

A decorative graphic on the left side of the slide consisting of two overlapping parallelograms. The front one is blue and the back one is a light green color. They are positioned diagonally, with the blue one in front of the green one.

Predicting the Severity of Car Accidents

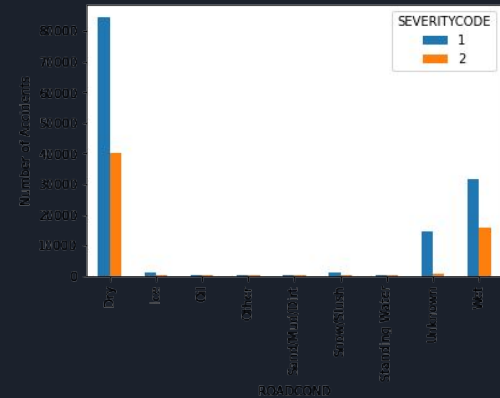
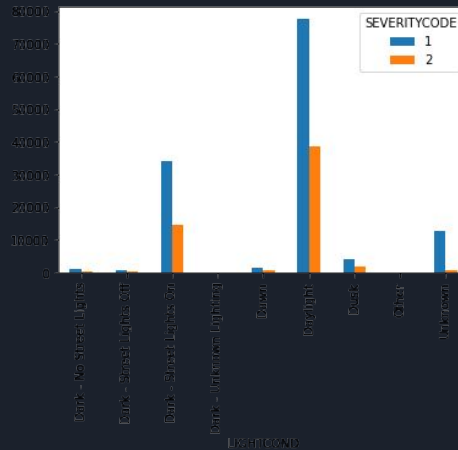
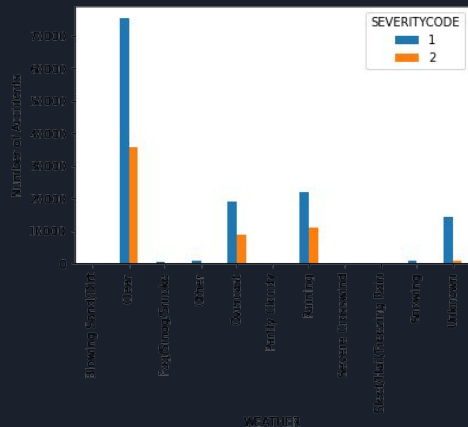
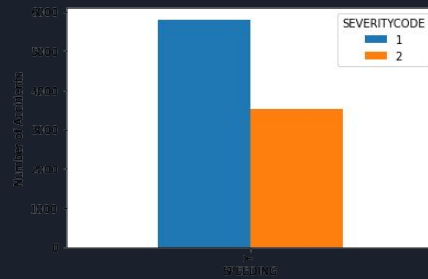
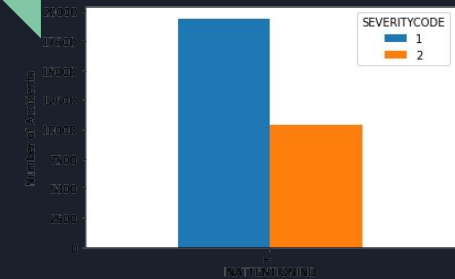
Daniel Torrecampo



Data Acquisition

- Seattle's Department of Transportation
- Over 190,000 recorded accident data
- Includes environmental and behavioral conditions

Data Exploration





Machine Learning Model

- Classifier: Logistic Regression
 - Provides probability of achieving binary state
 - Predicts binary state

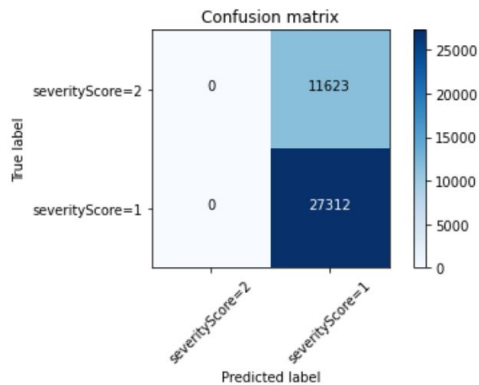
Results

```
from sklearn.metrics import jaccard_score  
jaccard_score(y_test, yhat)
```

0.701476820341595

```
from sklearn.metrics import log_loss  
log_loss(y_test, yhat_prob)
```

0.6931471805599453





Conclusion

The machine learning model needs more development to accurately and reliably predict the severity and probability of accidents based on environmental and behavioral factors. This model would best be served for informational purposes only and should not be used for life threatening situations.