Accident Severity Prediction

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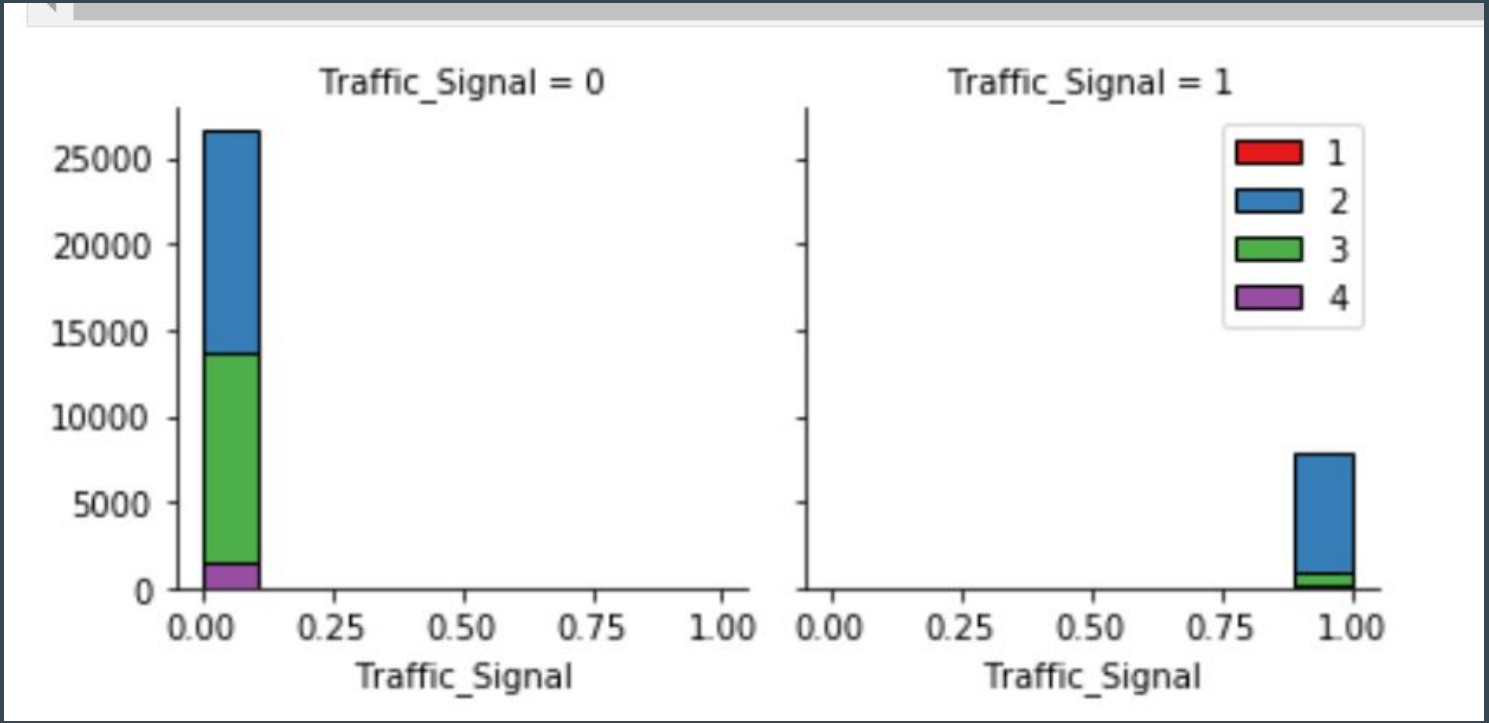
Severity Prediction Prevents Future Accidents..

- Traffic accidents can cause physical as well as financial impacts.
- The factors leading to accidents may involve weather conditions, speeding, road quality etc.
- With the help of Machine learning, we could be able to create a model to predict the severity of the accidents based on the past occurrences, which would help the drivers to be cautious and prevent accidents in the future.

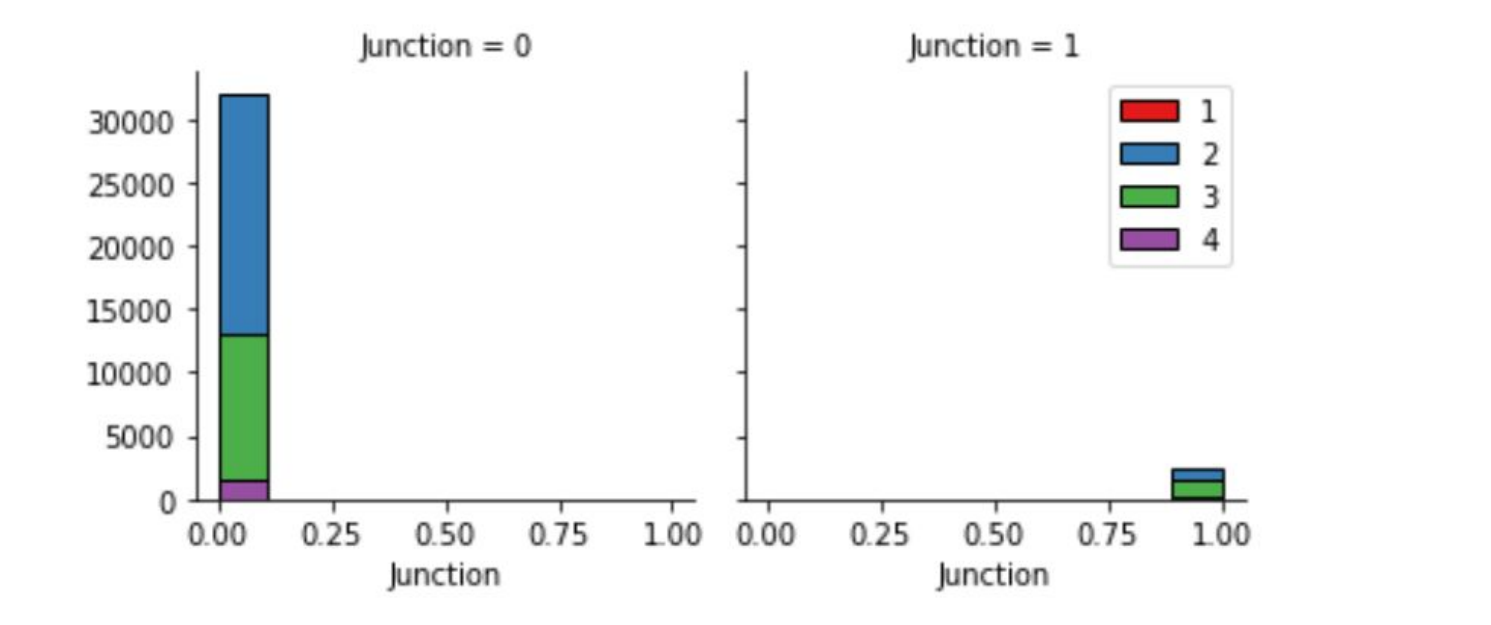
Data Wrangling

- Data set used from Kaggle - https://www.kaggle.com/sobhanmoosavi/us-accidents.
- The details available are from Feb 2016 to June 2020 with 49 features in the raw dataset.
- Null values and the rest were dropped.
- converting categorical variables to quantitative Variables

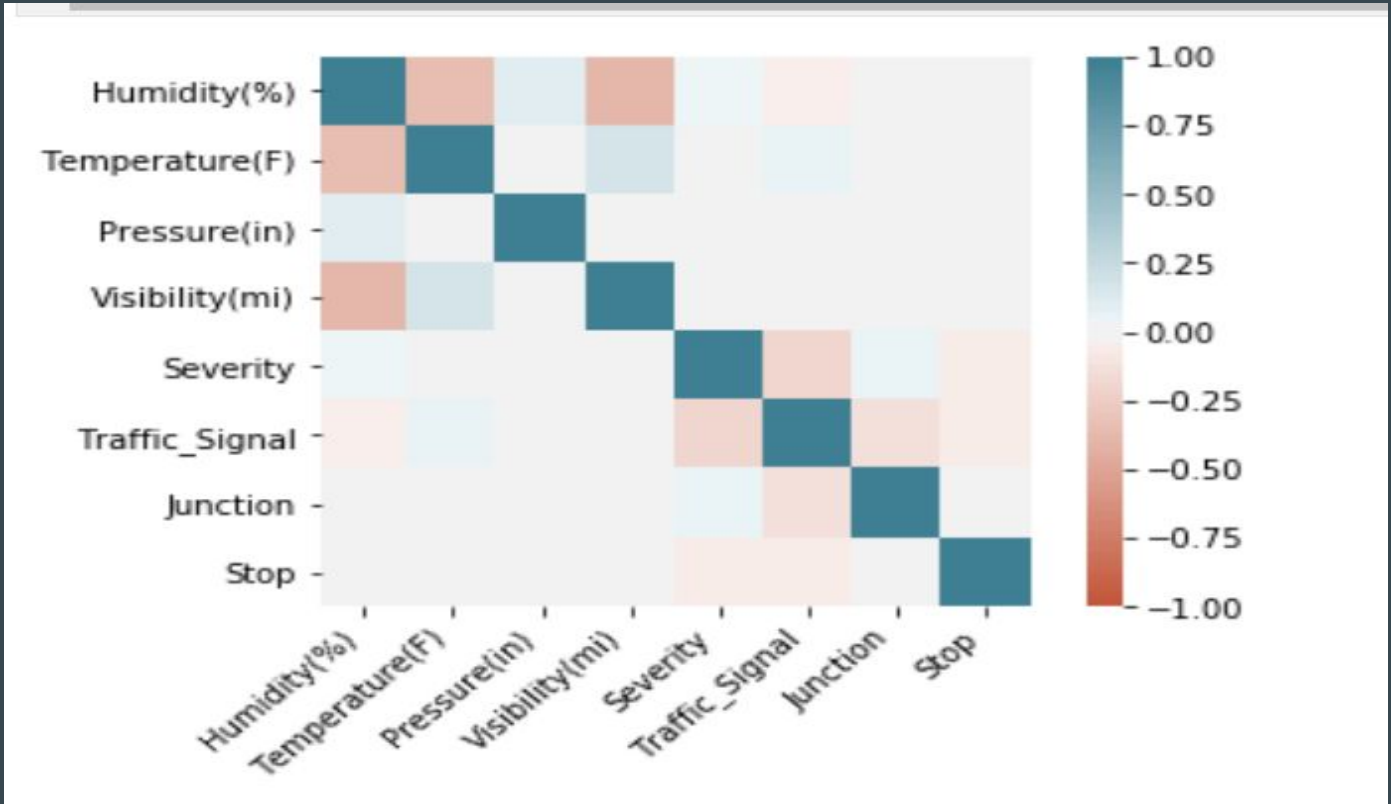
No Traffic Signals.. More Accidents..



No Junctions.. More Accidents..

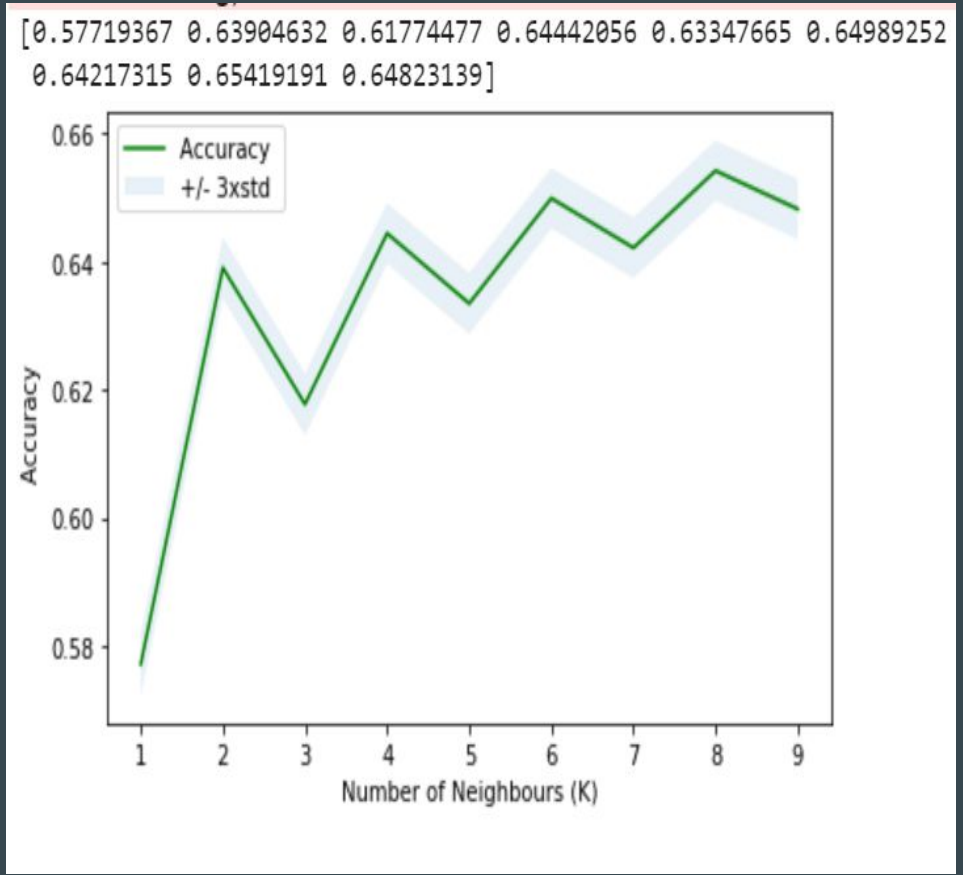


Correlations..



Modelling

- KNN Algorithm
- Features (X)
  - Humidity
  - Temperature
  - Pressure
  - Visibility
  - Traffic Signal
  - Junctions
  - Stop
  - Wind Condition
- Target (y)
  - Severity



Result / Conclusion

- Overall Accuracy 66 %.
- Accuracy of the models has room for improvement.
- Ideas include:
  - Analysing more data & column relationships.
  - Considering more columns like Wind direction etc
  - Performing a load test across different algorithms and with different evaluation metrics.