Conclusion

In nowadays, multiple applications can be downloaded to our smartphones that provide reliable weather and traffic information. Surprisingly, with all digital information that is available to us, we still tend to get into accidents. With sufficient knowledge in data science and we have created models that can predict accidents in Utah.

Numerous factors can cause car accidents. The first part of the project was focused on predicting the car accidents impacted by weather conditions: the amount of snow, temperature, visibility, wind, cloud cover, etc. Using several Linear Regression Models, we came to the assumption that the amount of Snow with Cloud Cover has the most significant impact on the number of accidents.

The second part of the projects was provided with Classification Models by predicting accident severity based on outside influencing factors: DUI, distracted driving, driver age, etc. For the accuracy in our predictions we have split the number of accidents into minor and major (binary state). Random Forest Analysis approach has shown more sufficient results.

The importance of predicting accidents, regardless of its influence factors, based on good data collection and the best-fitted machine learning models. We have concluded, that more accurate machine learning models can lead to fewer accidents in the long run.