

# Electric Vehicle Charge and Range Analysis – Python Visualization Tool

This document provides a Python-based visualization tool to analyze electric vehicle (EV) battery charge levels and driving range using Matplotlib. The code plots battery percentage and estimated range over time.

## Python Code:

```
import matplotlib.pyplot as plt

# Sample EV data
time_hours = [0, 1, 2, 3, 4, 5]
battery_percentage = [100, 90, 80, 70, 60, 50]
range_km = [400, 360, 320, 280, 240, 200]

# Plot Battery Percentage
plt.figure()
plt.plot(time_hours, battery_percentage, marker='o')
plt.xlabel("Time (hours)")
plt.ylabel("Battery Percentage (%)")
plt.title("EV Battery Charge Over Time")
plt.show()

# Plot Driving Range
plt.figure()
plt.plot(time_hours, range_km, marker='o')
plt.xlabel("Time (hours)")
plt.ylabel("Estimated Range (km)")
plt.title("EV Driving Range Over Time")
plt.show()
```