

# EZ TakeOut

Uber & yelp combined analytics and applications

---

Team I194:

Yulong Qiao yq2212

Yang Chen yc3313

Xiyan Liu xl2672

- **Dataset**  
100 million lines taxi datasets, 4.7 million lines yelp datasets for ground truth
- **Analytics Tool**  
Pandas, Scikit-learn and Spark throughout machine learning
- **Business value application**  
Advanced tech stack application with business value stressed

- **Golden Age of Food Delivery:**

Delivery services are a popular dining option with U.S. consumers, as a November 2016 survey found that 20 percent of respondents use food delivery at least **once a week**.

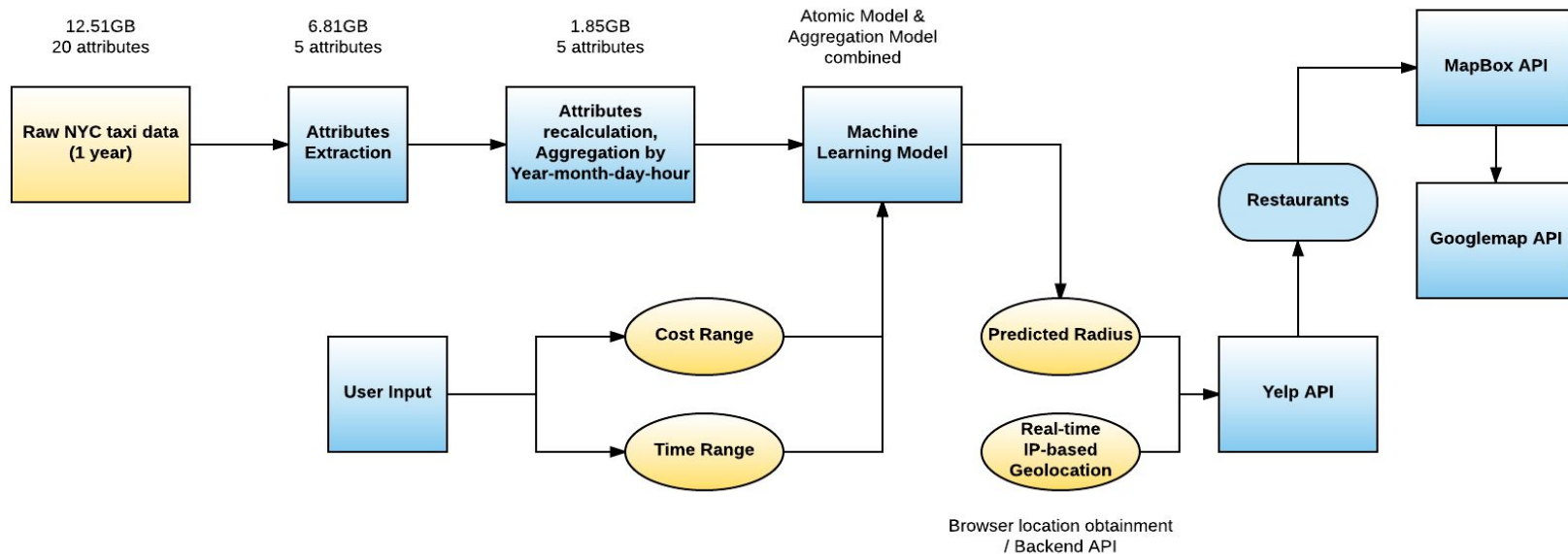
- **Startlingly Accurate Time Estimate and Money Cost:**

You can schedule a delivery ahead of time based on big dataset of NYC taxi **hourly** data which is reduced from past year raw data. Delivery fee is a big concern during the whole transaction. Accurate delivery fee is also estimated based on hourly history data.

- **Customer Experience:**

Customers could choose their favorite **food type** and physically see the restaurant position and **ratings** which helps to do the best choice.

# Task Pipeline



Retrieved Yelp Restaurants from within 1km from Columbia University

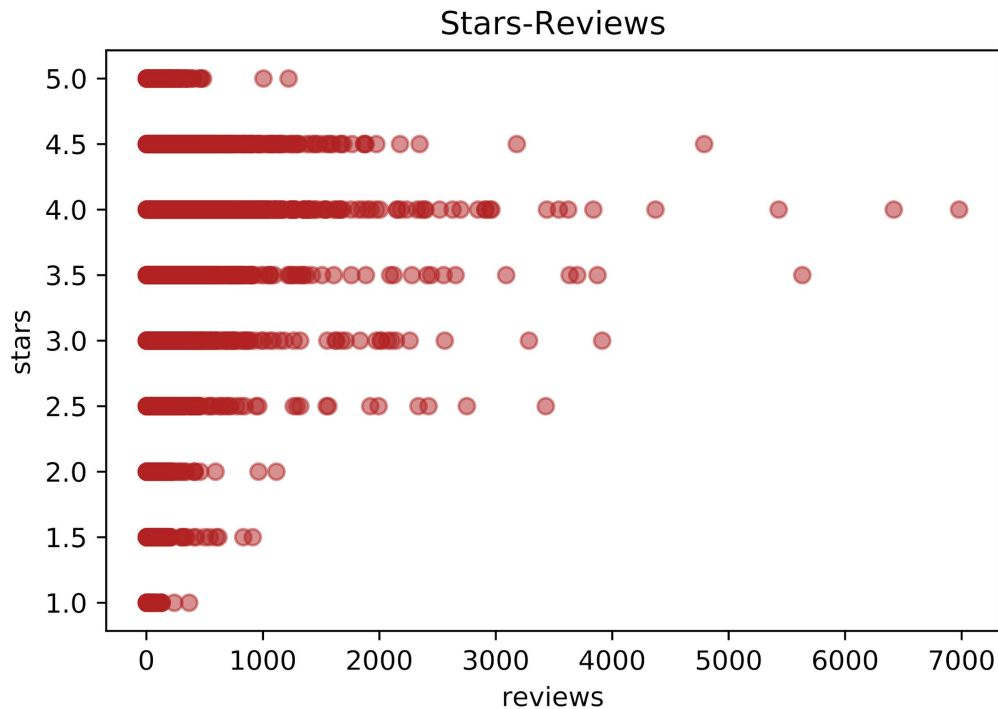


# Yelp Analytics

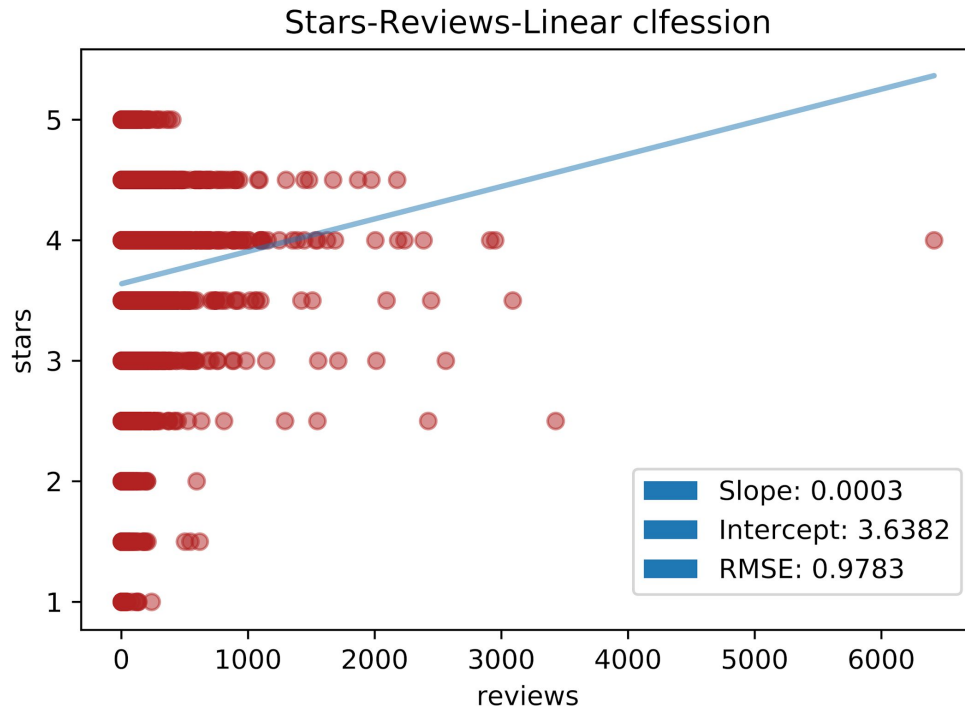
Combined with WordCloud Algorithms



# Yelp Review Analytics

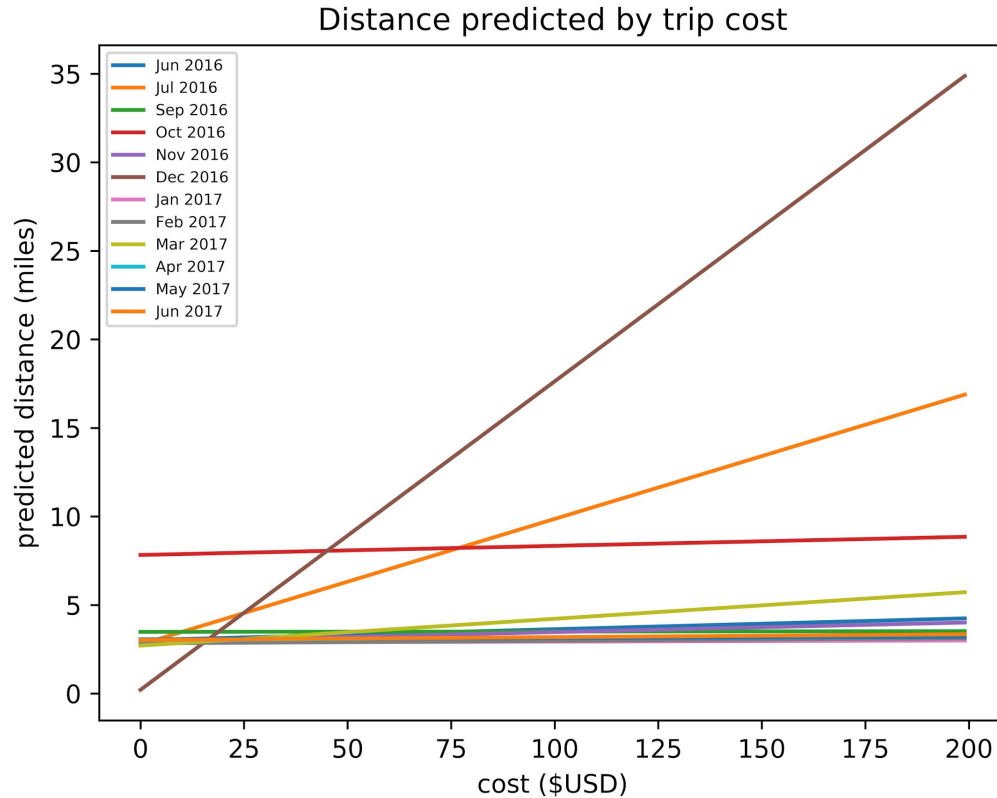


# Yelp Review Analytics

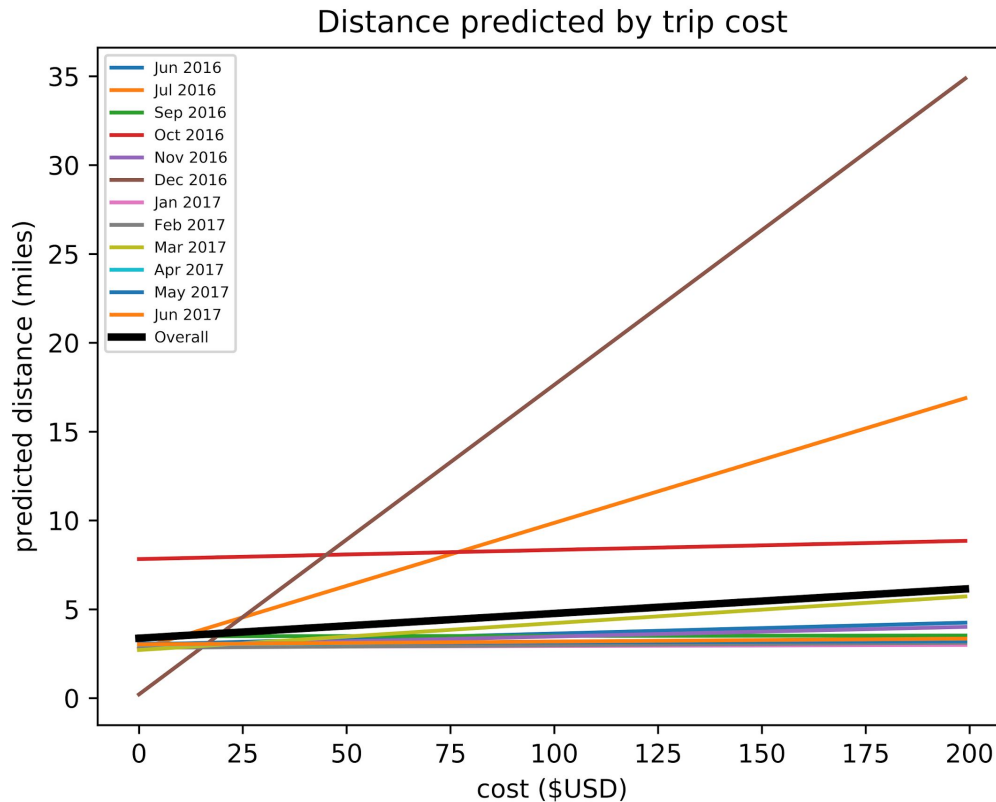




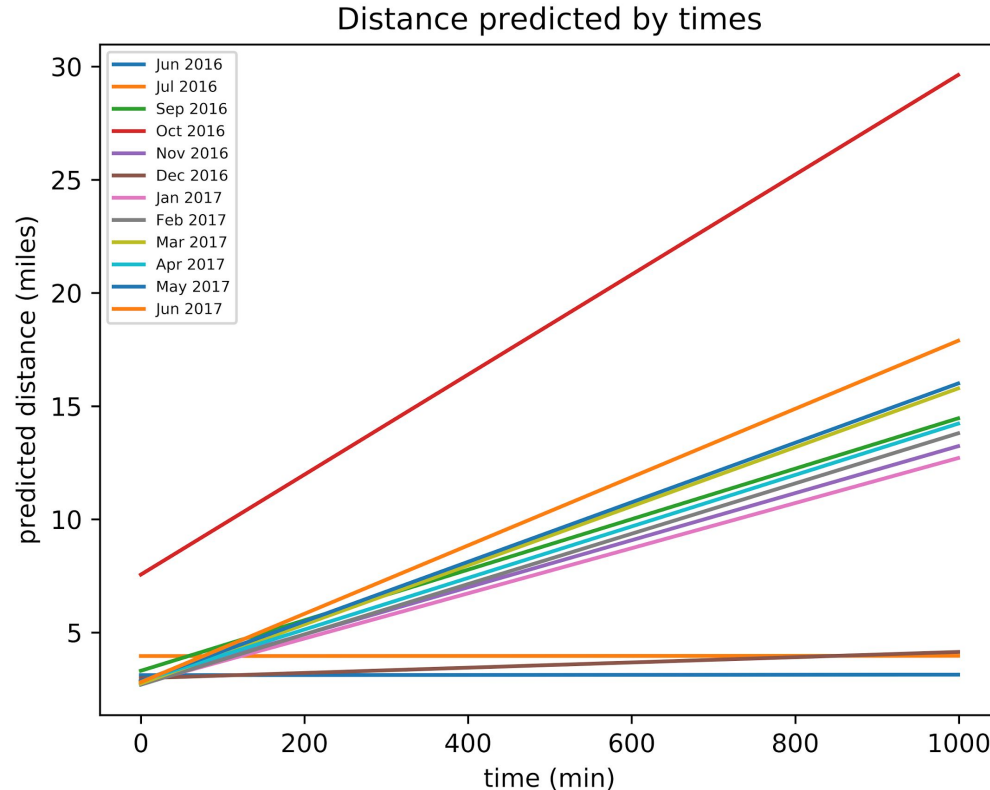
# Model prediction -> trip cost to trip distance



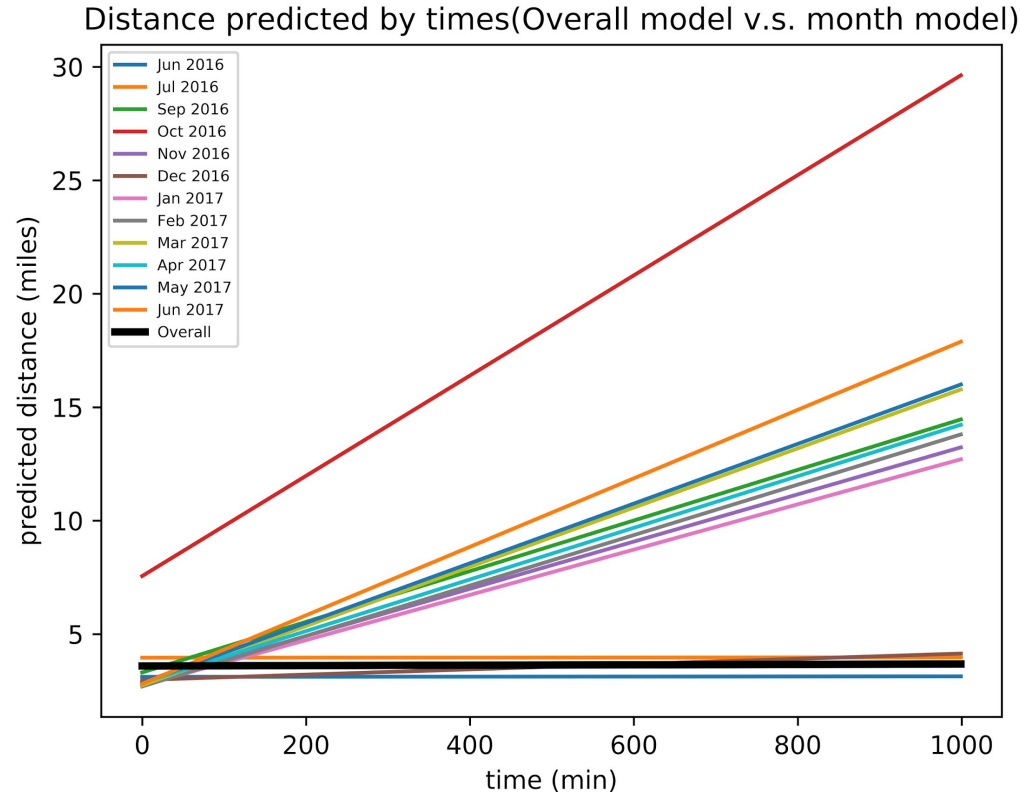
# Model prediction -> trip cost to trip distance



# Model prediction -> trip time to trip distance

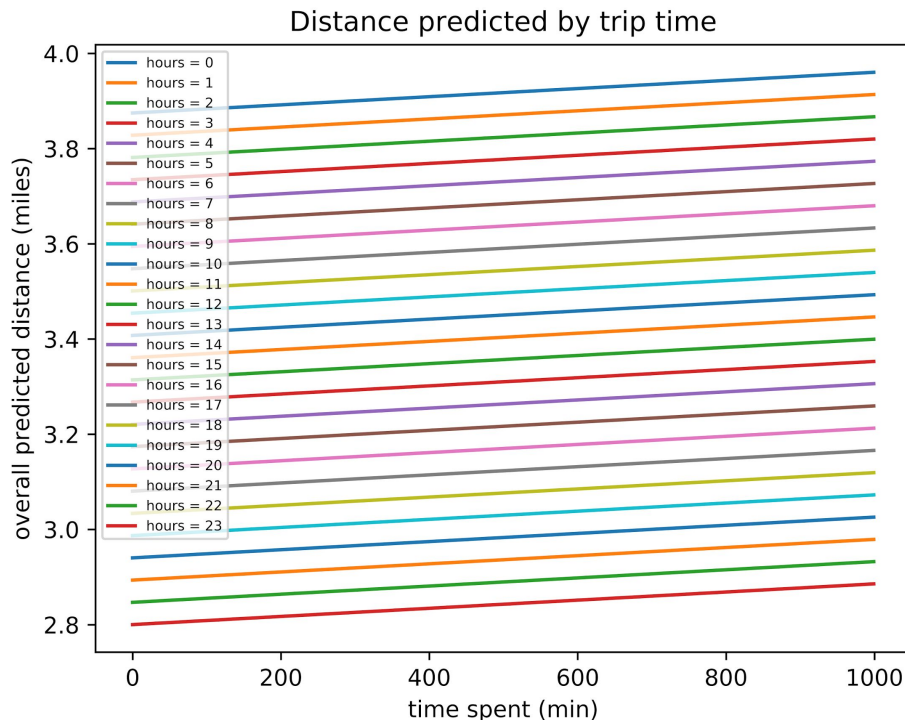


# Model prediction -> trip time to trip distance



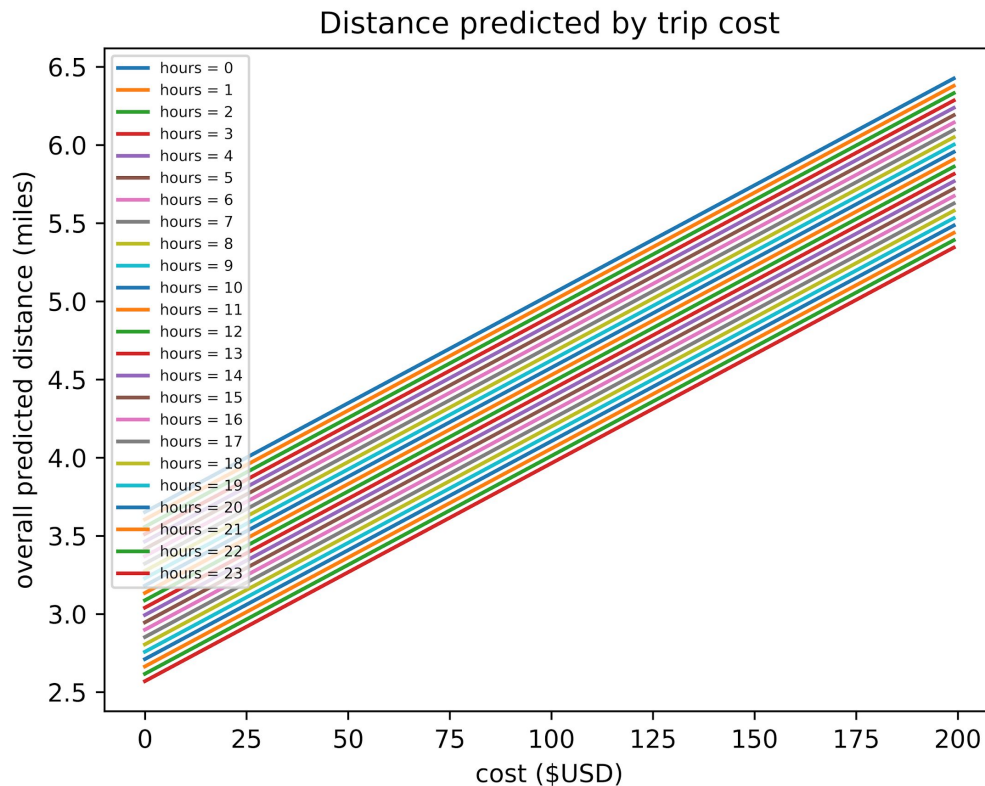
# Model prediction -> trip time to trip distance

## With different starting hour

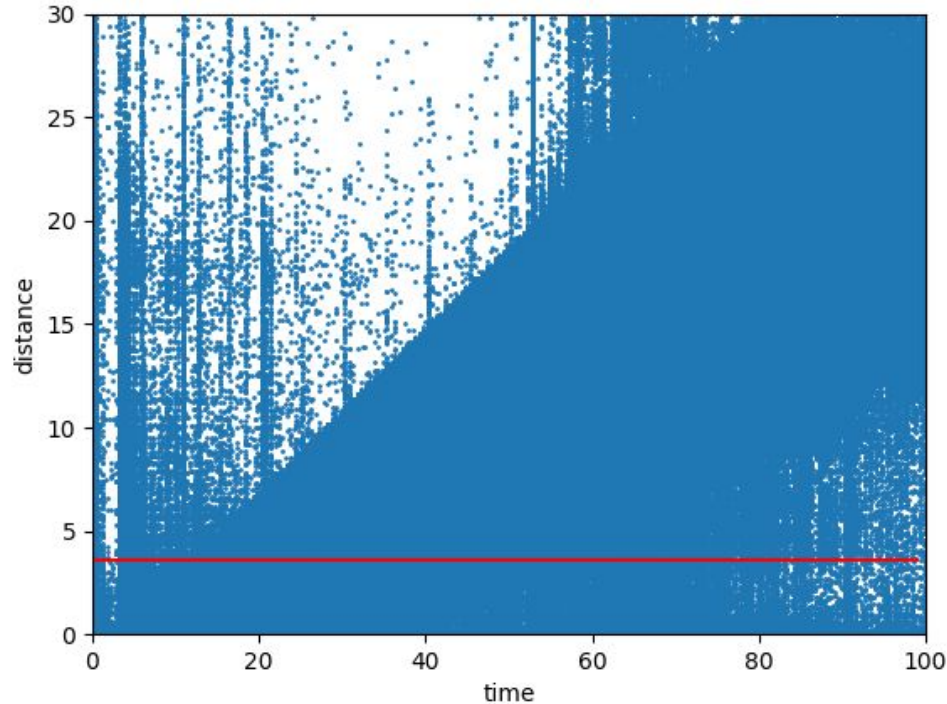


# Model prediction -> trip cost to trip distance

## With different starting hour



# Distance - time scatter plot



# App Building Tech Stack

## Tech Stacks:

- Data Cleaning: OpenRefine
- Machine Learning: Spark with Python Interface(Spark Dataframes, Spark SQL) as well as Python pandas and Scikit-learn
- App backend in Node.js:
  - framework: Express
- App frontend:
  - Angular 2 + Semantic





# EZ Takeout App

Time to spend (min)

30

How much money (\$USD)

30

Food Type

Burger

## Locations

Mel's Burger Bar

Rating: ★★★★★

Joy Burger Bar

Rating: ★★★★★

Harlem Burger Co

Rating: ★★★

Harlem Shake

Rating: ★★★

Richie's Burger Joint

Rating: ★★★★★

