

# Chicago Car crash Analysis

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# Introduction

- The goal of this model is help analyze accidents and use the result to prevent hit and run accidents from happening .
- Our model can predict hit and run accidents that resulted in injuries.
- Since road safety is one of the big concerns our prediction model primarily focuses on car accidents that resulted in injuries .

# What can you expect to know?

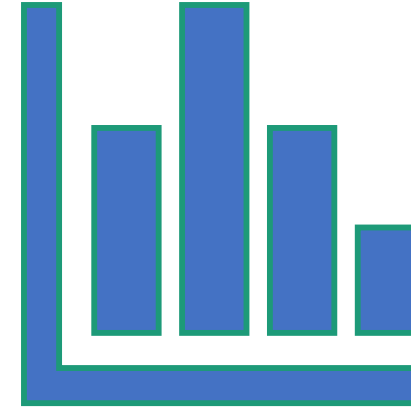
- Where we acquired our data
- Key observations about hit and run accidents resulting in injuries
- Our model effectiveness
- Recommendations and Future work



# Our data



**CHICAGO  
DATA PORTAL**



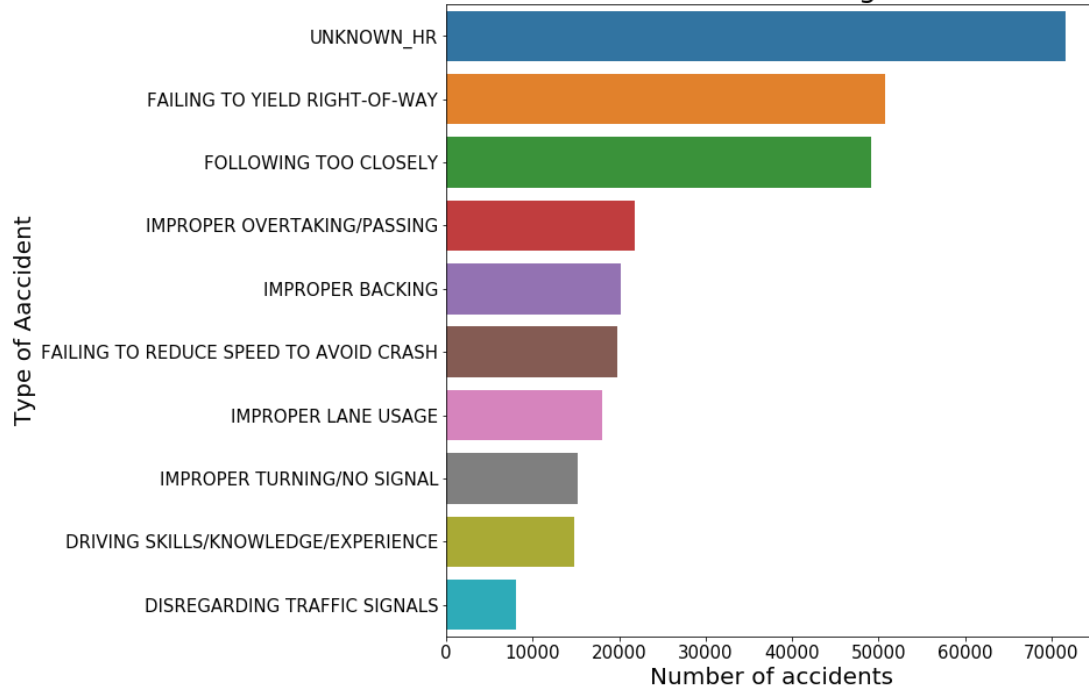
- Our Data came from Traffic crashes data set available to the public on Chicago Data Portal
- The data contains accident records for the years 2013 - 2020
- Our data was filtered based on injuries which resulted in about 50000 injuries resulting in accidents



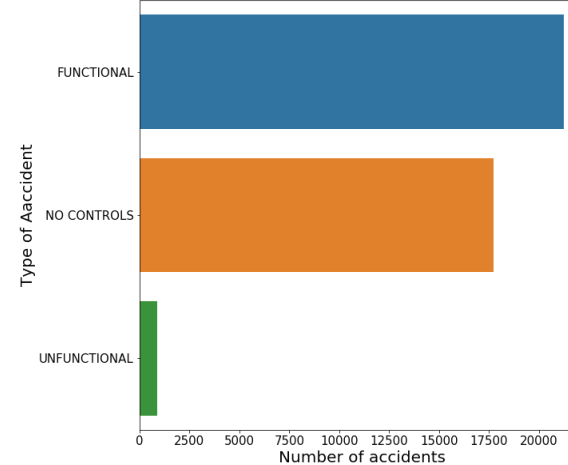
# Key Observations

- Hit and Run was the highest cause of accident, accounting for almost 25% of the accidents.
- The top 5 causes accounted for nearly 70% of the accidents
- Nearly 40% of these injury resulting accidents had no traffic control device
- The ones that had a traffic control device 35% of them were not functional

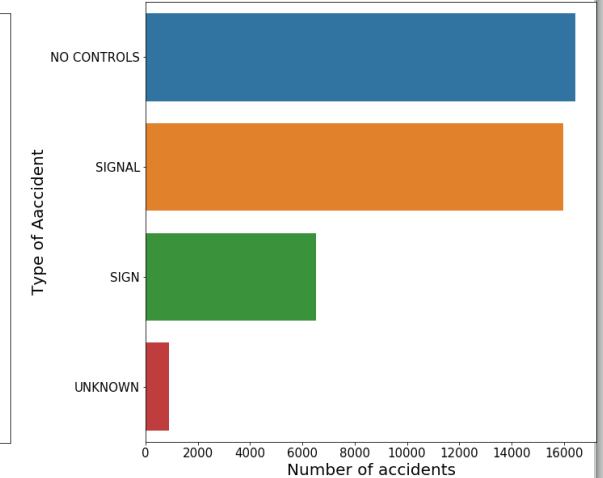
Causes of most-occurring accidents



Traffic control device condition



Traffic control device



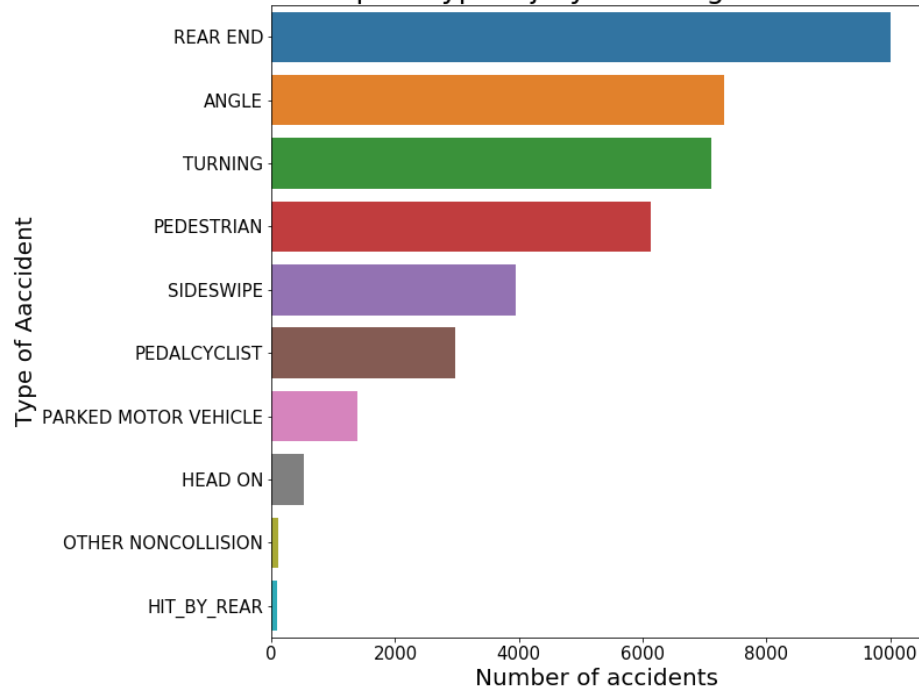




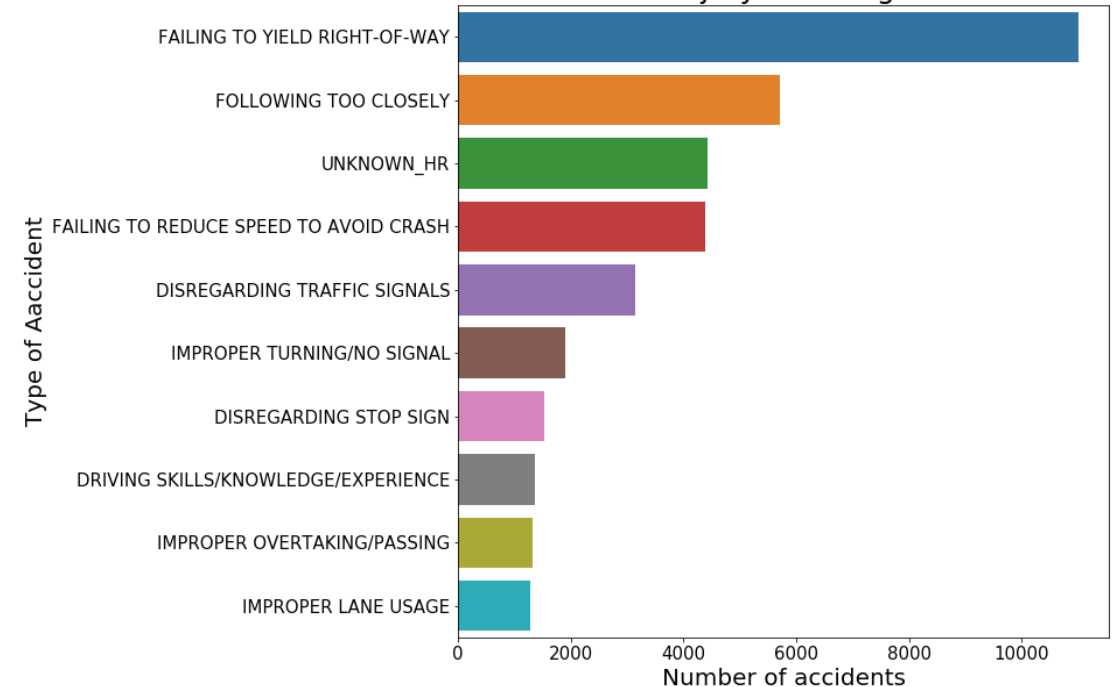
## Key Observations

- Overall injury resulting accidents follow the same trend as accidents in general.
- Failing to yield is the highest cause of injury resulting accidents and hit and run is number 3 .

Top 10 type injury resulting accidents



Causes of injury resulting accidents

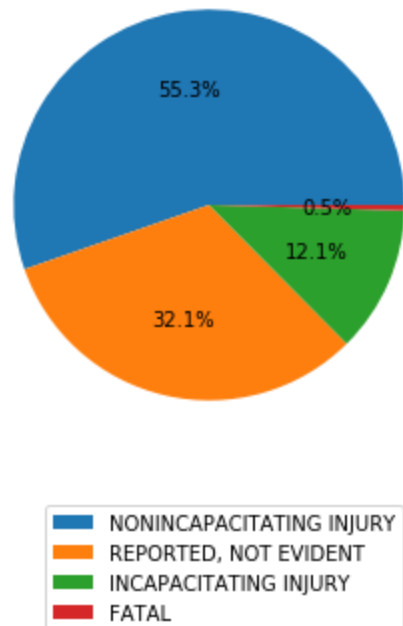




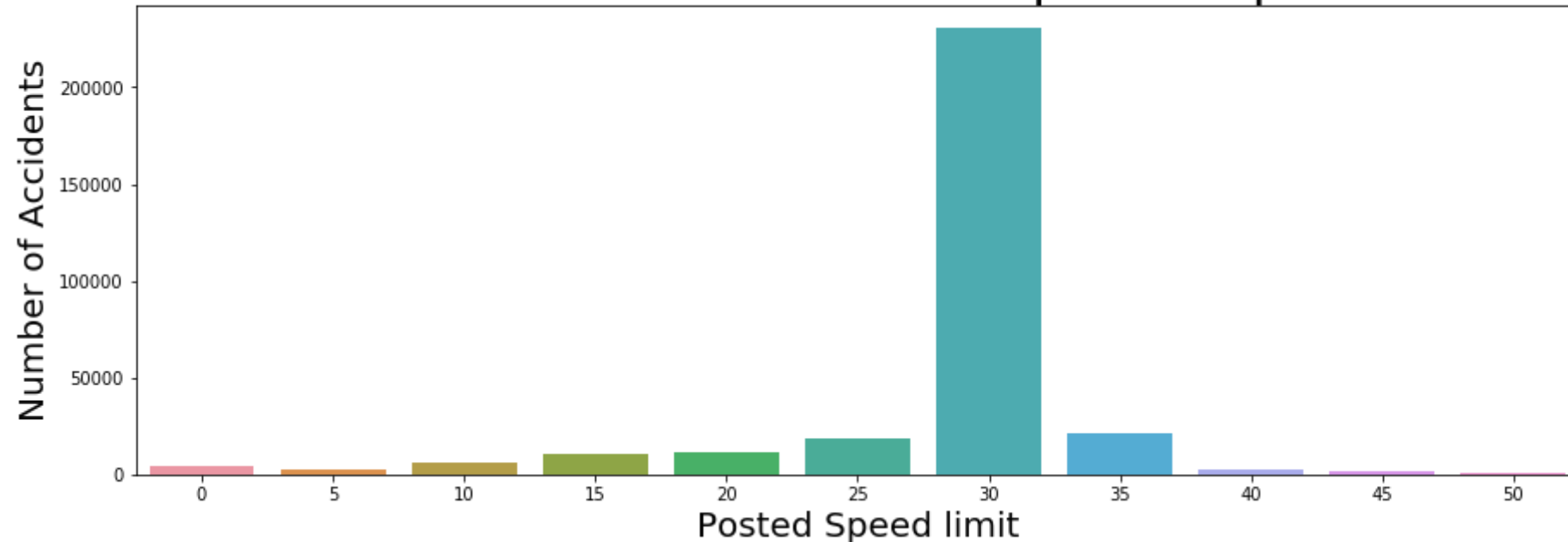
## Key Observations

- Most accidents (about 75%) occur at 30 mph
- Almost 90 % of accidents result in minor injuries whereas 10% result in serious or fatal injuries

Types of injuries

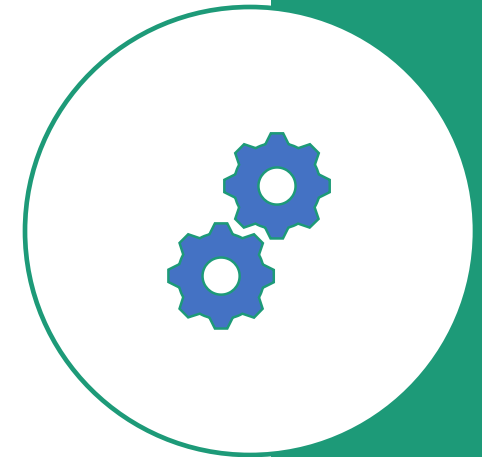


Number of Accidents in various posted speed limit



# Our model

- Our model utilizes 19 key pieces of information from the police report to determine if the injury resulting accident is hit and run .
- It bases its predictions on injury resulting hit and run accident data from the past 7 years.
- It can make predictions with about 85% accuracy.





# Recommendations and Future work

Based on our data we would recommend :

- Higher surveillance to discourage Hit and run cases.
- Roads with posted speed limit of 30mph should have more regulators or policing to make these roads safer .
- Better traffic control devices.

For Future work we would like to focus on

- The top 5 types of accidents as they account for more than 95% of all accidents.
- Section the city into smaller zones to tailor our recommendations by counties or towns.





Thank you!

Questions?