TRAFFIC AND POLLUTION PREDICTION MODEL

import pandas as pd

from sklearn.model\_selection import train\_test\_split

from sklearn.ensemble import RandomForestRegressor

from sklearn.metrics import mean\_squared\_error

import matplotlib.pyplot as plt

# Load your data

# Example: CSV file with columns: 'time', 'temperature', 'traffic\_flow', 'pollution\_level', 'congestion\_level'

data = pd.read\_csv('traffic\_pollution\_data.csv')

# Features and target

X = data[['temperature', 'traffic\_flow', 'pollution\_level']]

y = data['congestion\_level']

# Split data into training and testing sets

X\_train, X\_test, y\_train, y\_test = train\_test\_split(X, y, test\_size=0.2, random\_state=42)

# Train a Random Forest Regressor model

model = RandomForestRegressor(n\_estimators=100, random\_state=42)

model.fit(X\_train, y\_train)

# Make predictions

predictions = model.predict(X\_test)

# Evaluate the model

mse = mean\_squared\_error(y\_test, predictions)

print(f'Mean Squared Error: {mse}')

# Plot actual vs predicted values

plt.scatter(y\_test, predictions)

plt.xlabel('Actual Congestion Level')

plt.ylabel('Predicted Congestion Level')

plt.show()