

PRONTO! PREDICTED

BY EVAN SADLER

MY BIKE

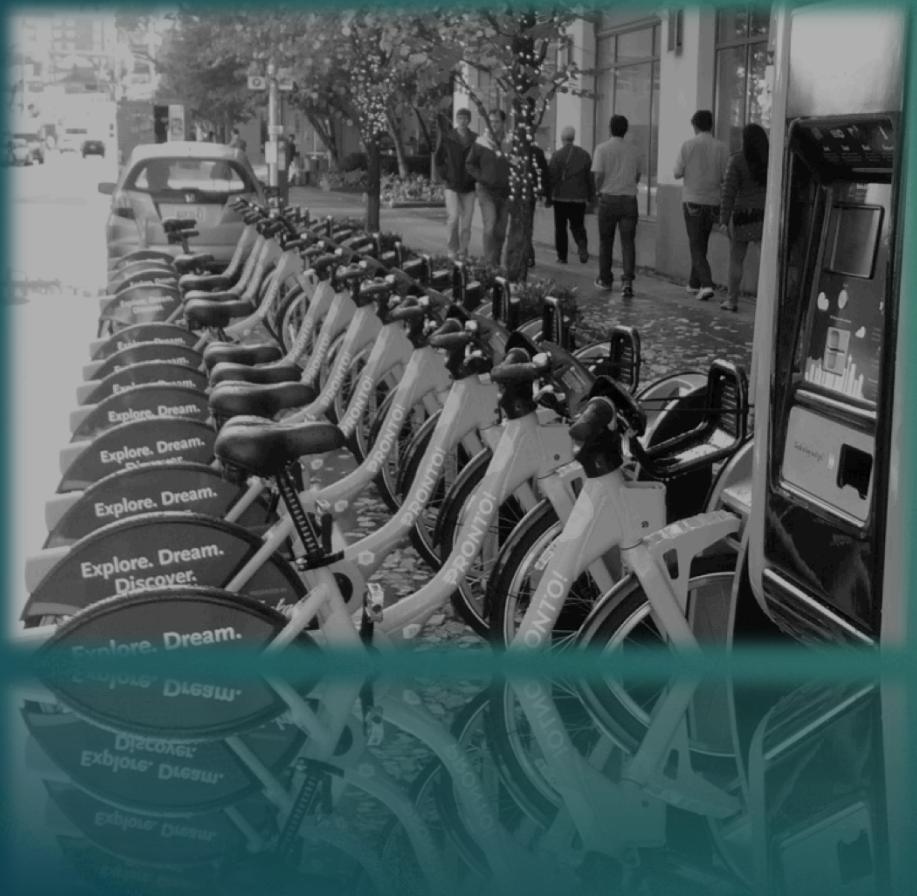


PRONTO

\$10 monthly for unlimited bike rentals
under 30 minutes



PROBLEM



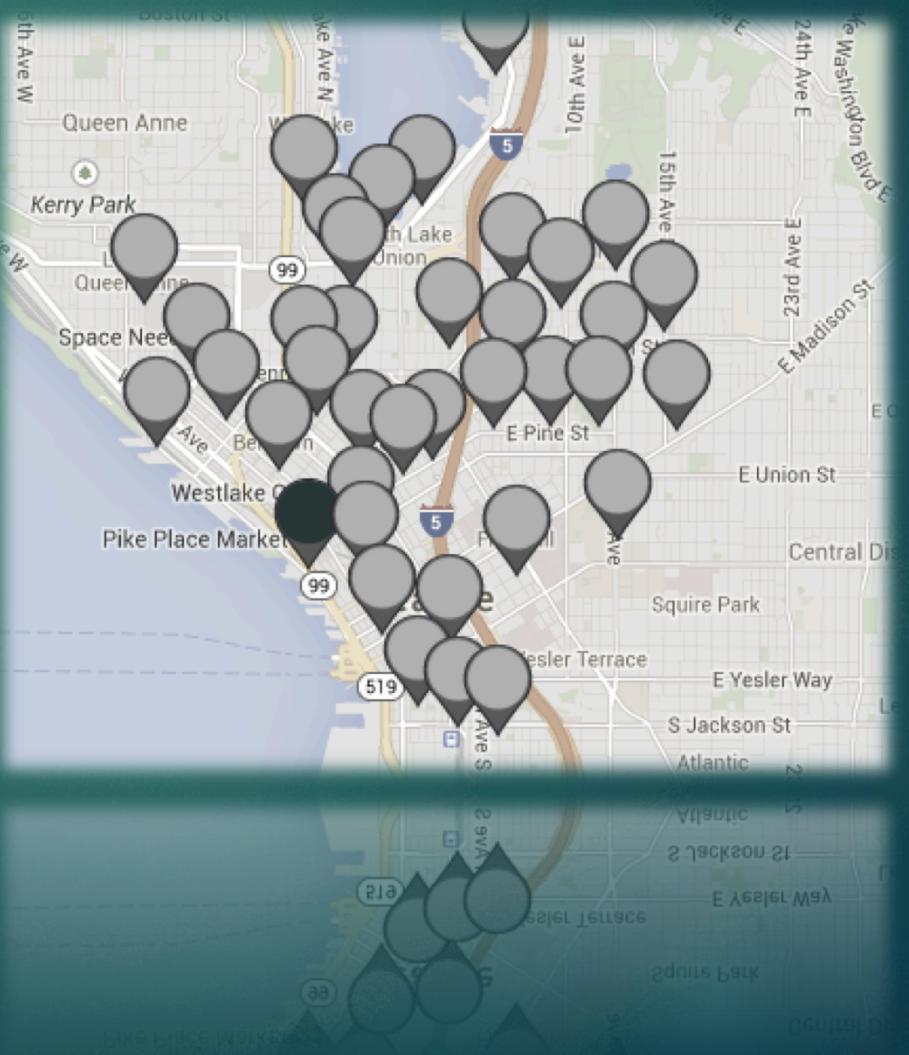
Challenges

50 stations

Weather + Elevation

One dispatcher

No predictive analytics



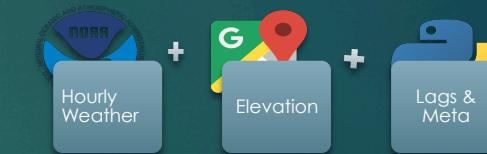
Data Pipeline



Date-time	Start Terminal	End Terminal
1/12/2015 07:55:52	CH-04	SLU-02
1/12/2015 08:00:33	CH-04	BT-02



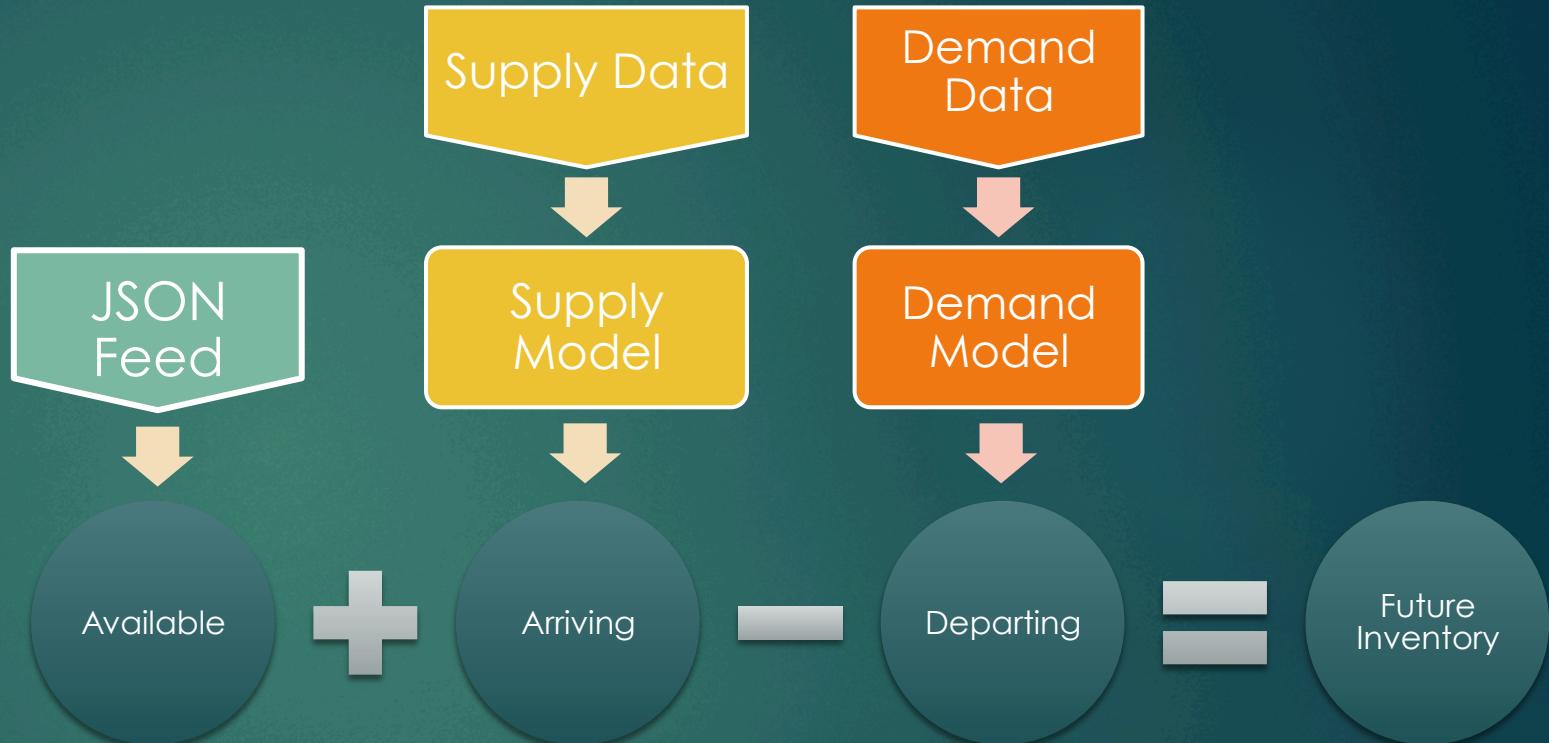
- Aggregate
- Impute zeros
- Bin hours



Date	Time	Terminal	Total Demand
1/12/2015	Commute to work	CH-04	2
1/12/2015	Commute to work	PS-01	0

Date	Time	Terminal	Total Supply
1/12/2015	Commute to work	CH-04	0
1/12/2015	Commute to work	PS-01	4

FORECASTING INVENTORY



With Bounds of 0 and terminal size

PREDICTIVE MODEL



Results

AUC: 0.87 & 0.86

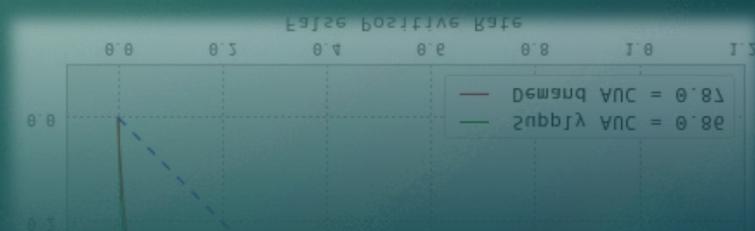
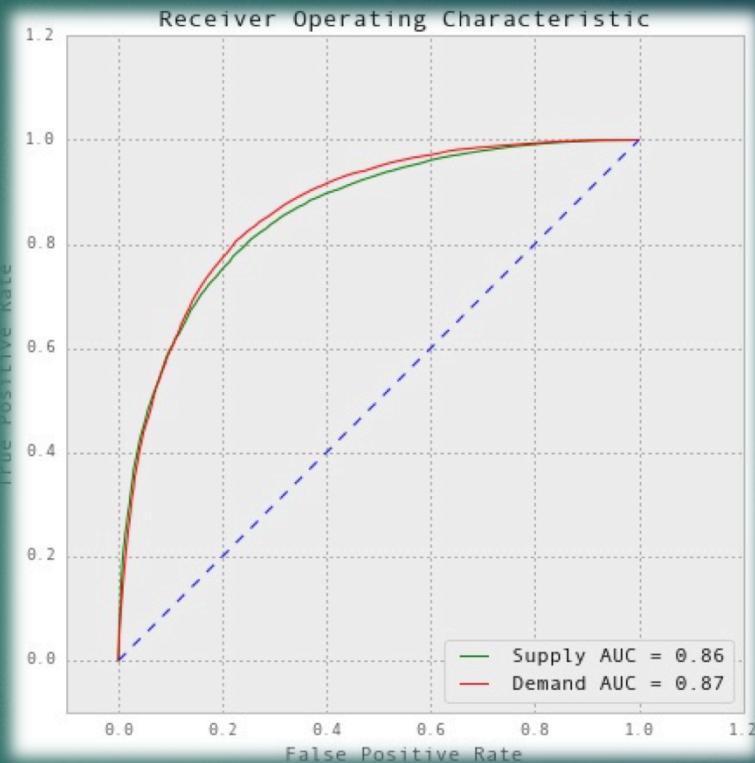
Accuracy: 62% (4 classes)

Important Features

Lagged Averages

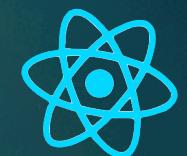
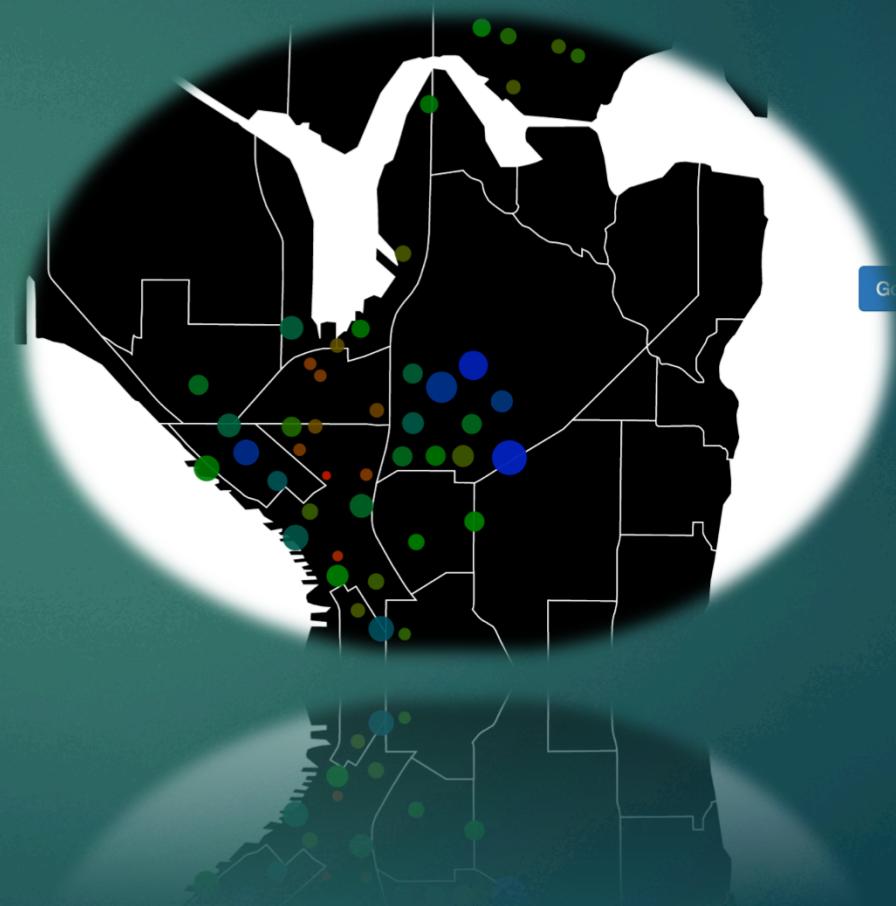
Temp, Dew, Wind

Elevation



Next

- Recommendations
- Finish web app
- Get user IDs



React

THANK YOU

Evan Sadler

evansadler.me

github.com/easadler/capstone