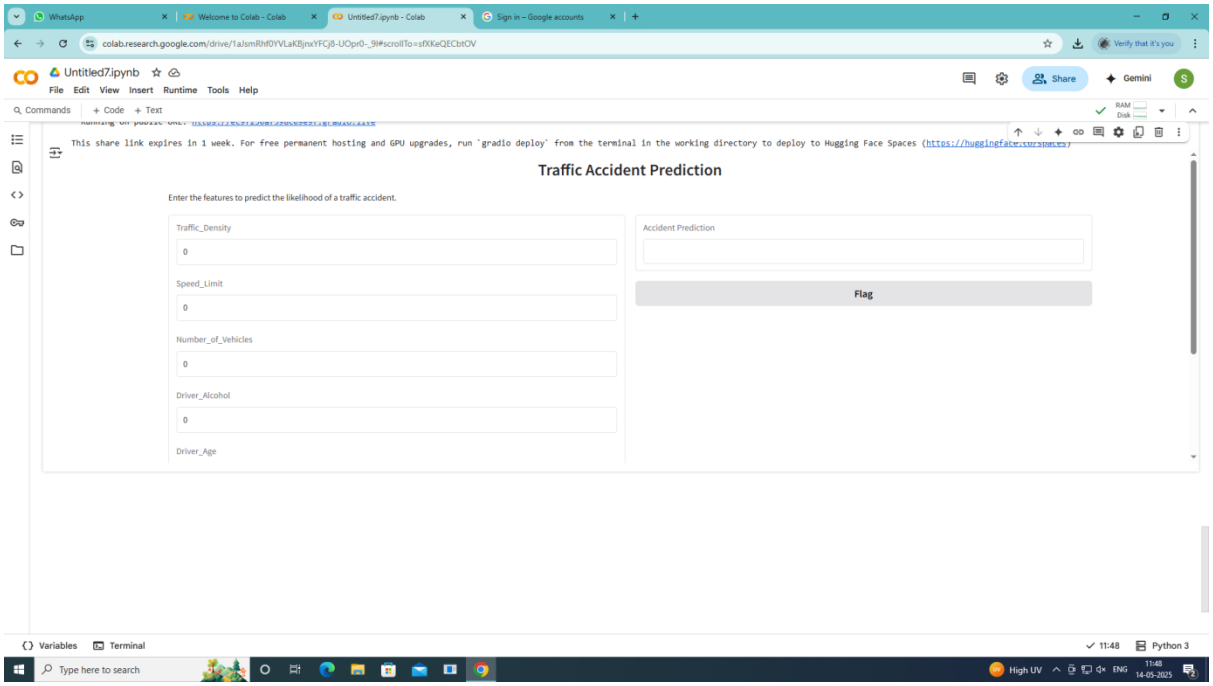
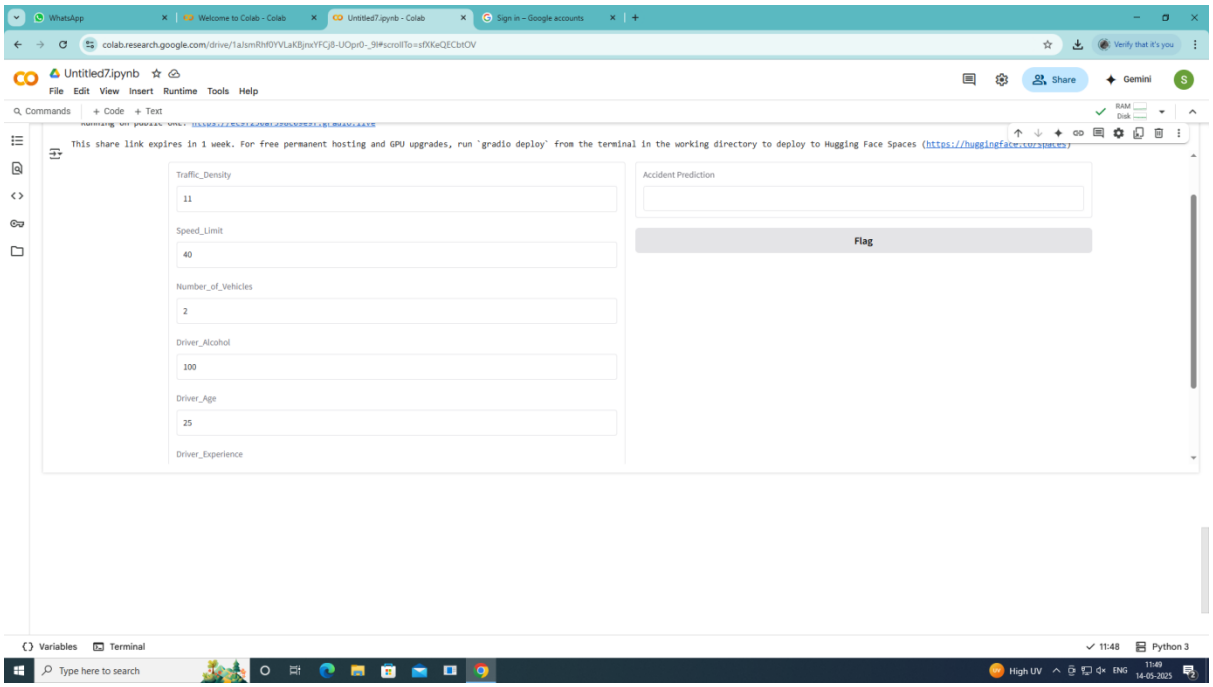
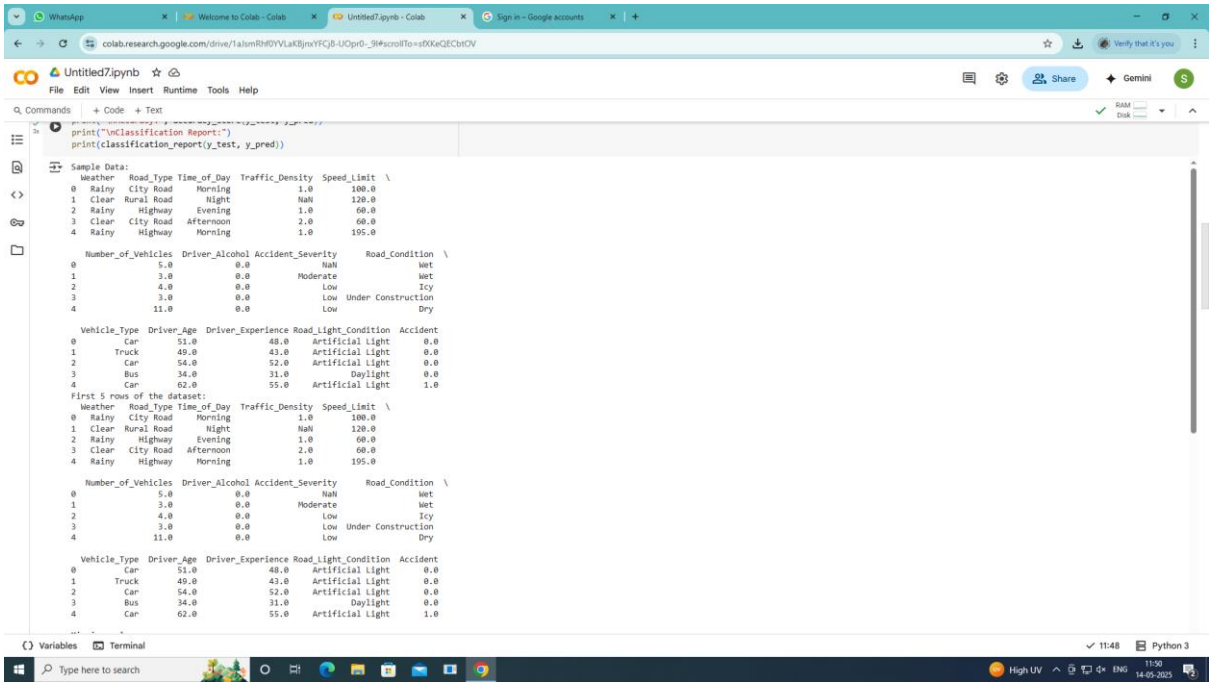
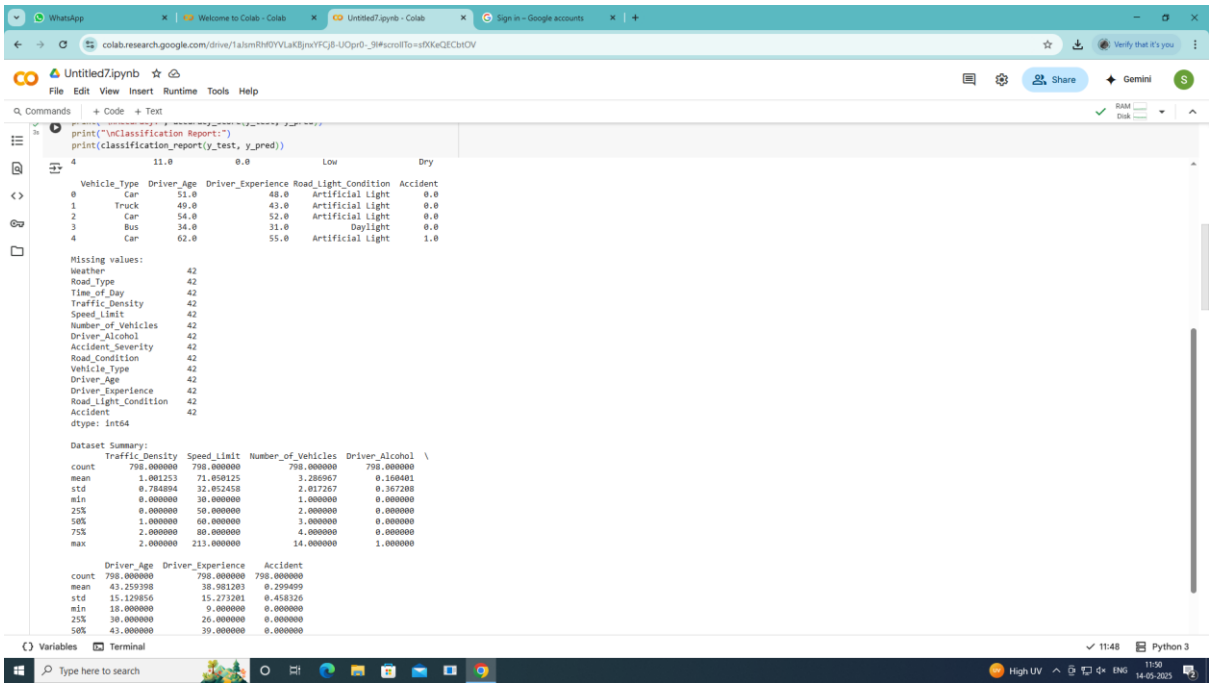
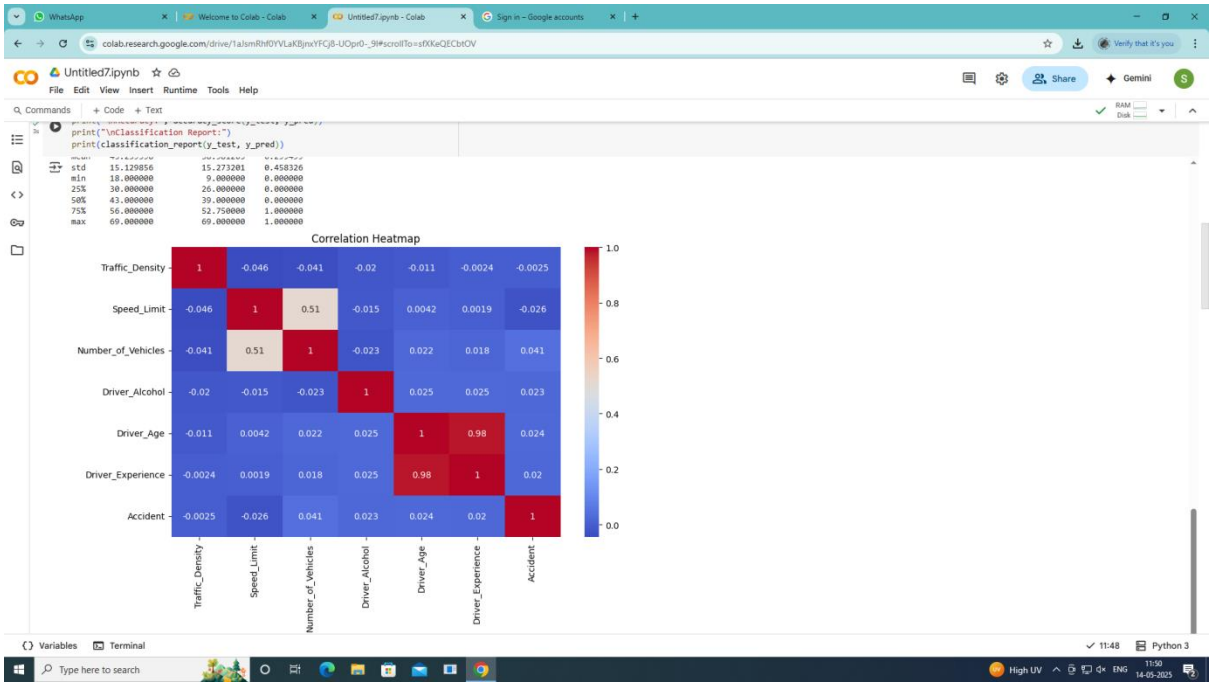
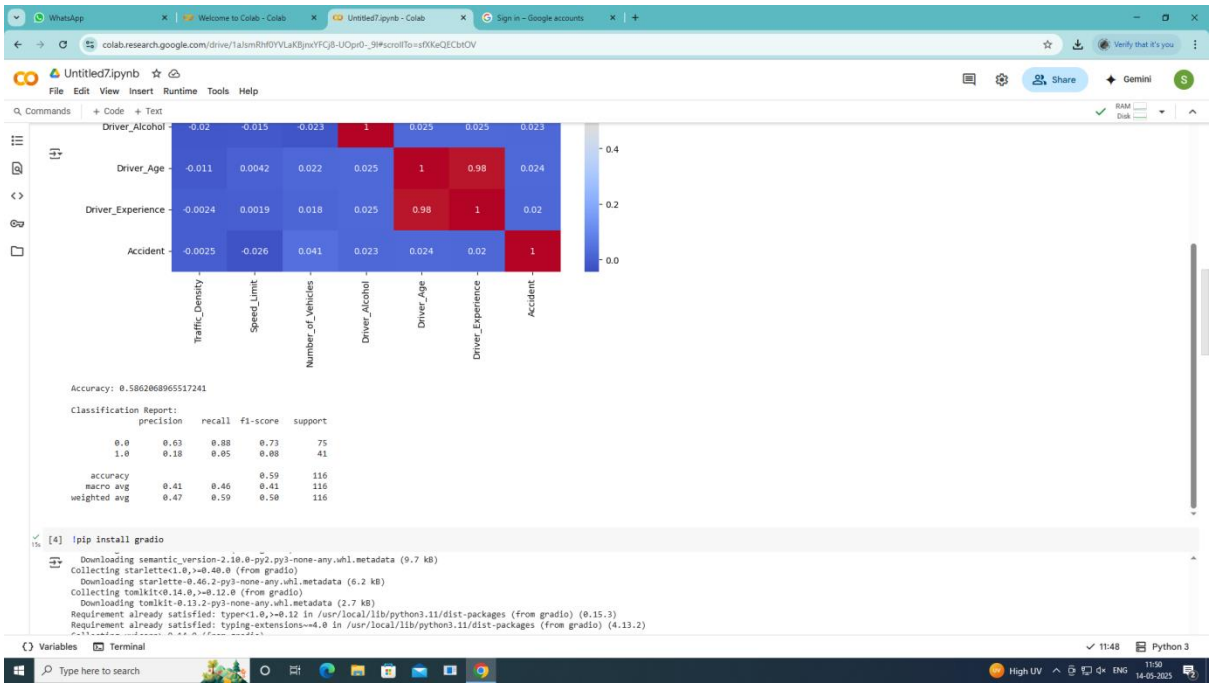

Untitled7.ipynb
File Edit View Insert Runtime Tools Help
Share
Gemini
This share link expires in 1 week. For free permanent hosting and GPU upgrades, run `gradio deploy` from the terminal in the working directory to deploy to Hugging Face Spaces (https://huggingface.co/spaces)
Traffic Accident Prediction
Enter the features to predict the likelihood of a traffic accident.
Traffic_Density
0
Speed_Limit
0
Number_of_Vehicles
0
Driver_Alcohol
0
Driver_Age
Accident Prediction
Flag
Variables
Terminal
11:48
Python 3


Untitled7.ipynb
File Edit View Insert Runtime Tools Help
Share
Gemini
This share link expires in 1 week. For free permanent hosting and GPU upgrades, run `gradio deploy` from the terminal in the working directory to deploy to Hugging Face Spaces (https://huggingface.co/spaces)
Traffic_Density
11
Speed_Limit
40
Number_of_Vehicles
2
Driver_Alcohol
100
Driver_Age
25
Driver_Experience
Accident Prediction
Flag
Variables
Terminal
11:48
Python 3


Untitled7.ipynb
File Edit View Insert Runtime Tools Help
print("\nClassification Report:")
print(classification_report(y_test, y_pred))
Sample Data:
Weather Road_Type Time_of_Day Traffic_Density Speed_Limit \
0 Rainy City Road Morning 1.0 100.0
1 Clear Rural Road Night NaN 120.0
2 Rainy Highway Evening 1.0 60.0
3 Clear City Road Afternoon 2.0 60.0
4 Rainy Highway Morning 1.0 195.0
Number_of_Vehicles Driver_Alcohol Accident_Severity Road_Condition \
0 5.0 0.0 NaN Wet
1 3.0 0.0 Moderate Wet
2 4.0 0.0 Low Icy
3 3.0 0.0 Low Under Construction
4 11.0 0.0 Low Dry
Vehicle_Type Driver_Age Driver_Experience Road_Light_Condition Accident
0 Car 51.0 48.0 Artificial Light 0.0
1 Truck 49.0 43.0 Artificial Light 0.0
2 Car 54.0 52.0 Artificial Light 0.0
3 Bus 34.0 31.0 Daylight 0.0
4 Car 62.0 55.0 Artificial Light 1.0
First 5 rows of the dataset:
Weather Road_Type Time_of_Day Traffic_Density Speed_Limit \
0 Rainy City Road Morning 1.0 100.0
1 Clear Rural Road Night NaN 120.0
2 Rainy Highway Evening 1.0 60.0
3 Clear City Road Afternoon 2.0 60.0
4 Rainy Highway Morning 1.0 195.0
Number_of_Vehicles Driver_Alcohol Accident_Severity Road_Condition \
0 5.0 0.0 NaN Wet
1 3.0 0.0 Moderate Wet
2 4.0 0.0 Low Icy
3 3.0 0.0 Low Under Construction
4 11.0 0.0 Low Dry
Vehicle_Type Driver_Age Driver_Experience Road_Light_Condition Accident
0 Car 51.0 48.0 Artificial Light 0.0
1 Truck 49.0 43.0 Artificial Light 0.0
2 Car 54.0 52.0 Artificial Light 0.0
3 Bus 34.0 31.0 Daylight 0.0
4 Car 62.0 55.0 Artificial Light 1.0
Variables Terminal
11:48 Python 3


Untitled7.ipynb
File Edit View Insert Runtime Tools Help
print("\nClassification Report:")
print(classification_report(y_test, y_pred))
4 11.0 0.0 Low Dry
Vehicle_Type Driver_Age Driver_Experience Road_Light_Condition Accident
0 Car 51.0 48.0 Artificial Light 0.0
1 Truck 49.0 43.0 Artificial Light 0.0
2 Car 54.0 52.0 Artificial Light 0.0
3 Bus 34.0 31.0 Daylight 0.0
4 Car 62.0 55.0 Artificial Light 1.0
Missing values:
Weather 42
Road_Type 42
Time_of_Day 42
Traffic_Density 42
Speed_Limit 42
Number_of_Vehicles 42
Driver_Alcohol 42
Accident_Severity 42
Road_Condition 42
Vehicle_Type 42
Driver_Age 42
Driver_Experience 42
Road_Light_Condition 42
Accident 42
dtype: int64
Dataset Summary:
Traffic_Density Speed_Limit Number_of_Vehicles Driver_Alcohol \
count 798.000000 798.000000 798.000000 798.000000
mean 1.001253 71.050125 3.286967 0.160401
std 0.784894 32.052458 2.017267 0.367208
min 0.000000 30.000000 1.000000 0.000000
25% 0.000000 50.000000 2.000000 0.000000
50% 1.000000 60.000000 3.000000 0.000000
75% 2.000000 80.000000 4.000000 0.000000
max 2.000000 213.000000 14.000000 1.000000
Driver_Age Driver_Experience Accident
count 798.000000 798.000000 798.000000
mean 43.259398 38.981203 0.299499
std 15.129856 15.273201 0.458326
min 18.000000 9.000000 0.000000
25% 30.000000 26.000000 0.000000
50% 43.000000 39.000000 0.000000
Variables Terminal
11:48 Python 3


Untitled7.ipynb
File Edit View Insert Runtime Tools Help
Share
Gemini
print("\nClassification Report:")
print(classification_report(y_test, y_pred))
std 15.129856 15.273201 0.458326
min 18.000000 9.000000 0.000000
25% 30.000000 26.000000 0.000000
50% 43.000000 39.000000 0.000000
75% 56.000000 52.750000 1.000000
max 69.000000 69.000000 1.000000
Correlation Heatmap
Traffic_Density
Speed_Limit
Number_of_Vehicles
Driver_Alcohol
Driver_Age
Driver_Experience
Accident
1.0
0.8
0.6
0.4
0.2
0.0
Variables
Terminal
11:48
Python 3


Untitled7.ipynb
File Edit View Insert Runtime Tools Help
Share
Gemini
Driver_Alcohol -0.02 -0.015 -0.023 1 0.025 0.025 0.023
Driver_Age -0.011 0.0042 0.022 0.025 1 0.98 0.024
Driver_Experience -0.0024 0.0019 0.018 0.025 0.98 1 0.02
Accident -0.0025 -0.026 0.041 0.023 0.024 0.02 1
Traffic_Density
Speed_Limit
Number_of_Vehicles
Driver_Alcohol
Driver_Age
Driver_Experience
Accident
0.4
0.2
0.0
Accuracy: 0.5862068965517241
Classification Report:
precision recall f1-score support
0.0 0.63 0.88 0.73 75
1.0 0.18 0.05 0.08 41
accuracy 0.59 116
macro avg 0.41 0.46 0.41 116
weighted avg 0.47 0.59 0.50 116
[4] !pip install gradio
Downloading semantic_version-2.10.0-py2.py3-none-any.whl.metadata (9.7 kB)
Collecting starlette<1.0,>=0.40.0 (from gradio)
Downloading starlette-0.46.2-py3-none-any.whl.metadata (6.2 kB)
Collecting tomlkit<0.14.0,>=0.12.0 (from gradio)
Downloading tomlkit-0.13.2-py3-none-any.whl.metadata (2.7 kB)
Requirement already satisfied: typer<1.0,>=0.12 in /usr/local/lib/python3.11/dist-packages (from gradio) (0.15.3)
Requirement already satisfied: typing-extensions~=4.0 in /usr/local/lib/python3.11/dist-packages (from gradio) (4.13.2)
Variables
Terminal
11:48
Python 3