

MOBILITY SENSING AND DATA ANALYTICS FOR SMART CITIES

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BACKGROUND INFORMATION

- Smart Cities
- Mobility Sensing
- Economic Development
- Service Optimization



MobIntel



How it works

- Sensors
- MAC Address
- RSSI
- Privacy-First

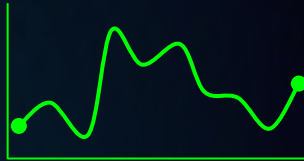
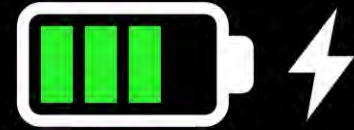


Challenges

- Unchecked Data
- Loss of Power



PROJECT GOALS



Describe Data

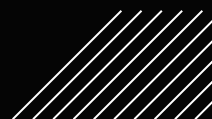
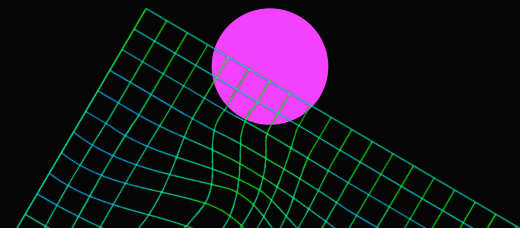
Seaborn and Matplotlib

Verify Data

Compare with Google
Maps Popular Times and
Sensor Correlation

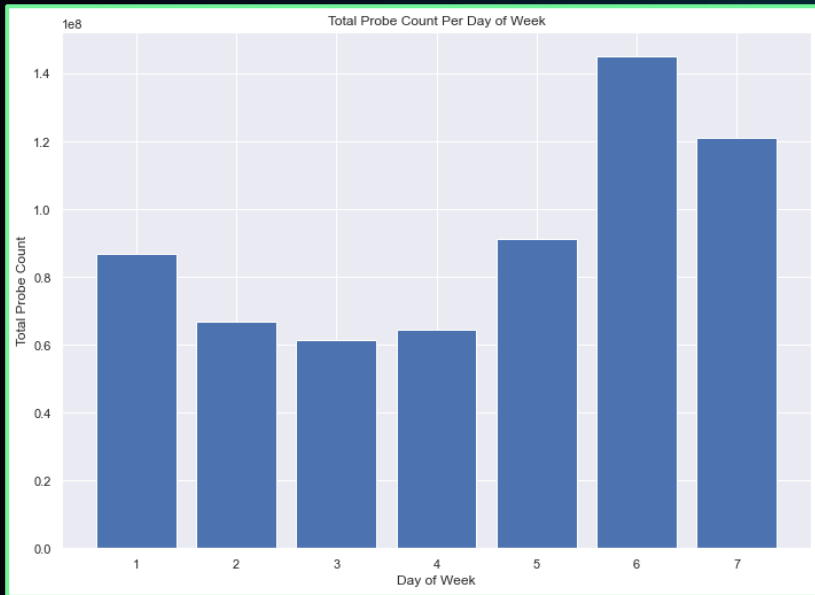
Determine
Sensor Power

Trendline Forecasting

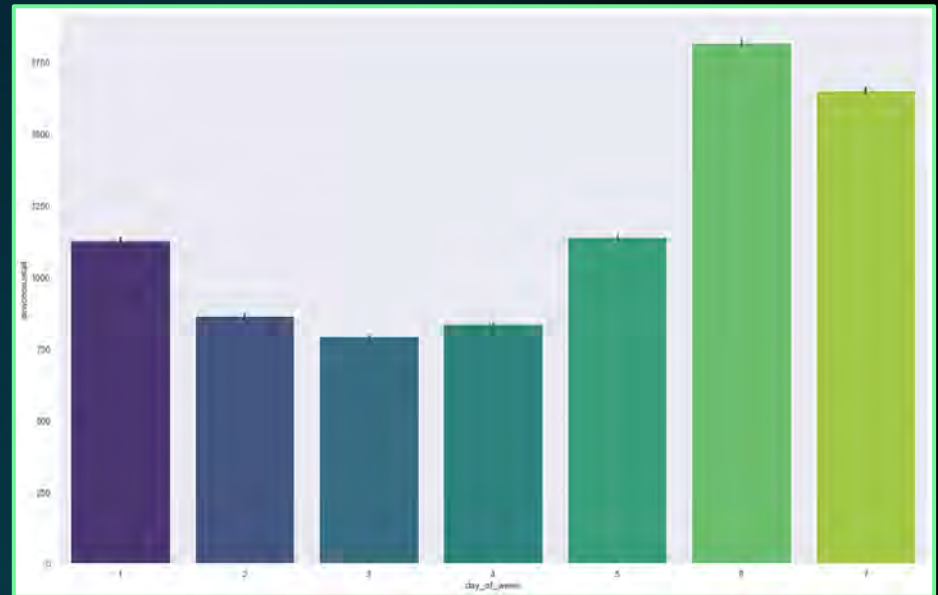


PROBE COUNTS PER DAY OF WEEK

Total

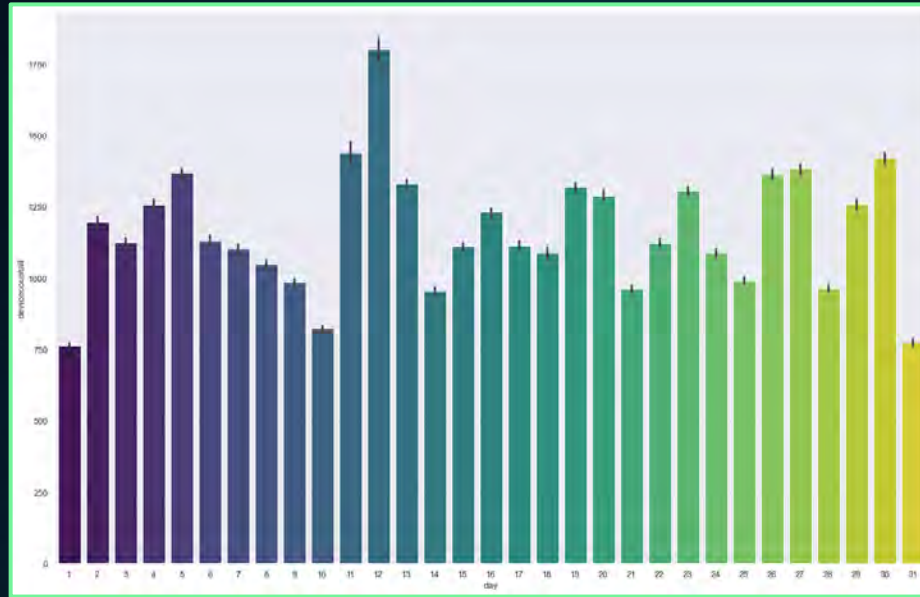


Average



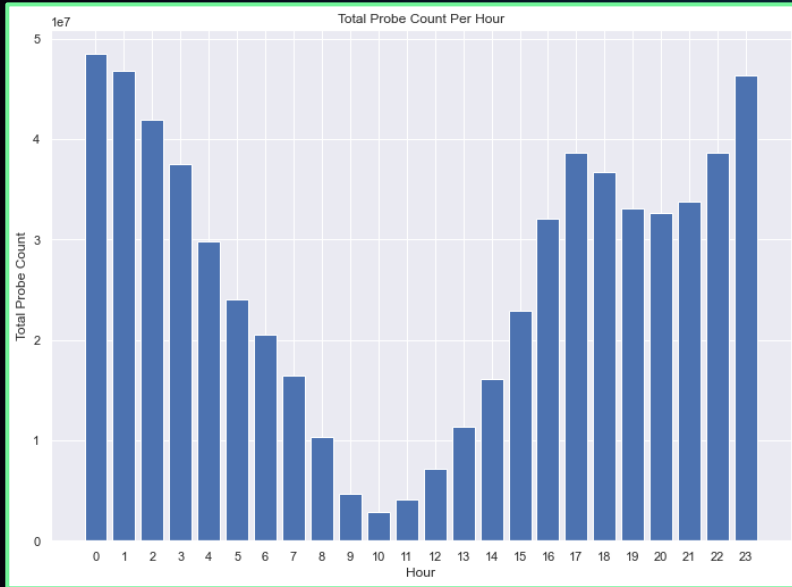
PROBE COUNTS PER DAY

Average

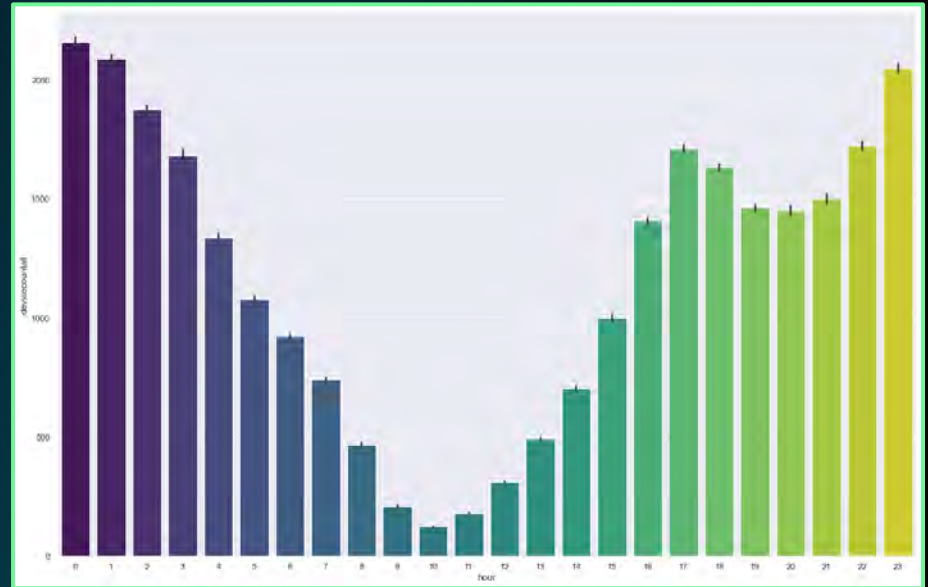


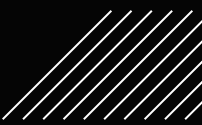
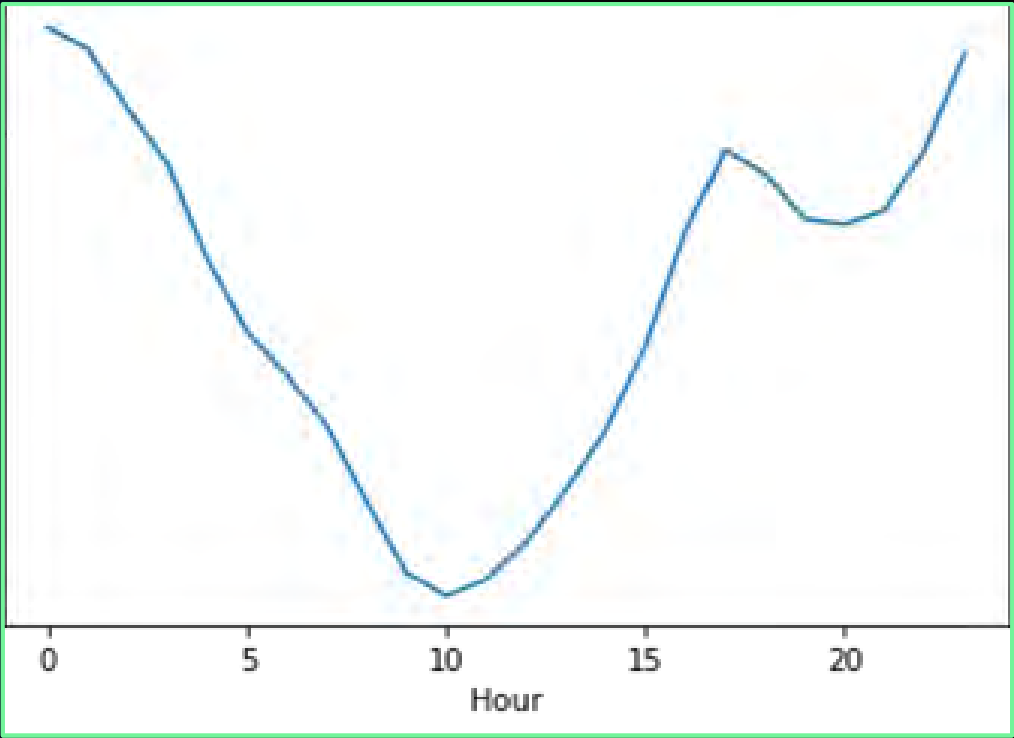
PROBE COUNTS PER HOUR

Total

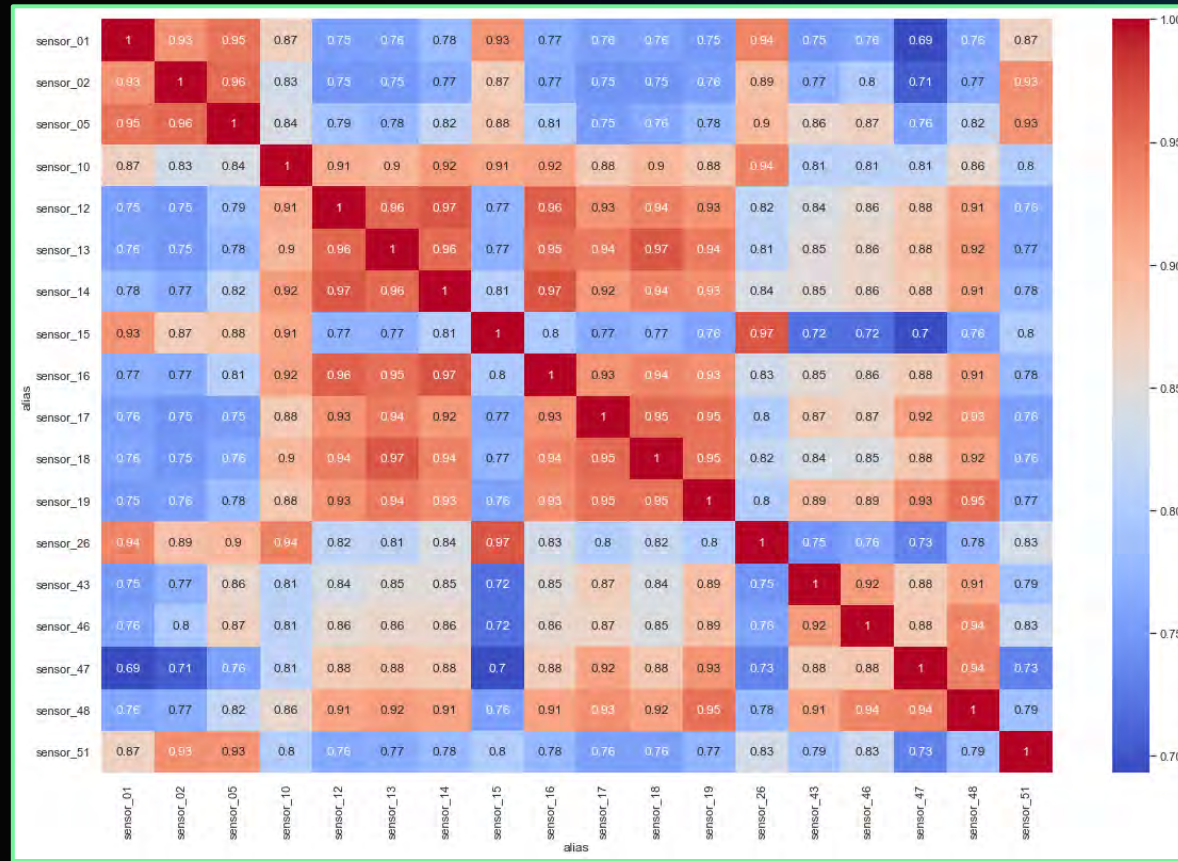


Average

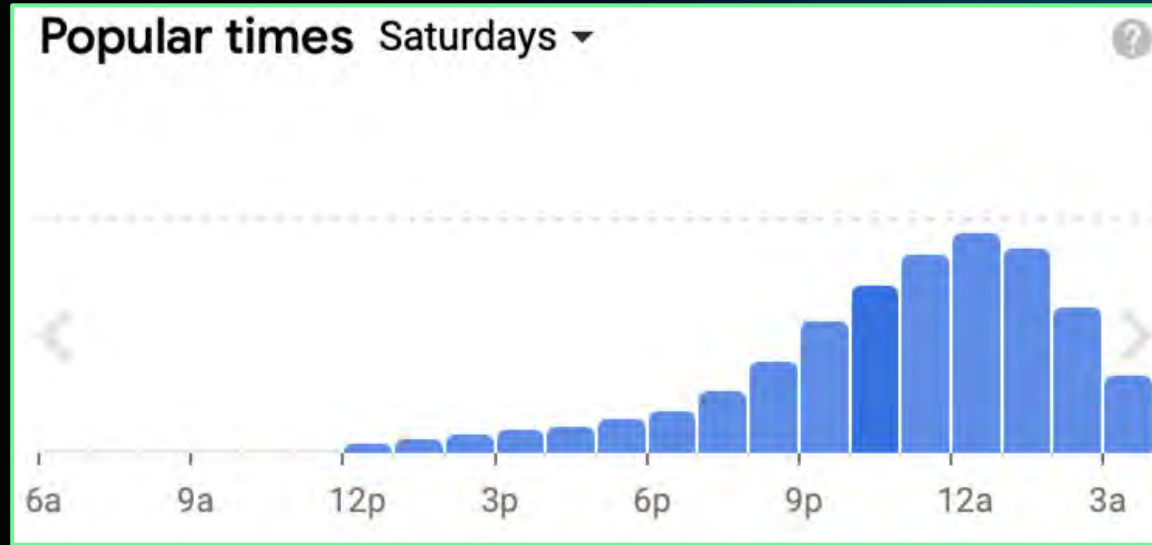




SENSOR CORRELATION



GOOGLE MAPS POPULAR TIMES



TRENDLINE FORECASTING



- Calculating next value from trendline of previous data points

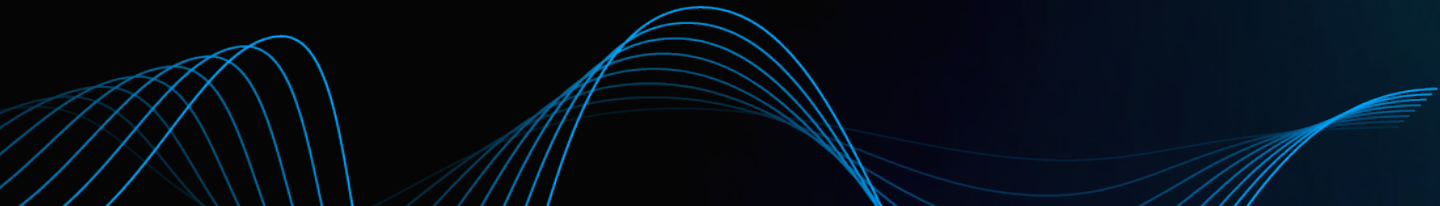


LINEAR

- First-Order

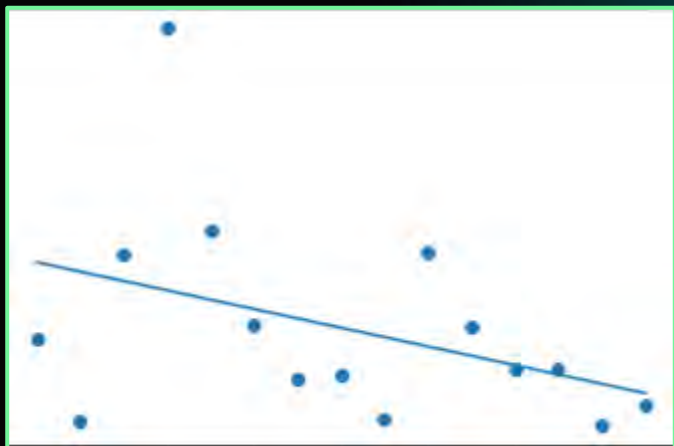
QUADRATIC

- Second-Order



LINEAR

OFF



OFF

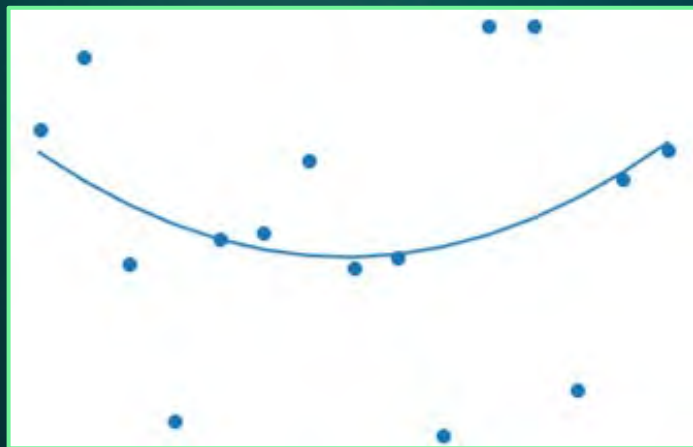


QUADRATIC



ON



OFF



FUTURE PROJECT GOALS



Machine
Learning

Verify More
Data

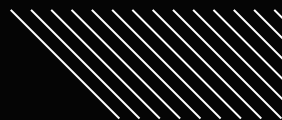




Thanks



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