

# SEVERITY COLLISION

## INTRODUCTION

### Bussiness problem

Find out if there is any factor or combination of factors that imply the severity of an accident, which we classify as injury to person or damage only to the car.

### Stakeholder

The interested party is a US auto insurance company, which is GEICO.



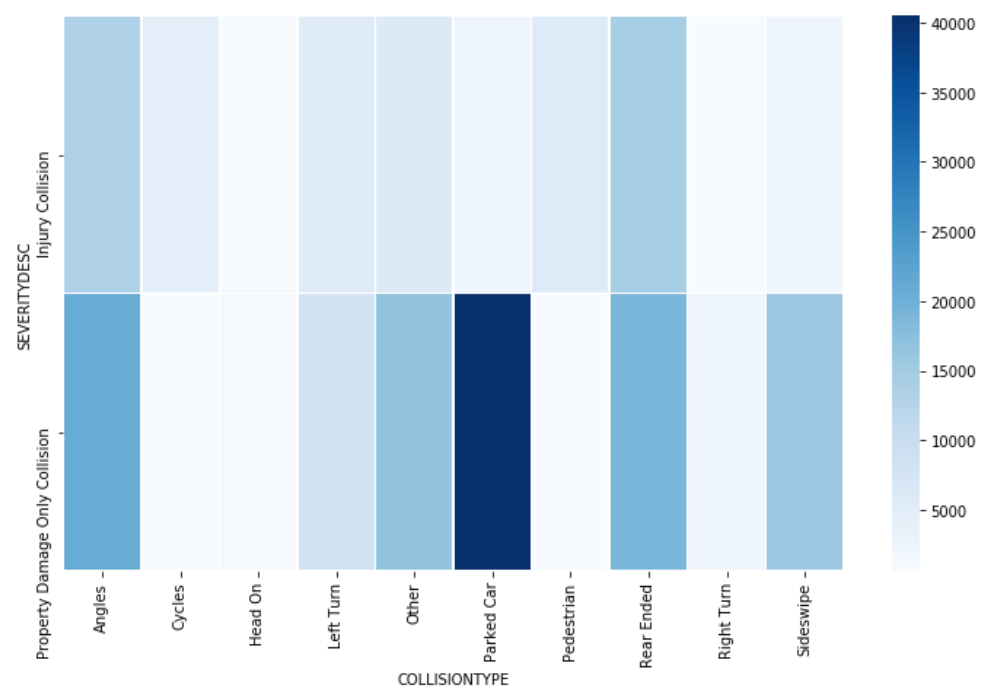
## DATA

The database that we have is the one that was provided to us in the course, it involves more than 100,000 data from western San Francisco, which has data on climate, luminosity, soil conditions, etc.

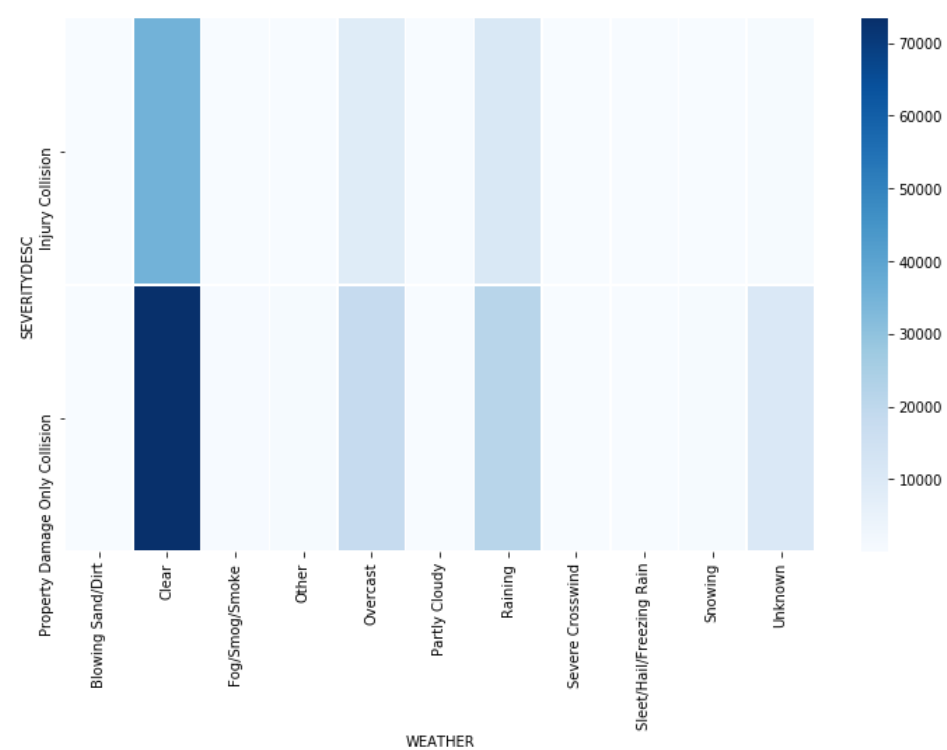
## METHODOLOGY

After a thorough exploratory data analysis, the following was found:

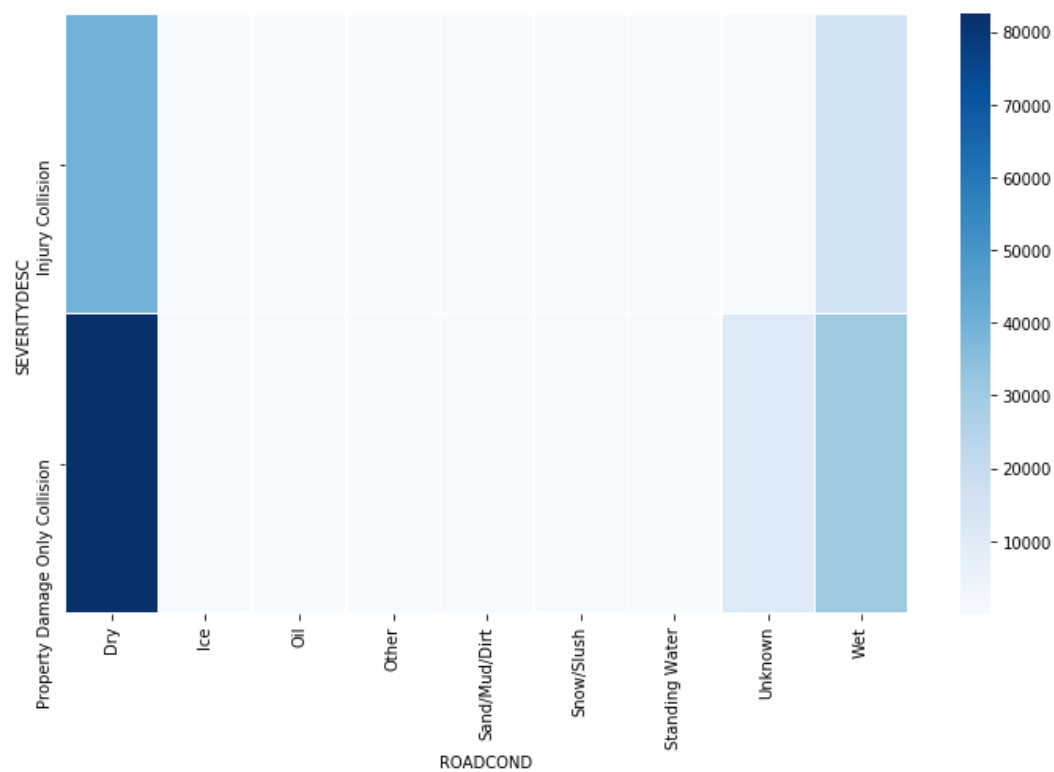
When the collision is against a parked car, in 90% of the cases it represents damage only to the vehicle.



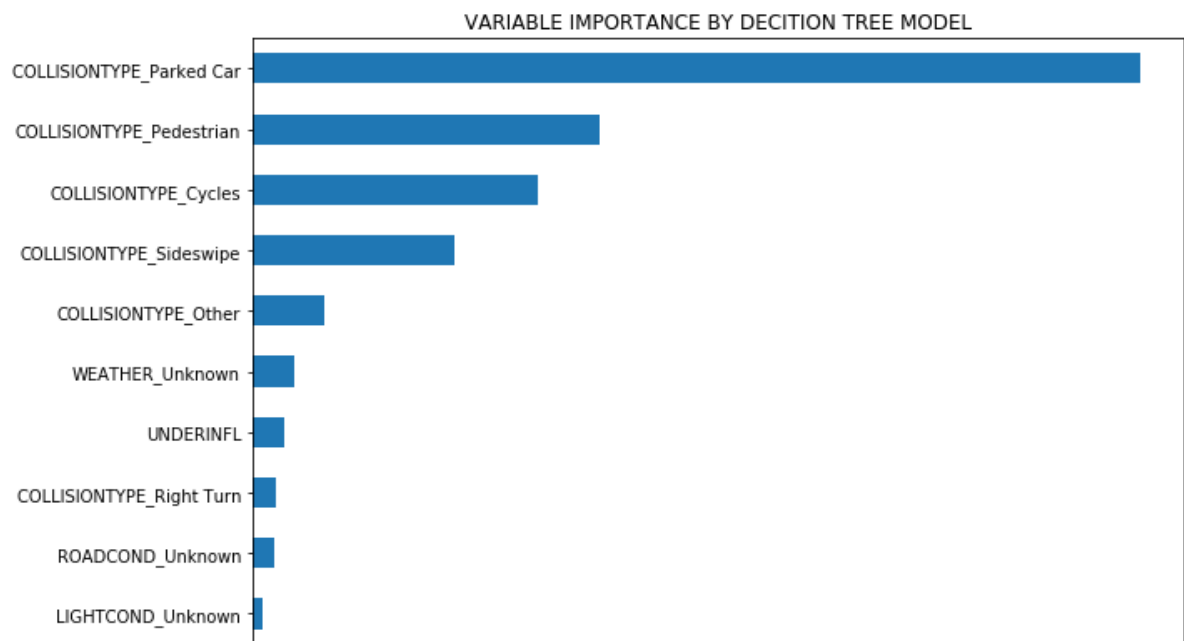
At least in this region of the world, bad weather was not a relevant factor, and it is even appreciated that most of the accidents took place on a clear day.



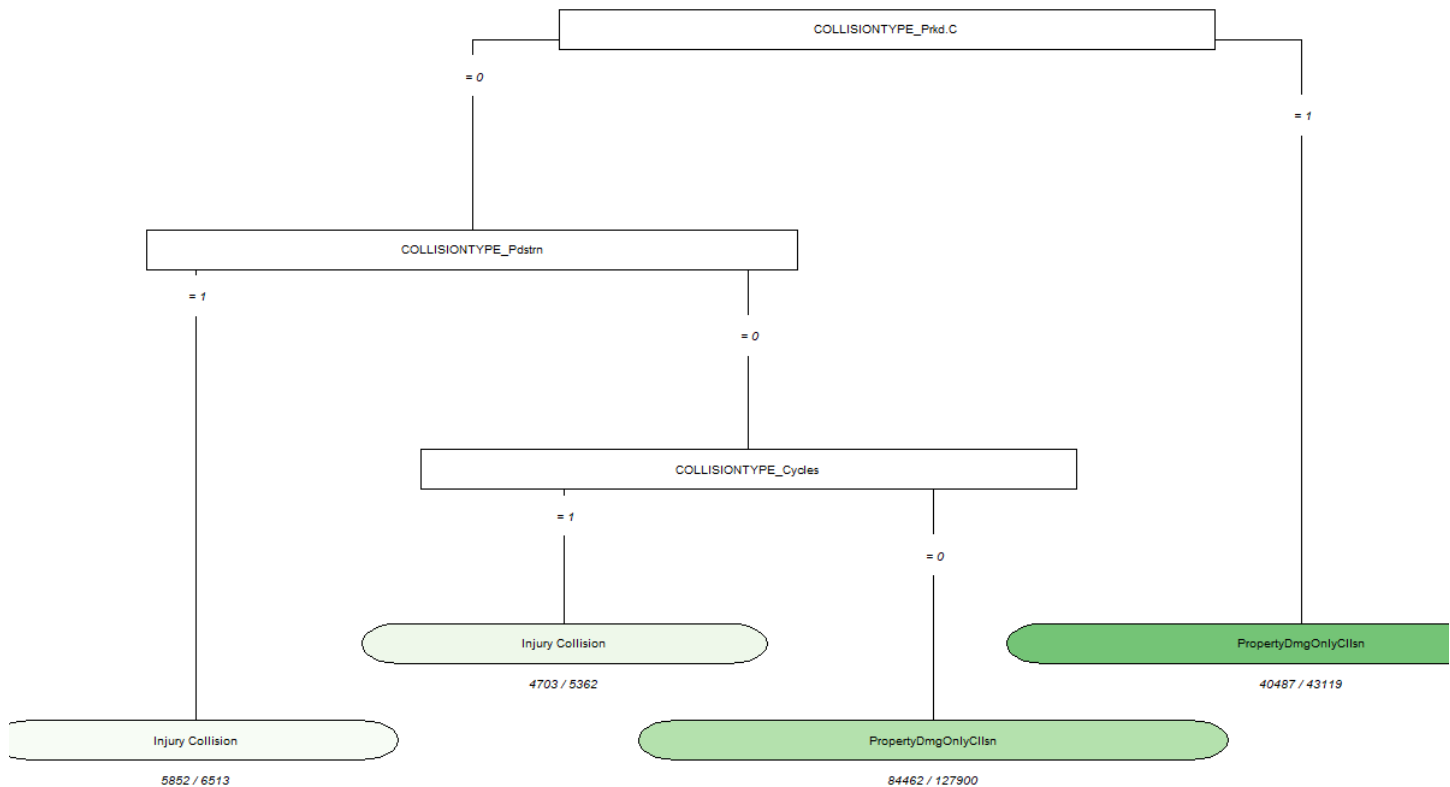
It is also not appreciated that there has been an effect due to road conditions since most of the data are presented on dry roads.



All the variables were put into a decision tree to see which are the most significant, and this was what was obtained:



Finally, the decision tree was visualized to see in which scenario one type of severity is obtained and that another scenario presents the other type of severity.



## RESULTS

- What it tells us is that for a collision with damage only to the vehicle, it occurs with parked cars.
- On the other hand, if the collision was against a pedestrian, logically you damage the pedestrian.

## DISCUSSION

We have a good discovery, as there are a large number of cases in which the collision was against a parked car and this implied damage to the vehicle, then a special offer could be generated for these cases and even generate advertising focused on this type of cases with the objective of winning the market.

## CONCLUSIONS

To be a project that must be generated in a short time, at least one market opportunity was found that would help auto insurers to continue growing.