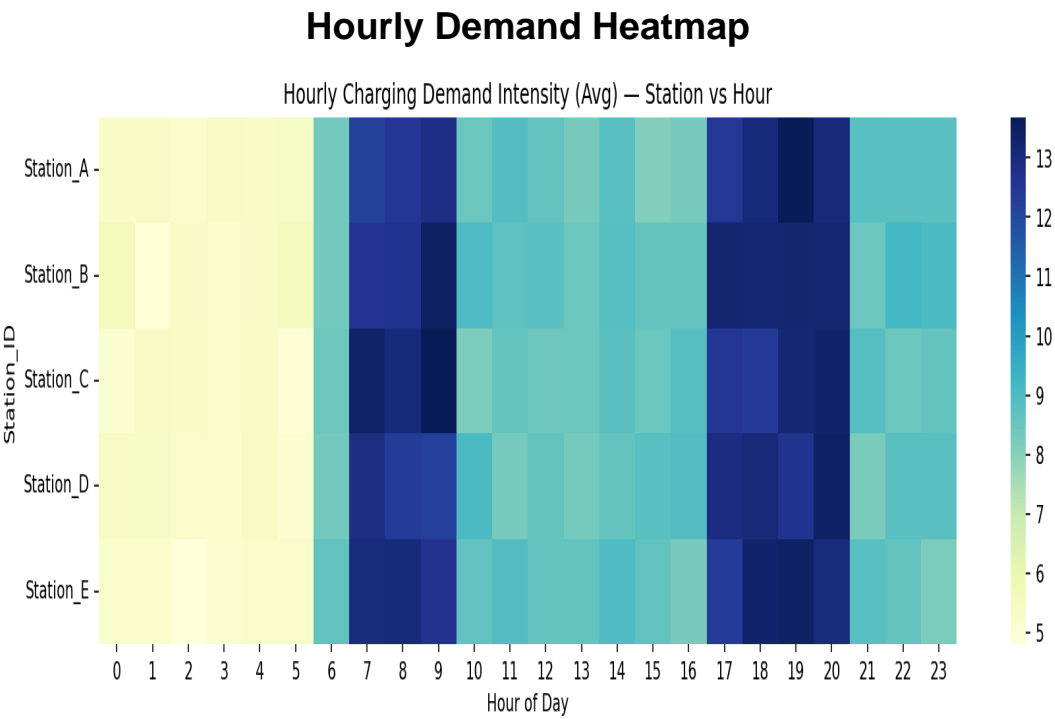


EV Charging Demand Forecasting Report

This report presents a detailed analysis and forecasting of Electric Vehicle (EV) charging demand based on three major influencing factors: **weather**, **time of day**, and **traffic conditions**. The insights are derived from Python-based forecasting models and visualized through key analytical charts.



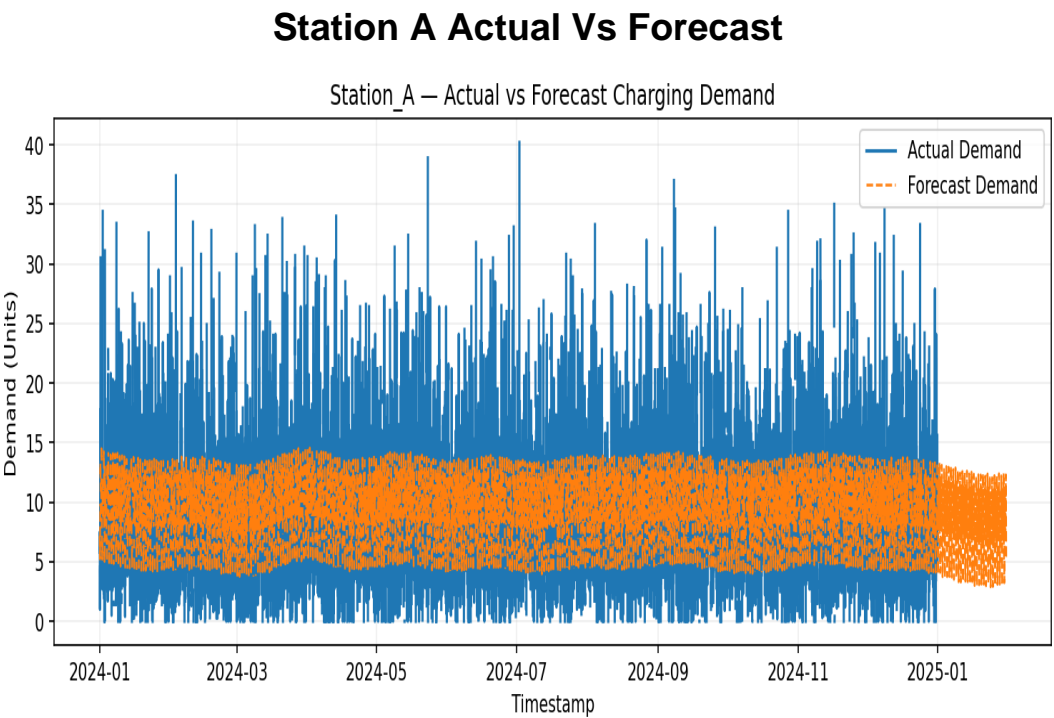
The heatmap displays **hourly demand intensity** across different stations. Darker shades indicate higher charging activity, useful for identifying **peak operational hours**.

Kpi Summary

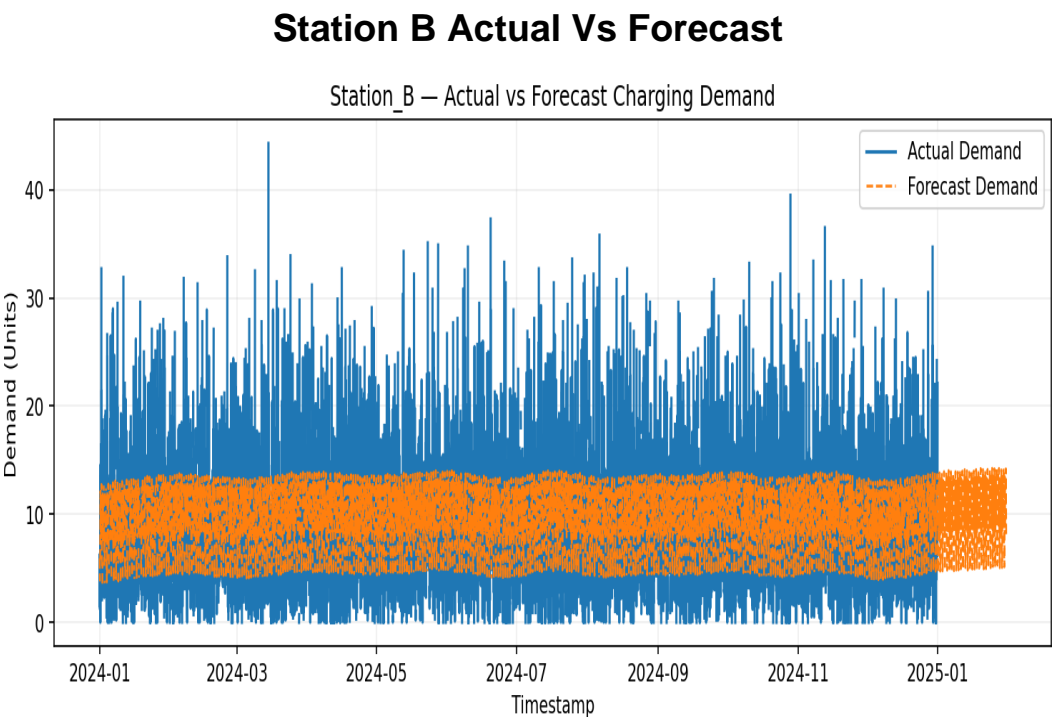
EV Charging Demand — KPI Summary

Average Charging Demand: 9.04 units
Peak Charging Demand: 44.30 units at Hour: 17:00
Most common weather: Sunny
Most frequent traffic level: Moderate

This visualization provides additional insights into EV demand patterns and performance metrics from the forecasting analysis.

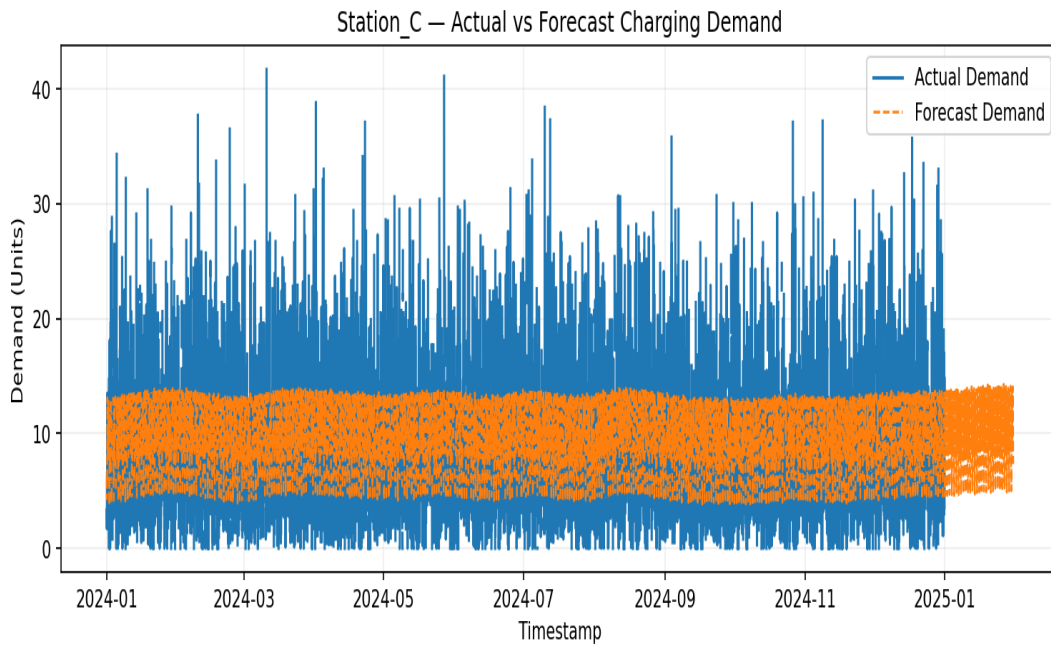


This chart compares the **actual vs forecasted EV charging demand** for each station. It helps identify how accurately the predictive model captures real usage trends and demand peaks.



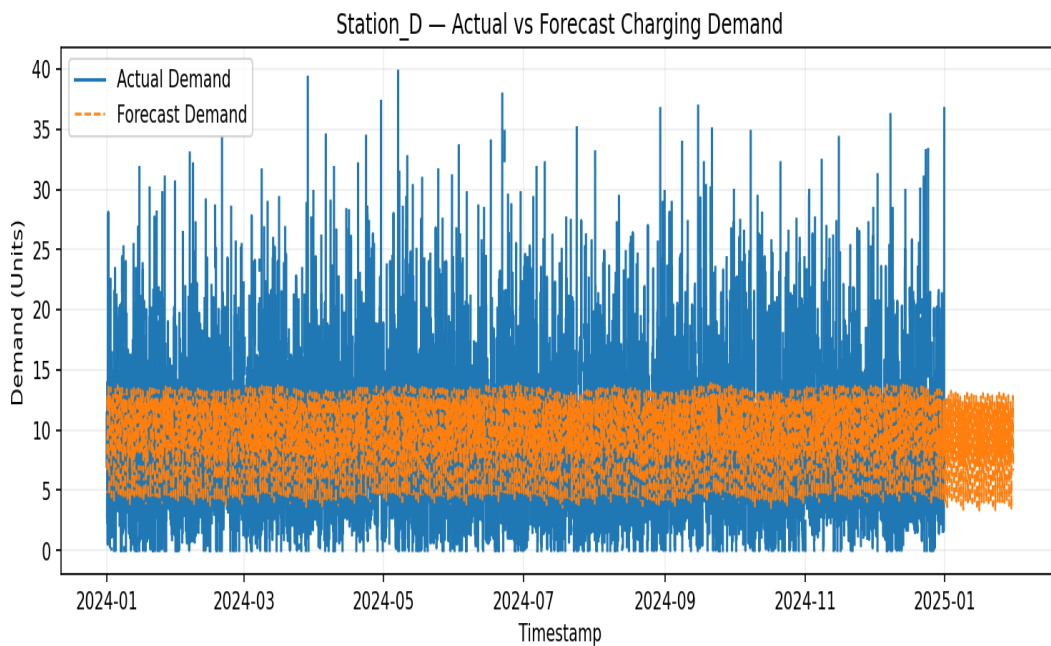
This chart compares the **actual vs forecasted EV charging demand** for each station. It helps identify how accurately the predictive model captures real usage trends and demand peaks.

Station C Actual Vs Forecast



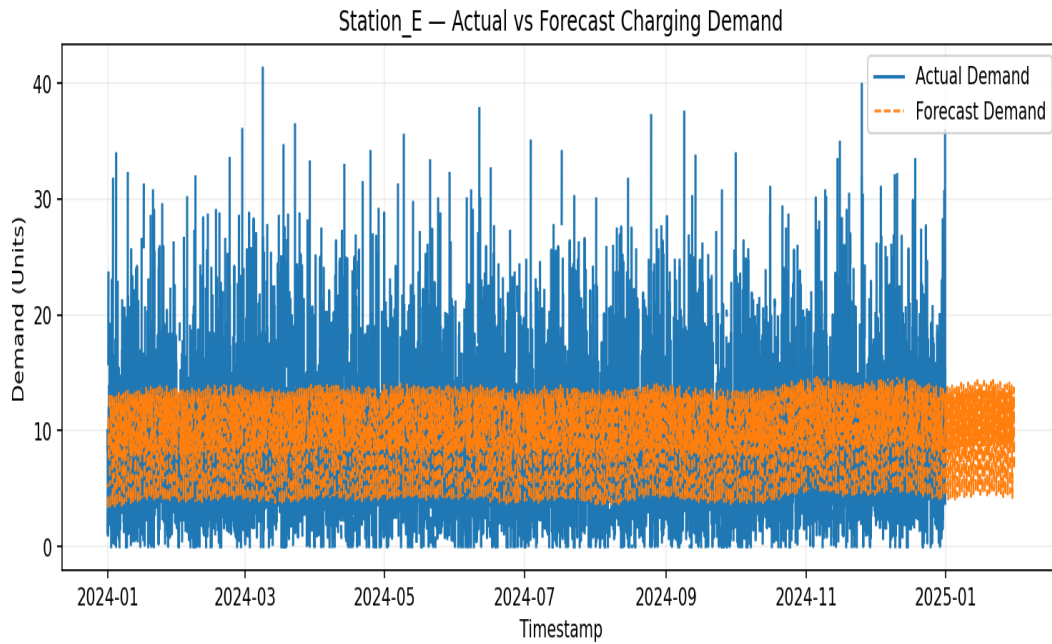
This chart compares the **actual vs forecasted EV charging demand** for each station. It helps identify how accurately the predictive model captures real usage trends and demand peaks.

Station D Actual Vs Forecast



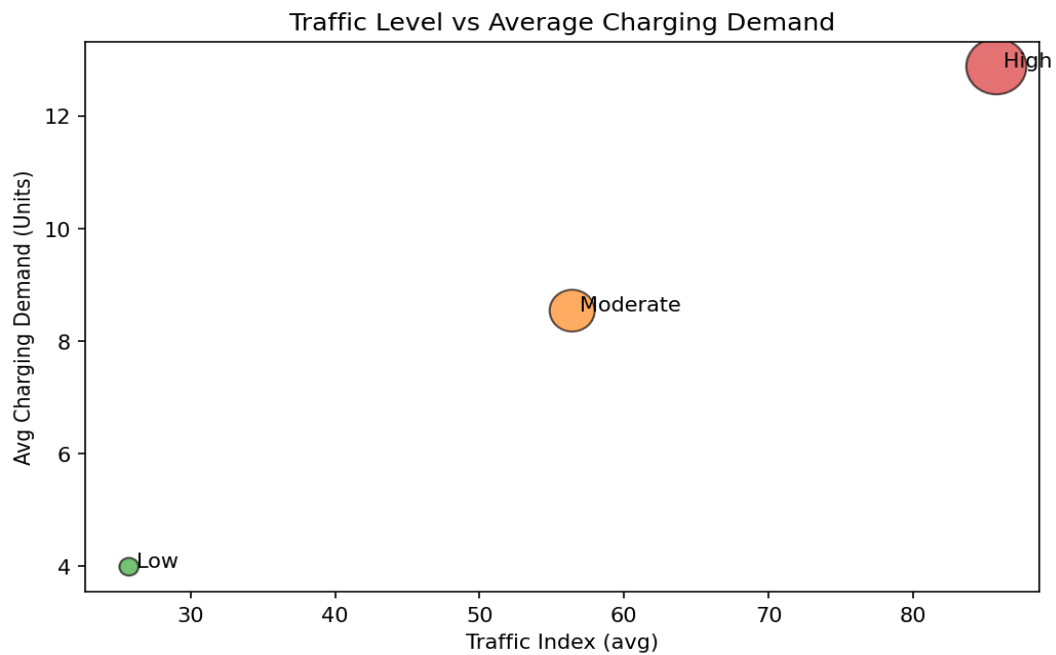
This chart compares the **actual vs forecasted EV charging demand** for each station. It helps identify how accurately the predictive model captures real usage trends and demand peaks.

Station E Actual Vs Forecast



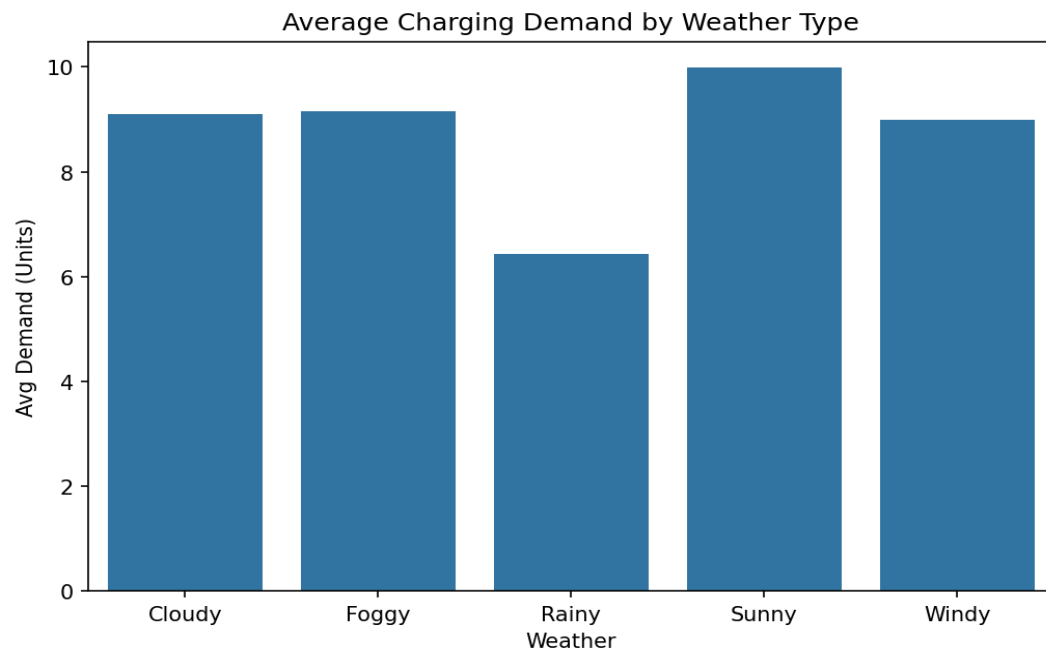
This chart compares the **actual vs forecasted EV charging demand** for each station. It helps identify how accurately the predictive model captures real usage trends and demand peaks.

Traffic Impact



The bubble chart shows the relationship between **traffic congestion levels** and average charging demand. High traffic often correlates with increased demand due to longer travel durations and more idle time.

Weather Impact



This bar chart analyzes the **impact of weather** on charging demand. Typically, moderate weather leads to stable EV usage, while extreme conditions affect travel behavior.

Project Summary and Insights

The EV Charging Demand Forecasting project demonstrates how time-series analysis and predictive modeling can optimize the placement and utilization of charging stations. Key findings include:

- Peak hours occur mostly during office commute timings (7–10 AM, 5–8 PM).
- Weather moderately influences demand, with a decline during extreme heat or rain.
- Traffic levels show a direct correlation with increased station usage.

These insights can guide city planners, EV infrastructure firms, and energy companies to forecast power loads and improve station efficiency.