

# Severity of a traffic accident

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A dark blue diagonal gradient bar that starts from the bottom left and extends towards the top right, covering the lower half of the slide.

# Introduction

Traffic accidents are one of the most lethal reasons of death around the world, every year hundreds of lives are affected by a traffic accident which can be totally meaningless or absolutely fatal.

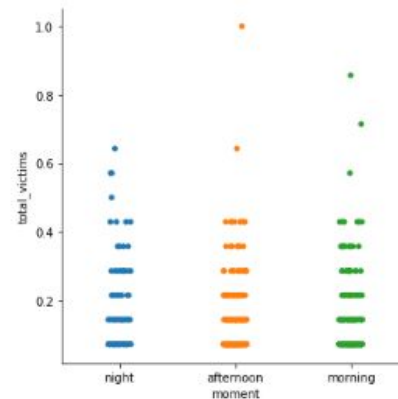
On this project we'll develop a model which based on the different conditions present on the moment of the accident, can predict the amount of victims (injuries and deaths).

# Data

The dataset used is the "Accidents de trànsit amb morts o ferits greus a Catalunya", open source dataset from Catalunya's government with the information about all the traffic accidents in Catalunya between 2010 and 2020.

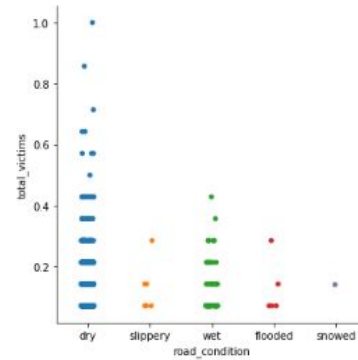
<https://analisi.transparenciacatalunya.cat/Transport/Accidents-de-tr-nsit-amb-morts-o-ferits-greus-a-Ca/rmgc-ncpb>

# Analysis



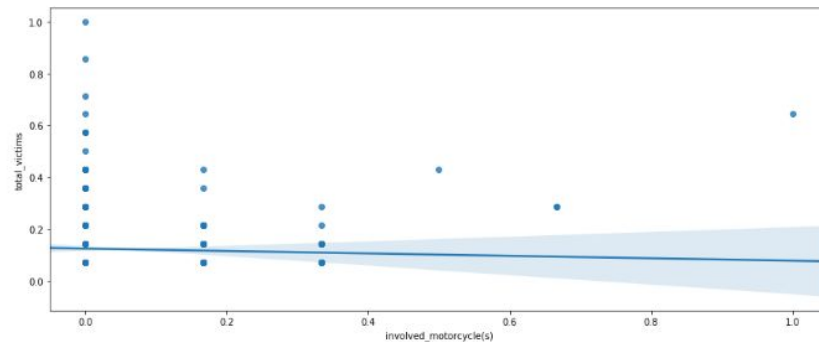
- Variables with no correlation with the target have good ANOVA performance.
- Almost the same amount of victims with the three values, with some noise on the high values of the target.

# Analysis



- Variables with good correlation with the target, some values show more influence over the target than others.

# Analysis



- Numerical values don't always have a linear model present.
- On this case, it is linear with some noise, especially at the high values of x.

# Model

- It was used a multiple linear regression model.
- The predictor variables were selected from the most relevant (dispaired) variables determined on the visual analysis.
- Evaluated with MSE : 0.0074

# Conclusions

- The most relevant variables in order to predict the severity of a traffic accident are the ones related to the weather and the status of the road.
- The amount and type of units involved on the accident are not so correlated as they seem to be.
- Good climatic conditions present more severe traffic accidents.
- There is no big difference on the accidents occurred on work days and the ones occurred on weekends.