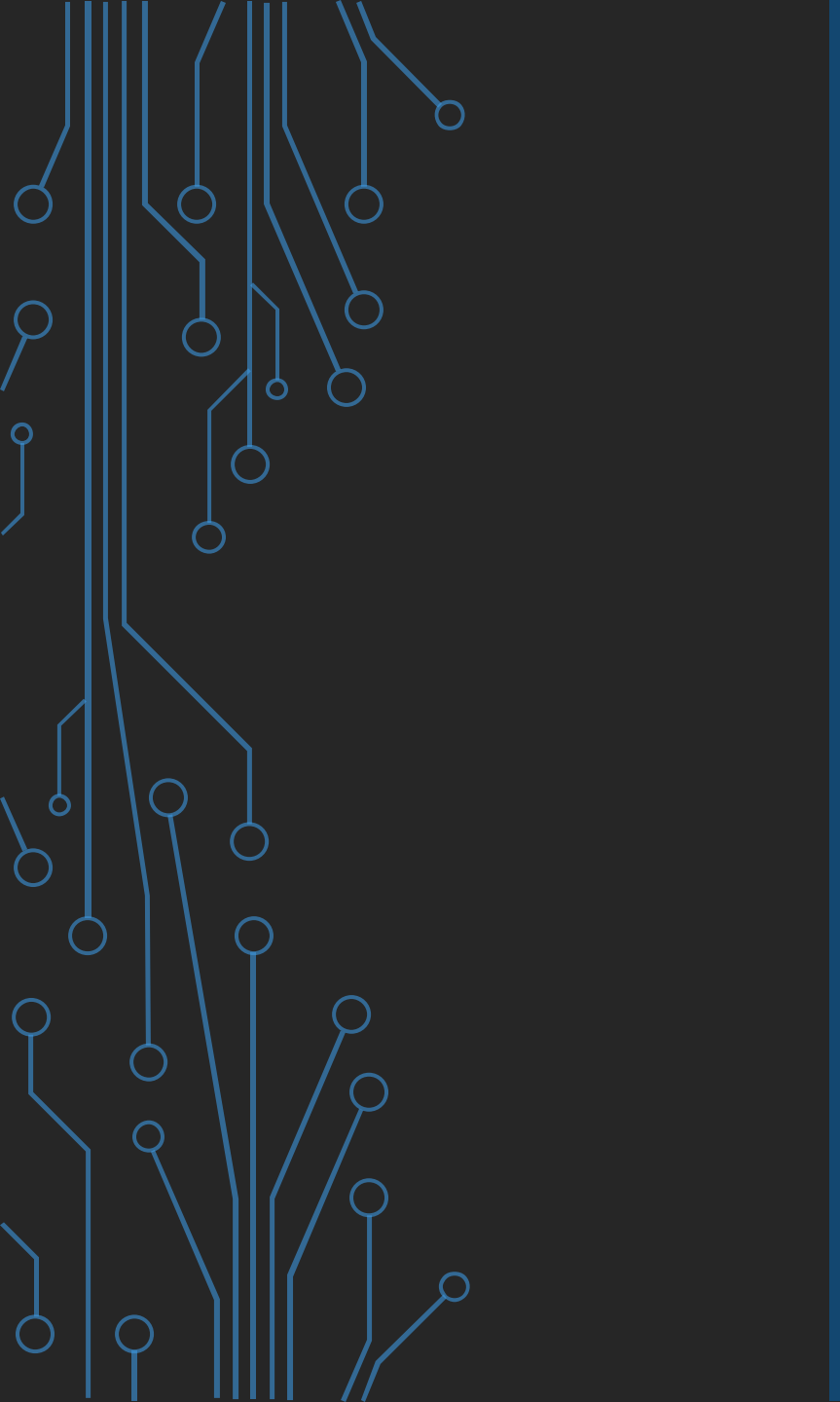


PREDICTING CAR ACCIDENT SEVERITY

INTRODUCTION

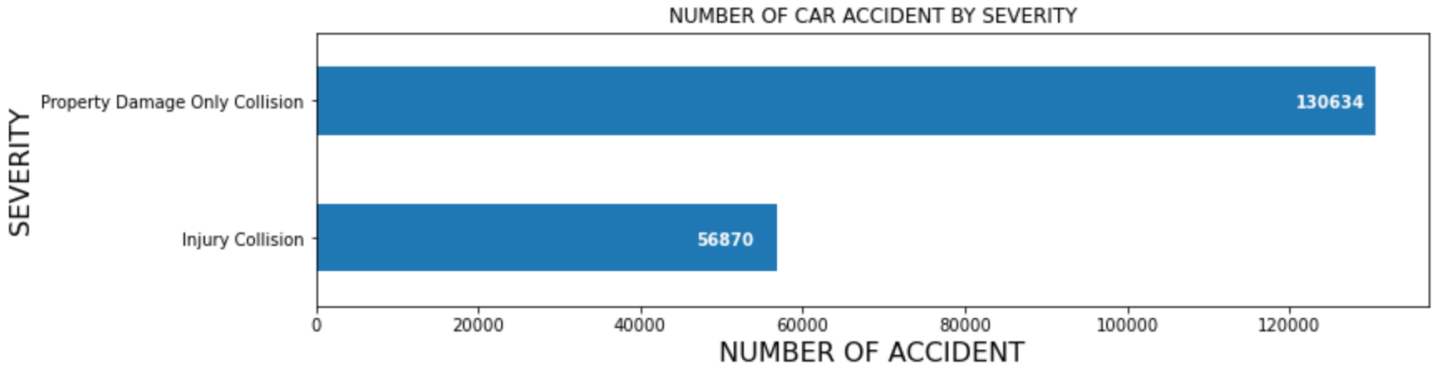
- Predicting accident severity is valuable for Seattle department of transportation.
- Knowing the severity of accident helps to control factors that affect accident.

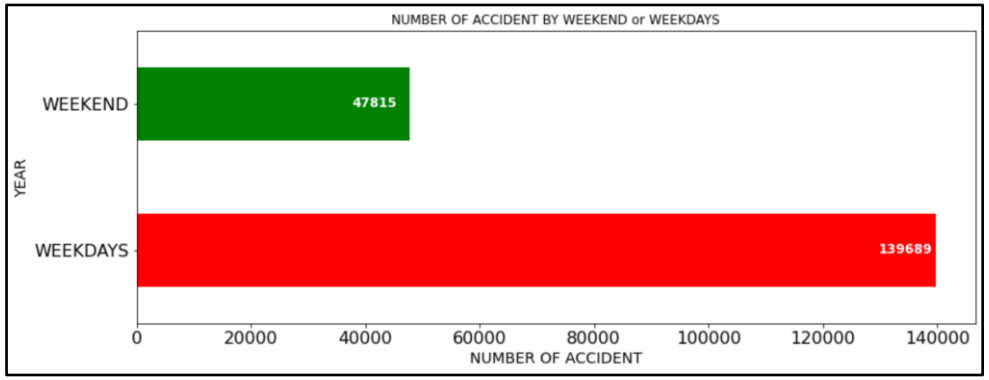
DATA ACQUISITION AND CLEANING

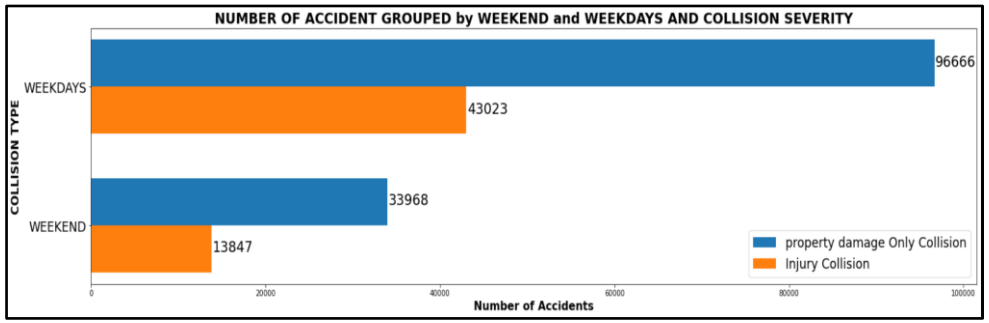
- Dataset comes from Transportation SeattleCityGIS.
- Dataset has data of accidents in Seattle from 2004 until 2020.
- In total, 194673 rows and 38 features.
- After cleaned data, I got 187504 rows and 19 features.
- Then, I reduced features to 7 features.

ANALYSIS

- Number of Property only collision is 130634.
- Number of Injury Collision is 56870.





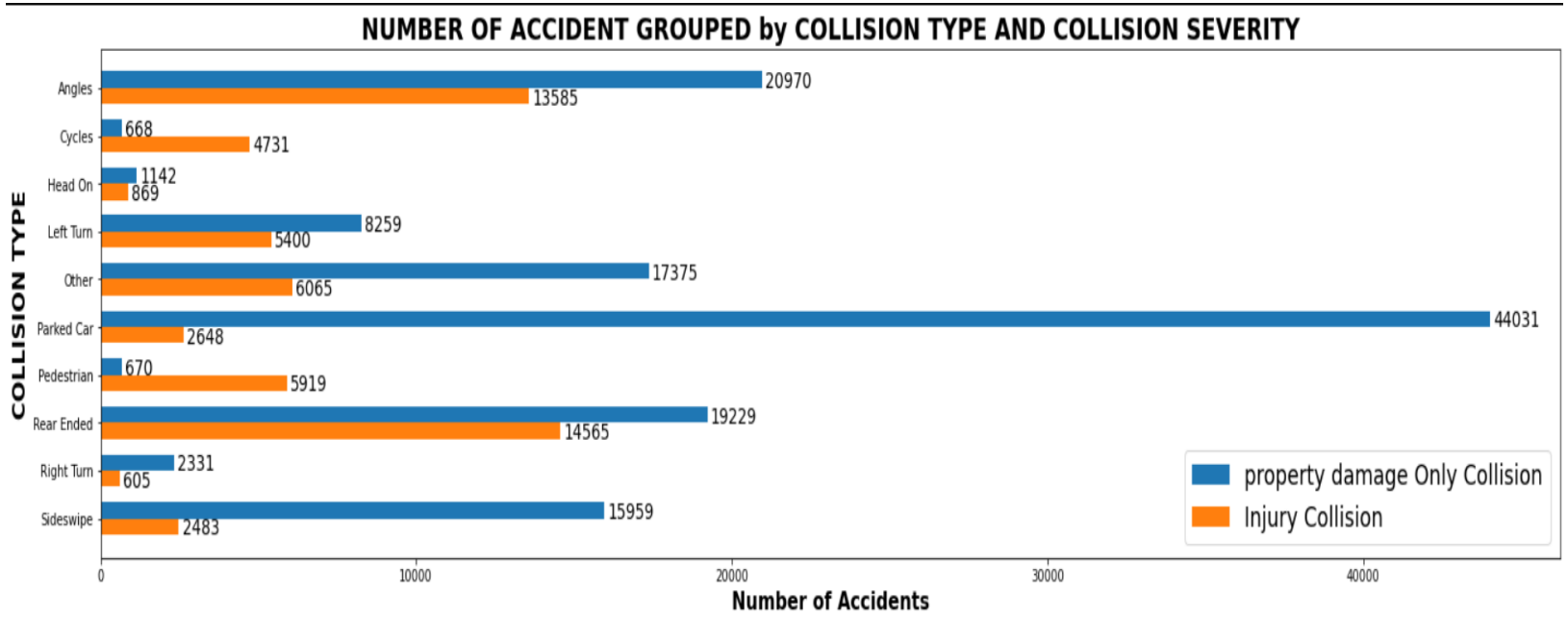


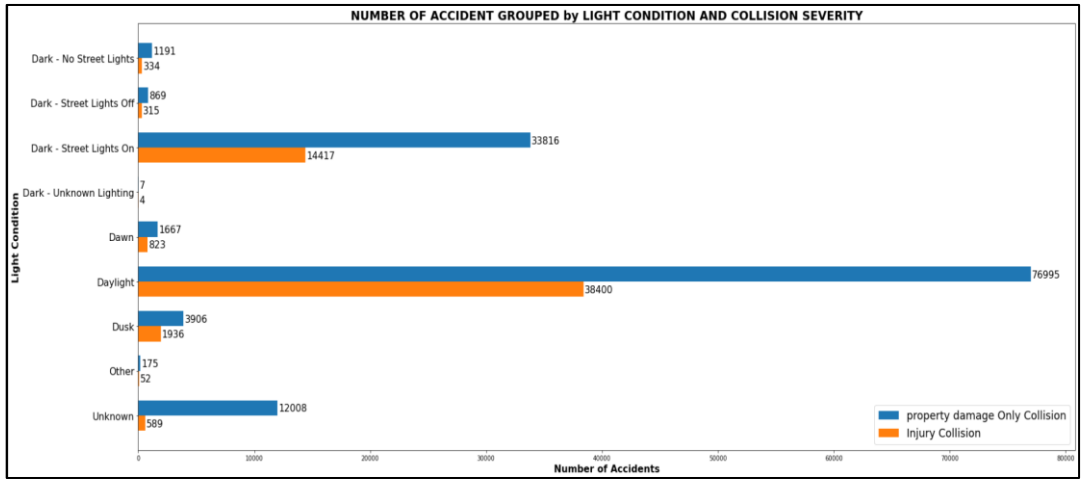
ANALYSIS

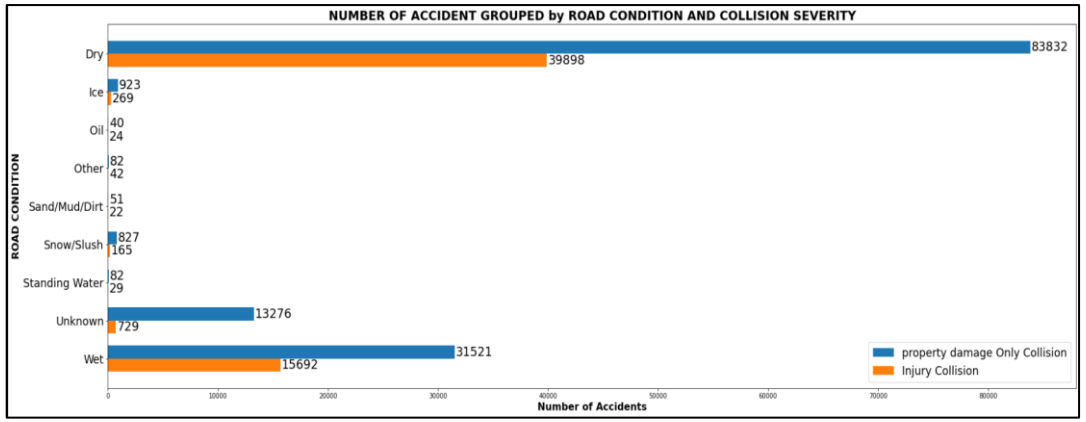
- Number of Weekend and Weekday.
- Most of accidents at weekdays.

ANALYSIS

- The most dangerous type of collision is Rear Ended.





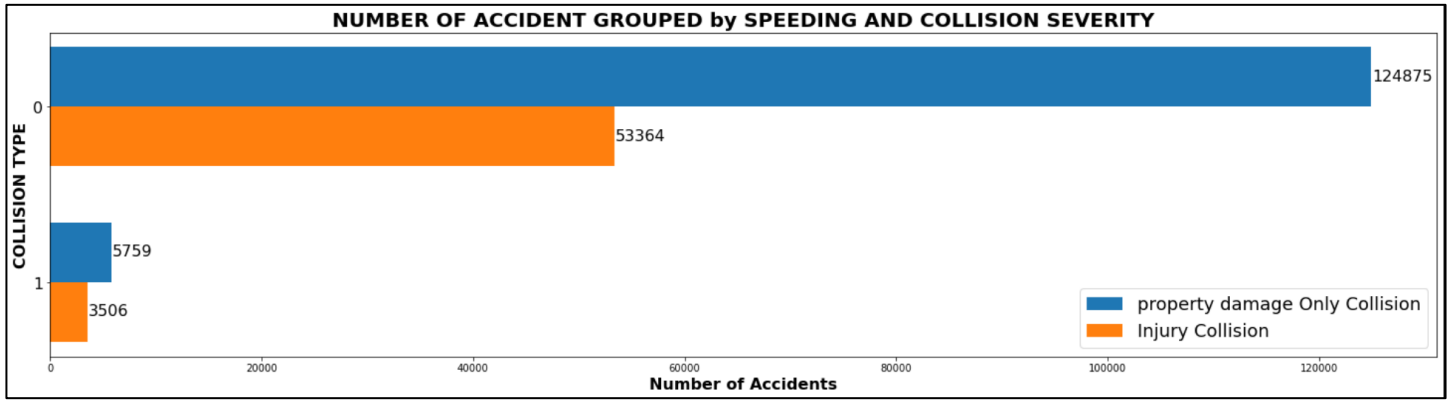


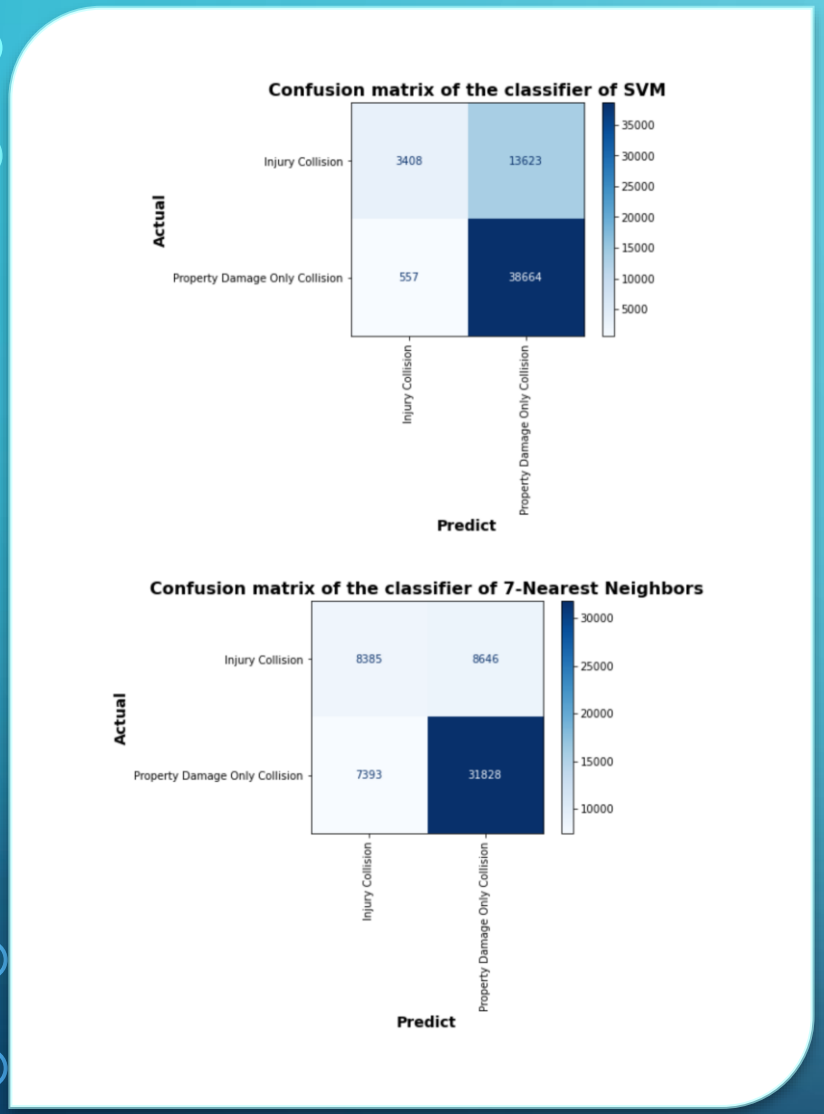
ANALYSIS

- Most of accidents in daylight and dry road.

ANALYSIS

- Speeding is not a high factor that influencing accidents.





CLASSIFICATION MODELS

- The **accuracy** of 6 models are between 0.6207 - 0.7479.
- The F1-Score of 6 models are between 0.6317 - 0.7116.
- The highest accuracy is for SVM.
- The highest F1-Score is for 7-Nearest Neighbours.

CONCLUSION AND FUTURE

- Useful models are built to predict severity of accidents.
- The accuracy and F1-score for Models could be improved by add more data to built balanced dataset.