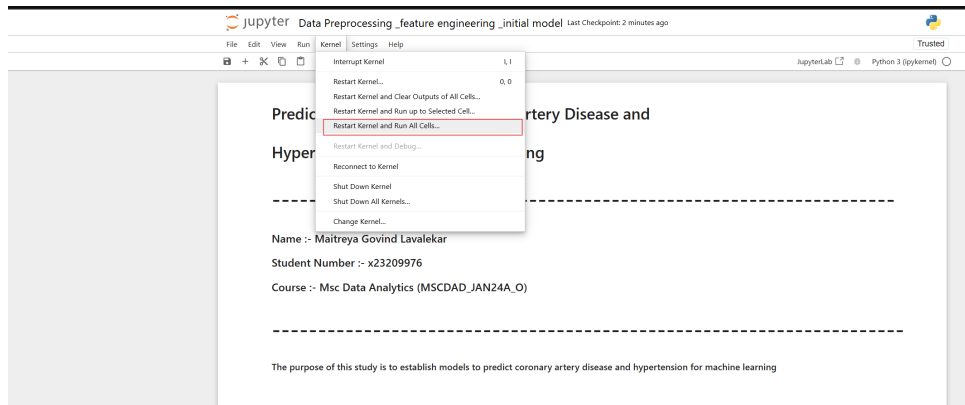
Figure 9:   Data Preprocessing and Feature Engineering and Intial model file

5.0.3   Step 3: EDA and Dashborad.ipynb file

Select the file named **"EDA and Dashbords "** file Beloglazov and Buyya (2015) After

!pip install plotly==5.23.0 !pip install dash==2.18.1

Table 4: CLibraries for EDA and Dashboards .ipynb

Installing all required libraries you can run the file.using option:"Restart Kernel and Run All Cells"Shown in below figure "Figure 5.0.5
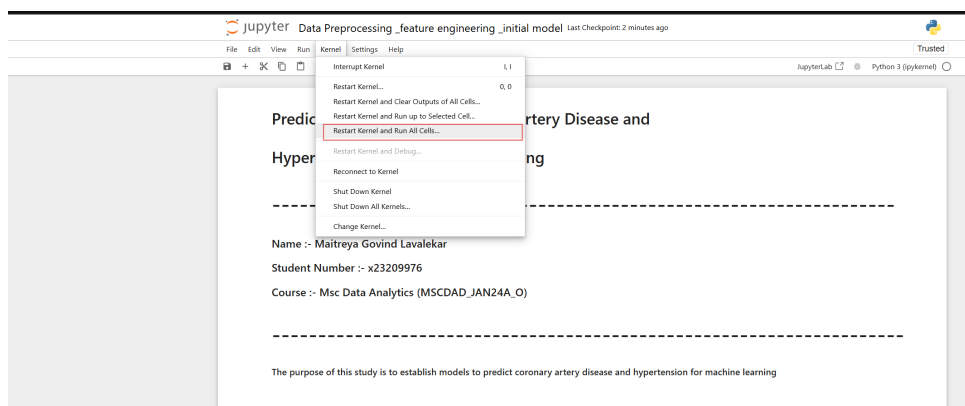
Figure 10:   EDA and Dashboard file

5.0.4 Step 4 : Original Data vs Synthetic data.ipynb file

open the "original data vs synthetic data file" install the libraries that mention below.García-Vicente et al. (2022) Gupta et al. (2022)

pip install scikit-learn==1.5.2 pip install pandas==2.2.1
pip install torch==2.4.1+cpu --index-url https://download.pytorch.org/whl/cpu
pip install numpy==1.26.4 pip install matplotlib==3.9.2
pip install seaborn==0.13.2

Table 5: Libraries for Original vs Synthetic data.ipynb

5.0.5 Step 5 :Final Model.ipynb

Select the .ipynb file from folder named **" jupyter Notebook Files"** Figure 7.0.1 Choi et al. (2021a) Arora and Arora (2023) Kune et al. (2016) Singh et al. (2024)
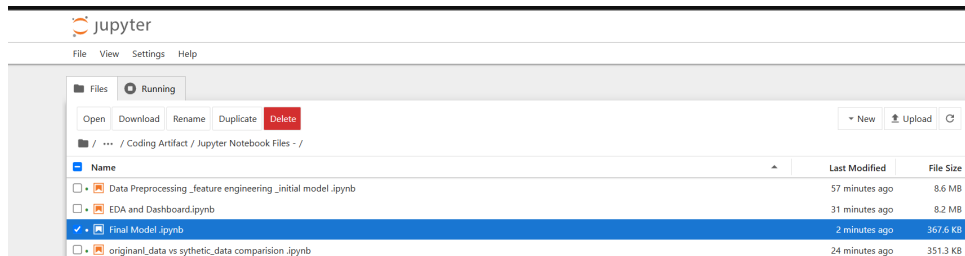
Figure 11: EDA and Dashboard file

Select the file "Final Model" in that file installed the following library Now run the

pip install joblib==1.4.2 pip install flask==2.2.2

Table 6: Final Model Libraries

file on "Restart kernel and run all cells " "Figure 7.0.1
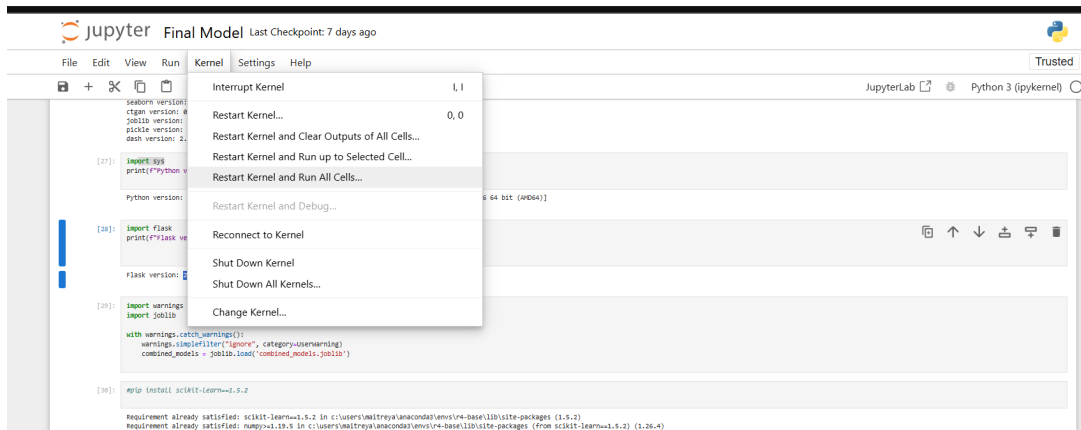
Figure 12: EDA and Dashboard file

6 Installation for MYSQL WorkBench

6.0.1 Step 1 :Download MySQLWorkBench

Download MySQL Workbench from link" https://dev.mysql.com/downloads/workbench/
Figure 7.0.1
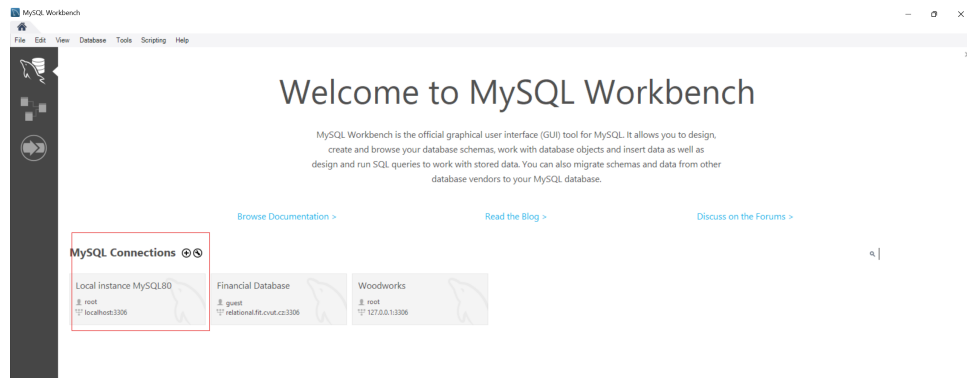
Figure 13: MySql Workbench After Connetion

6.0.2 Step 1 Create a localhost account in mysql workbench

Put user name =root and password = root and create a localhost account .Chang et al.
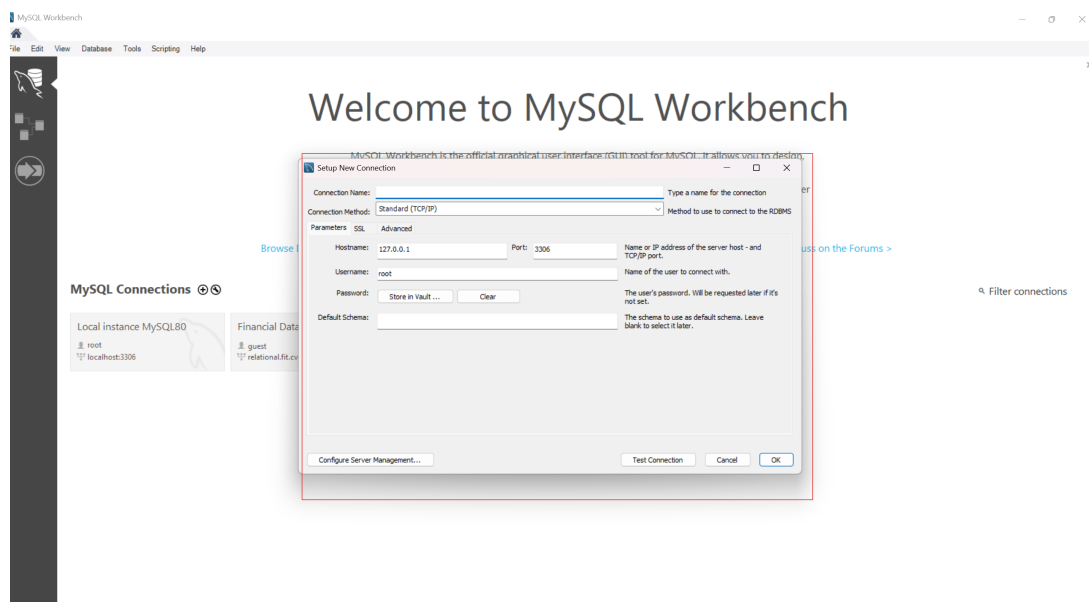(2019) Choi et al. (2021b) Park et al. (2023)
Figure 7.0.1

Figure 14: MySql Workbench After Connetion

6.0.3 Step 2 :Manually Create Database On Mysql Workbench

Use Command for creating database :- "CREATE DATABASE DB"

7 Installation for Visual Studio

Download Visual Studio IDE from Below website:- https://visualstudio.microsoft.comhttps//visualstudi

7.0.1 Step 1: Installation of Visual Studio

In Below Figure select the appropriate Version of Visual Studio IDE "Figure "Figure 7.0.1
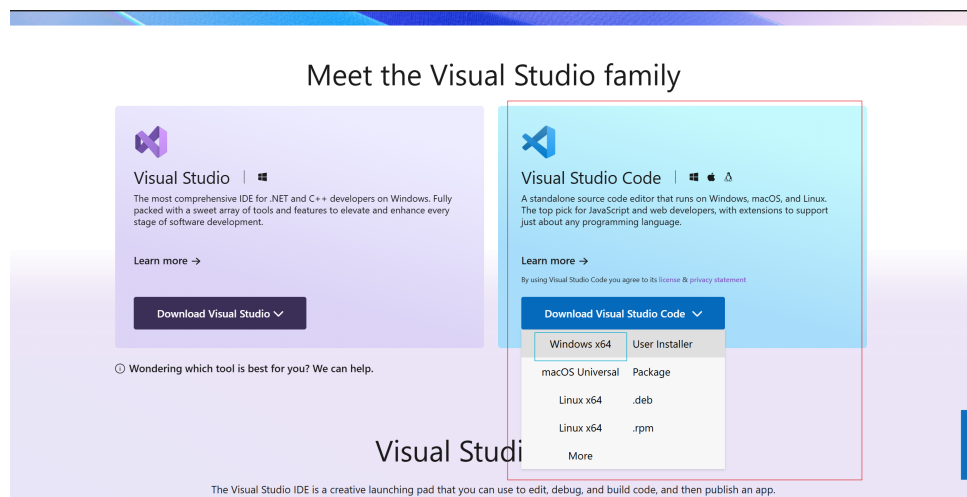
Figure 15: Final Model .ipynb

7.0.2 Step2:Open Folder

Open Folder "**Flask Application**"In Visual StudioFigure 8.0.5
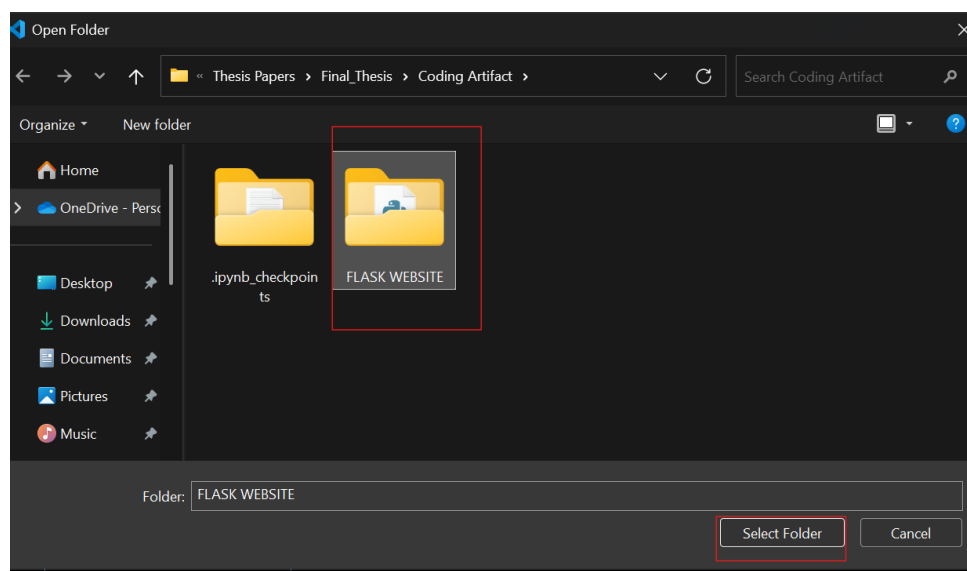
Figure 16: Open Folder Vs Code editor

7.0.3   Step2: Set Up Environmentn Visual Studio

Open Terminal in Visual Studio Figure 8.0.5
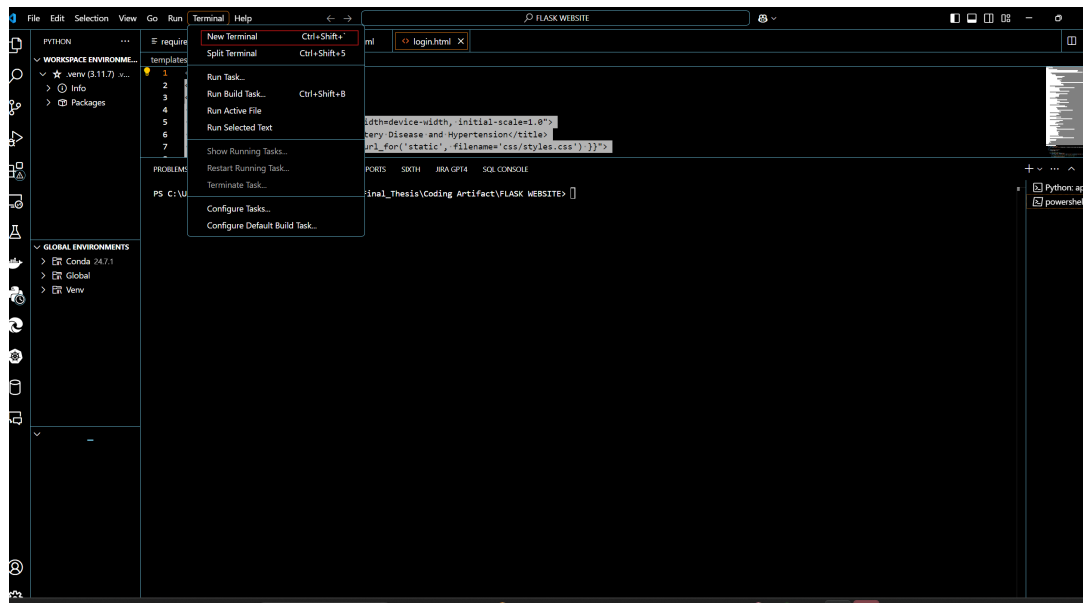
Figure 17:   Setting up Virutal environment

Used the command to create a virtual environment in Visual Studio code. After Creating Virutal environment Active the Virutal Environment after activating the virtual environment install necessary libraris pip install joblib==1.4.2,pip install flask==2.2.2,pip install scikit-learn==1.5.2,,pip install pandas==2.2.1

7.0.4   Step 3: Run the Flask Application

Open Terminal in Visual Studio Run On Dedicated Python Terminal . Figure 8.0.5
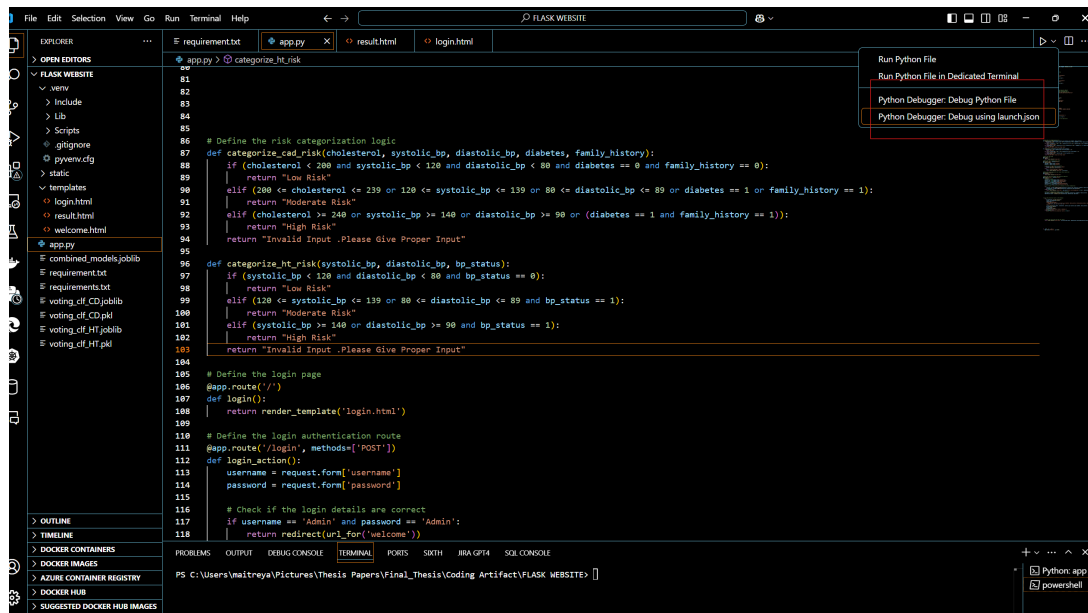
Figure 18: Run Flask Application

8 Result Section

8.0.1 Login Page

Figure 8.0.5
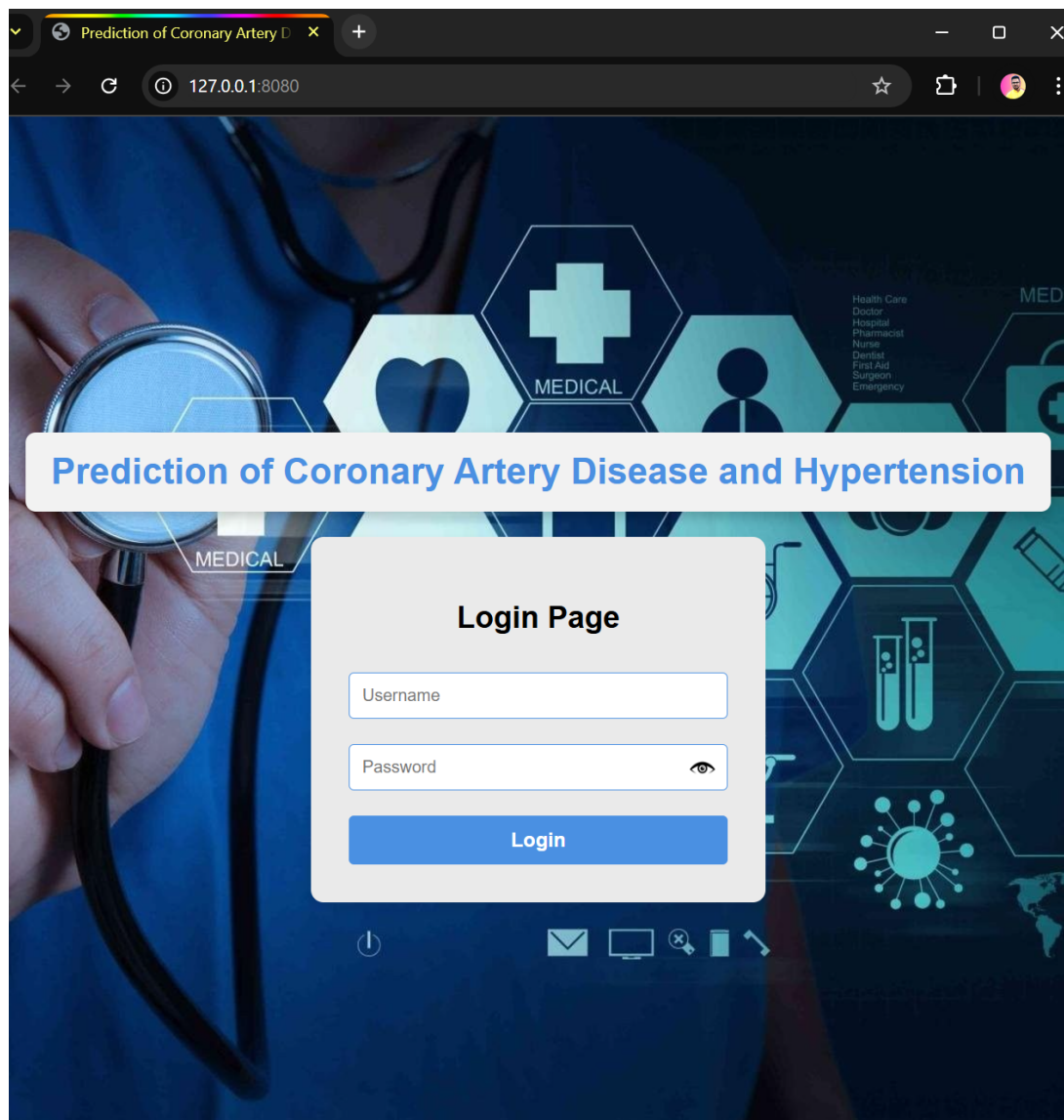
Welcome Page

8.0.2 Welcome Page

Figure 8.0.5

Figure 19:   Welcome Page

8.0.3   Result Page

Figure 8.0.5

8.0.4 Logs

Figure 20: Logs

8.0.5 Mysql data stored

Figure 21: Data Stored in MYSQL Workbench

Result will be look like this :

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