# DataQuest 2018

## Road Safety

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# Problem Statement

We have to come up with a predictive model which, using features related to accident, can be used to measure the criticality of the accident, such that the insights gained from the model can be used to make data-driven decisions to improve road safety in Dehradun, and with some modifications, hopefully in other areas as well.

# What are we supposed to do ?

The patterns hidden inside the data can be used to make better decisions and improve road safety. We have to use data of accidents that took place in the city of Dehradun, in order to come up with actionable insights and suggestions.

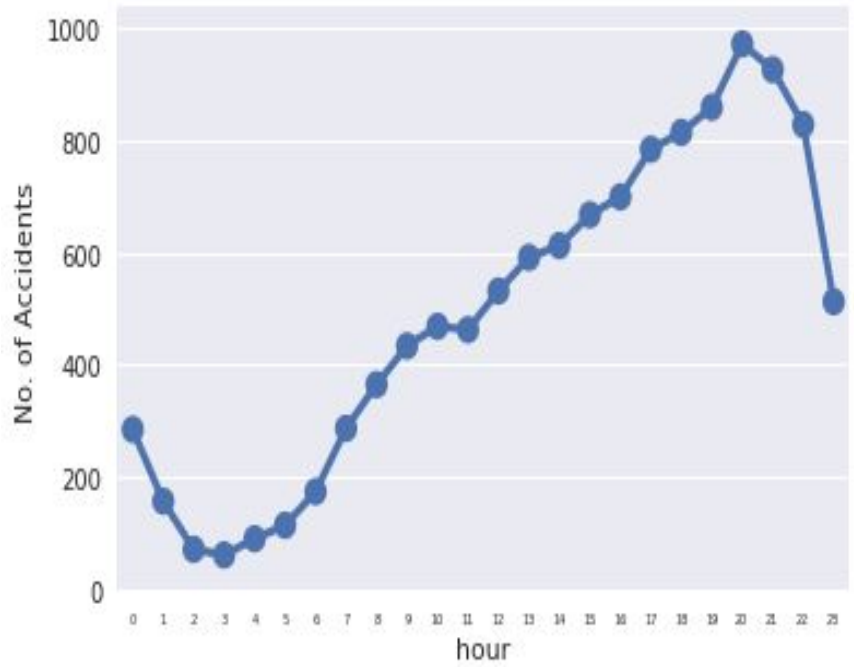
# How to increase the road safety ?

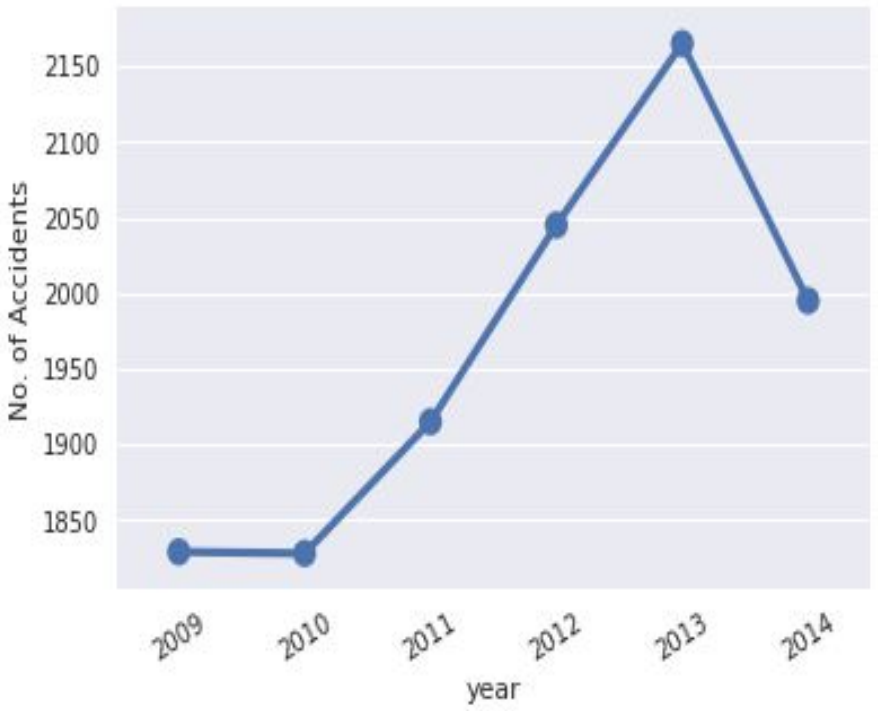
Identify the factors that majorly affect the occurence of an accident and design safety norms giving those factors priority.

# Strategy

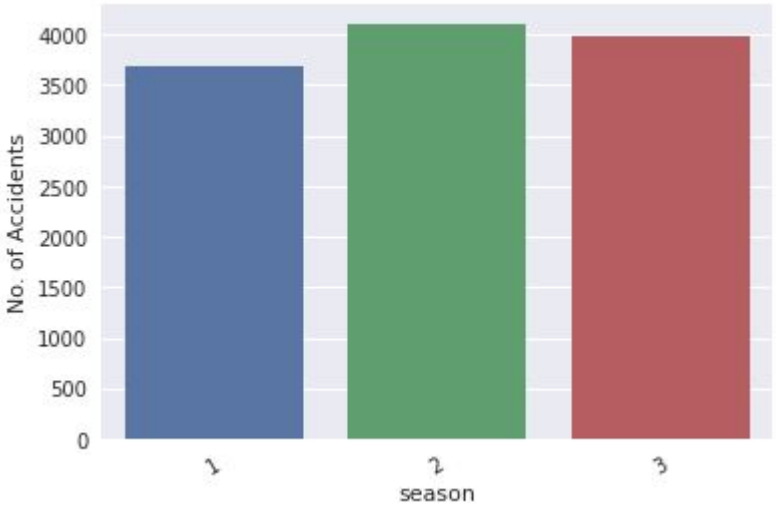
- Data Wrangling:
  - Extracting month and year to analyse monthly and yearly patterns
  - Extracting hour and weekday to analyse hourly variations
- Feature Engineering:
  - Created features to extract seasonal dependence.
- Analyze, Identify Patterns, and Explore the Data.
- Forward Selection
- Model, predict and solve the problem.

# Variation of Accidents with Time



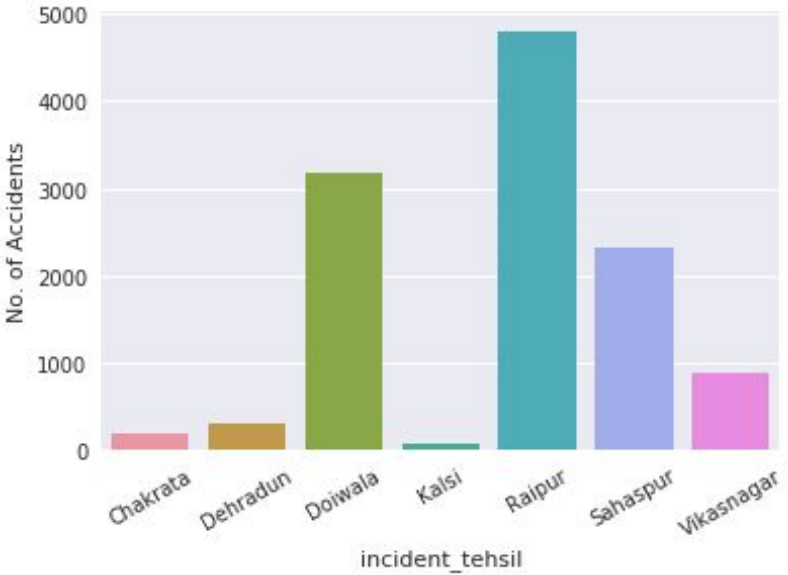
# Variation of accidents with season

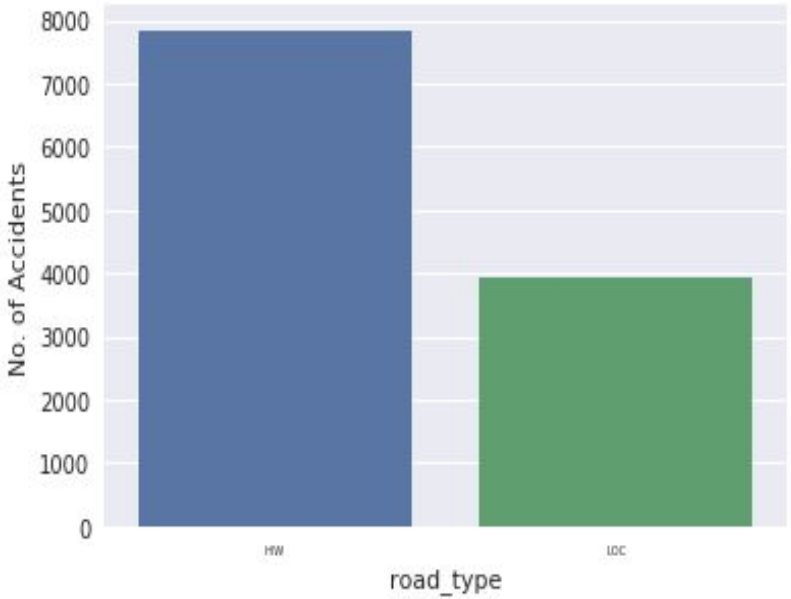




Source : Government Tourism Data

# Variation of accidents with other factors



# Ideas for further Improvement

- Including features which can be determined before accident
- Scope for better data (weather, road, satellite images etc).
- Developing a cognitive environment for Traffic Police which can locate accident prone areas, so that resources can be utilised more efficiently

Thank You