

# Stats 131 Final Report

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# NYC Uber Pickups Dataset

- Created by Yannis Pappas and published on Kaggle
- Describes number of pickups, borough, holiday, and weather for every hour of January to June of 2015
- Almost all college students use Uber and we are very familiar with the app
- We were curious to see what variables affect the number of pickups

# Variables

**Pickups**

Visibility

Wind Speed

Borough

Temperature

Holiday

Snow

Rain Precipitation

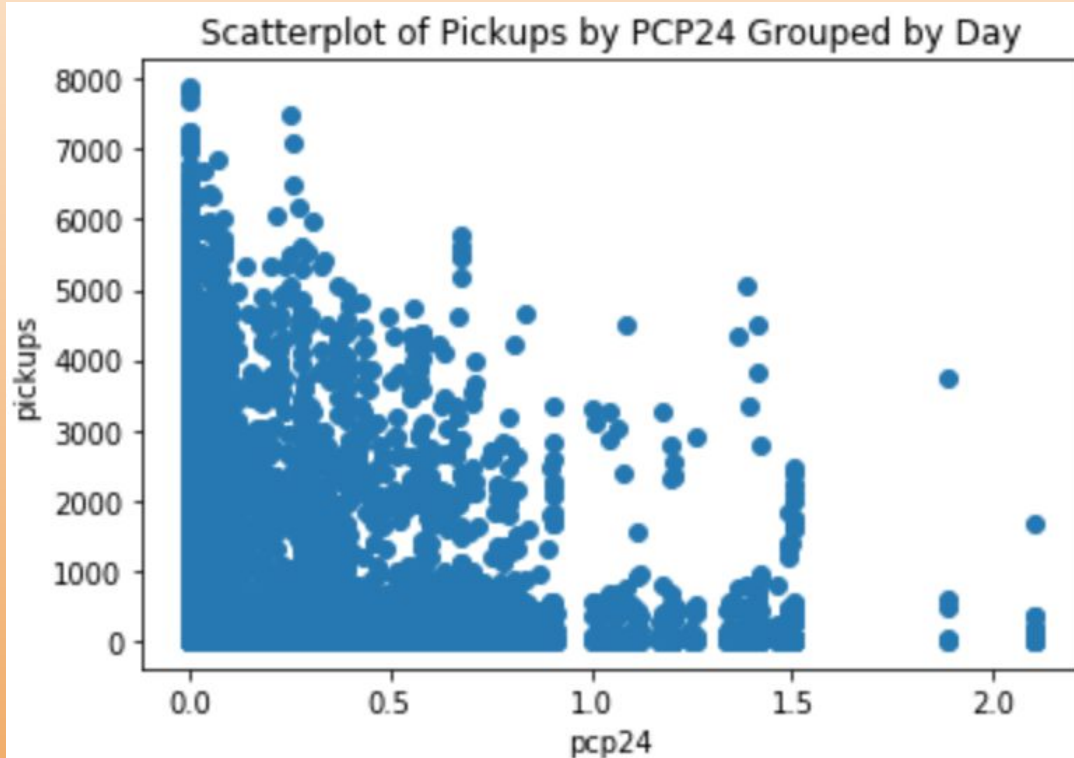
# Converting Times to Time Objects

```
] : uber['hour'] = uber['pickup_dt'].dt.hour  
uber['day'] = uber['pickup_dt'].dt.day  
uber['week'] = uber['pickup_dt'].dt.week  
uber['month'] = uber['pickup_dt'].dt.month  
uber.head()
```

```
] :
```

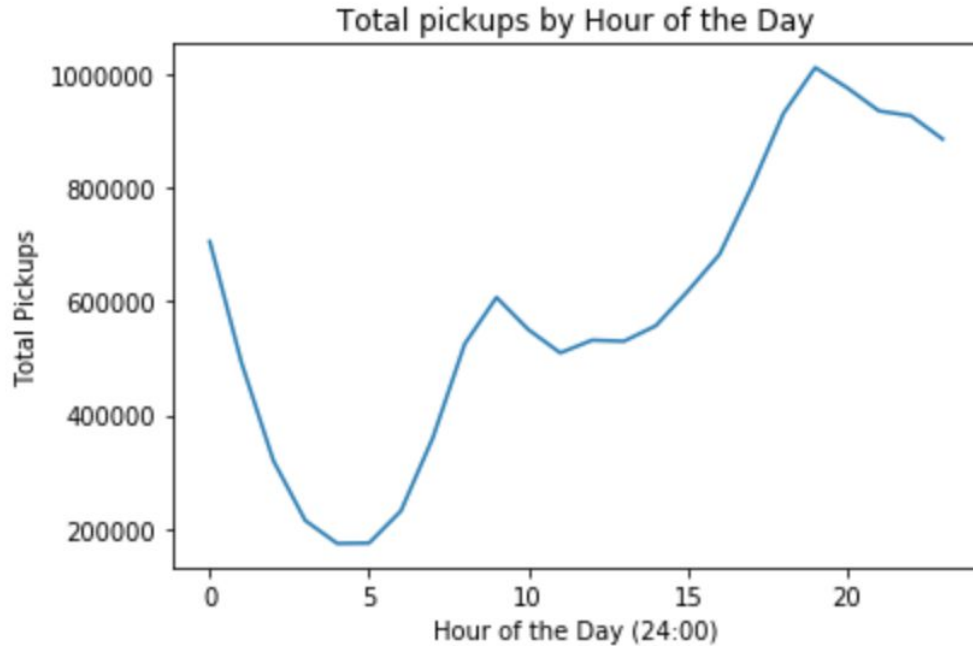
	pickup_dt	borough	pickups	spd	vsb	temp	dewp	slp	pcp01	pcp06	pcp24	sd	hday	hour	day	week	month
0	2015-01-01 01:00:00	Bronx	152	5.0	10.0	30.0	7.0	1023.5	0.0	0.0	0.0	0.0	Y	1	1	1	1
1	2015-01-01 01:00:00	Brooklyn	1519	5.0	10.0	30.0	7.0	1023.5	0.0	0.0	0.0	0.0	Y	1	1	1	1
2	2015-01-01 01:00:00	EWB	0	5.0	10.0	30.0	7.0	1023.5	0.0	0.0	0.0	0.0	Y	1	1	1	1
3	2015-01-01 01:00:00	Manhattan	5258	5.0	10.0	30.0	7.0	1023.5	0.0	0.0	0.0	0.0	Y	1	1	1	1
4	2015-01-01 01:00:00	Queens	405	5.0	10.0	30.0	7.0	1023.5	0.0	0.0	0.0	0.0	Y	1	1	1	1

# Rain in the last 24 hours and Pickups



We expected more pickups when there is more rain, but the opposite is shown.

# Total Pickups by Hour

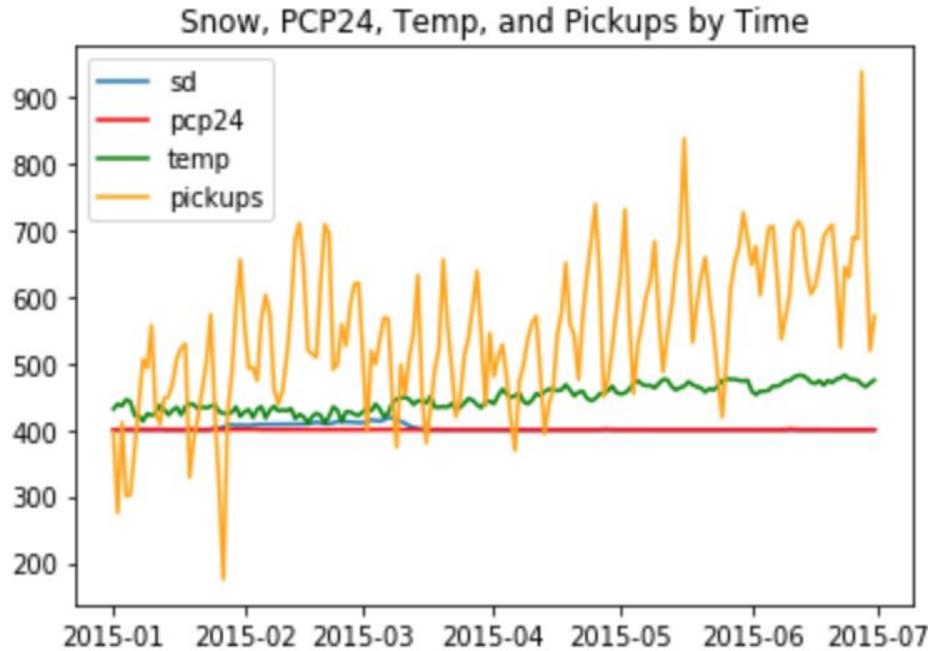


Decreasing from  
midnight to 5 am

Increasing from 10  
am to 8 pm

Local max at 9 am  
and 7 pm  
(probably  
commuters)

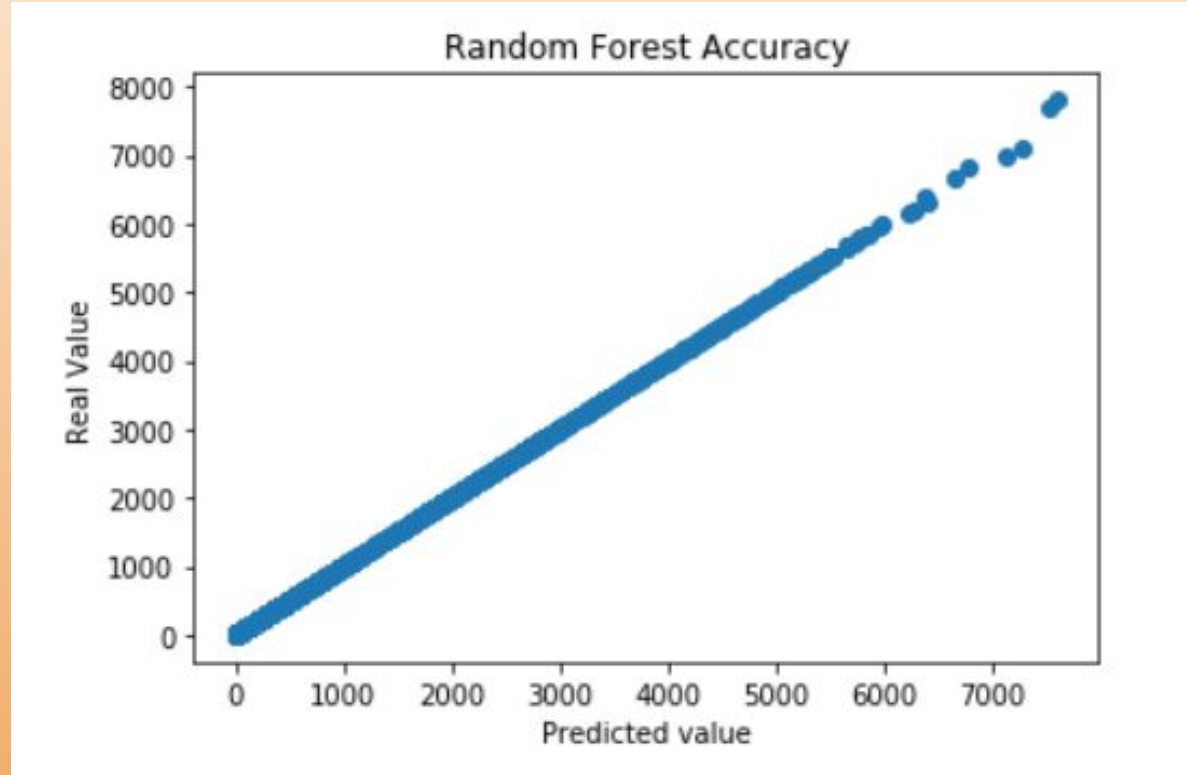
# Weather and Pickups



The interesting pattern in pickups may be the differences in pickups on the weekends compared to weekdays.

The slight increase in pickups over time may be due to warmer weather or increased popularity in the Uber app.

# Prediction Accuracy and Random Forest



Random forest works well in predicting pickups from various weather variables, such as snow, dewpoint, temperature, rain, atmospheric pressure, etc.