

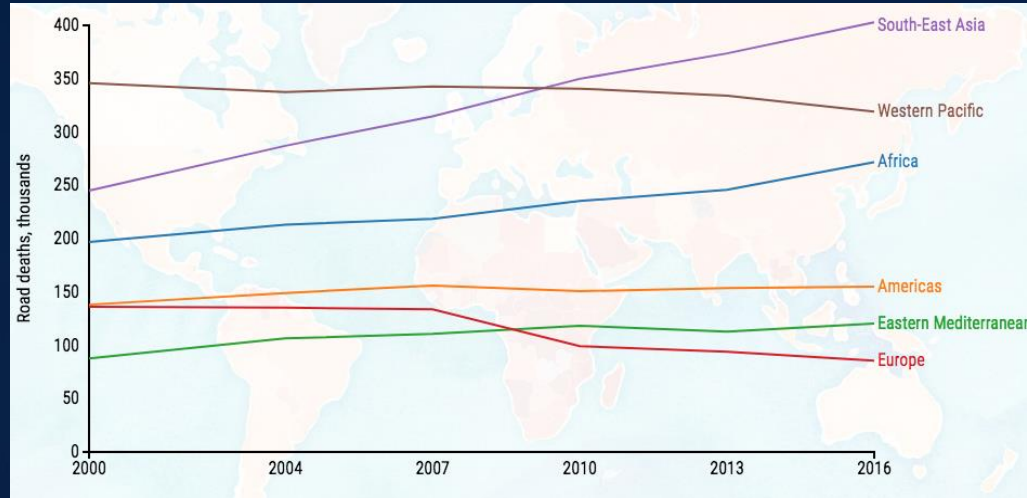


Car Accident Severity Forecasting

Data Mining Project

Leonardo Turchetti

CAR ACCIDENT'S PROBLEM



- 1.35 million people die each year as a result of road traffic crashes.
- Road traffic crashes cost most countries 3% of their Gross Domestic Product.
- Road traffic injuries are the leading cause of death for children and young adults.

IMPORTANCE OF FORECASTING

Why **Forecasting** is importance?



- This effort will benefit the responsible authorities in black spot improvement and road safety to prevent or reduce any damages caused by accidents
- Accurate predictions can provide information for emergency responders to evaluate and estimate the potential impacts and implements efficient accidents management procedures



DATA COLLECTION



DATASET

Coordinate

Information about the time and spatial coordinates



Geography

Information about some geographical parameters of the accident area



Weather

Information about the different type of weather and some weather parameter



Boolean parameters

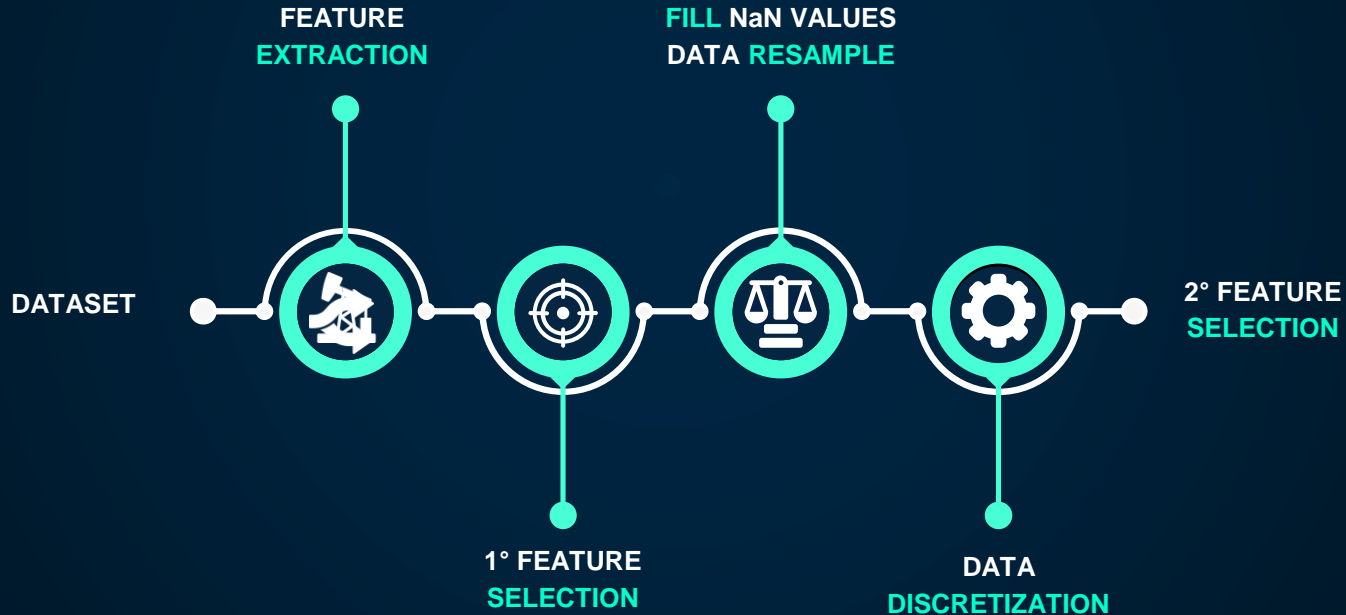
Information about the presence or not presence of some element near the accident area



PRE-PROCESSING



ROADMAP PRE-PROCESSING



FEATURE EXTRACTION

Start_Lat
Start_Lng
End_Lat
End_Lng
Start_Time
End_Time



Lat_Diff
Lng_Diff

Time_Diff_Minuti

1° FEATURE SELECTION

STEP 1



Selecting Features
logically correlated to
the **Severity**

STEP 2

Filtering of the **Boolean**
Feature

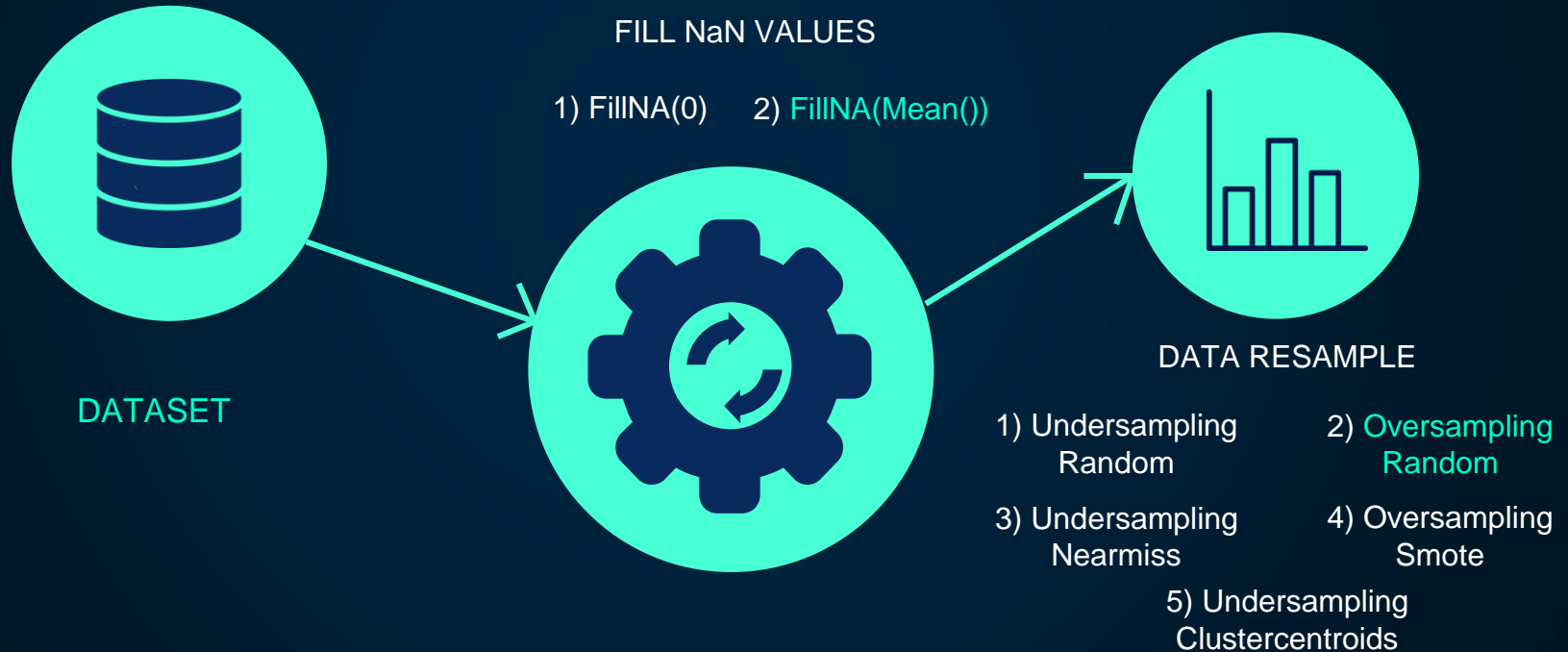


STEP 3

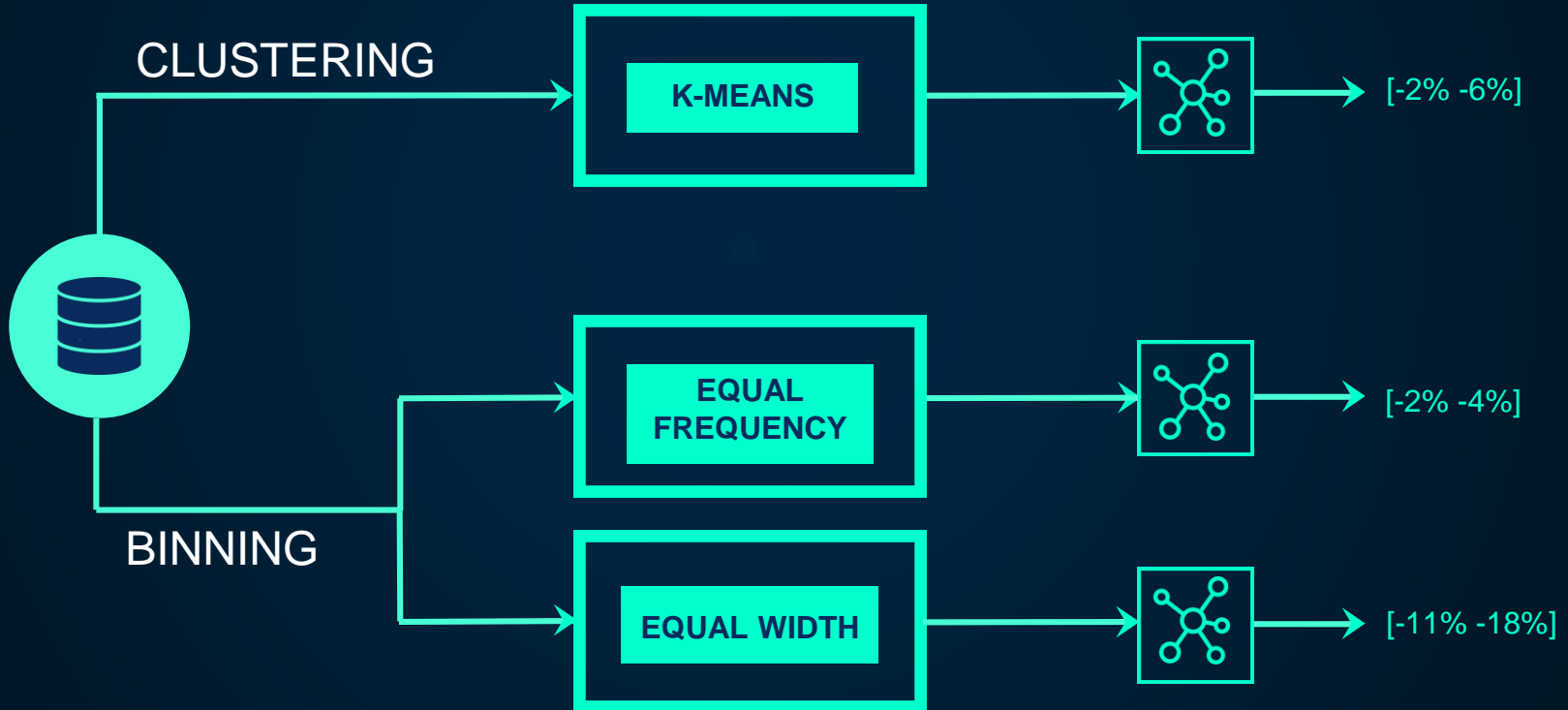


Divide the Dataset in
Features and **Target**

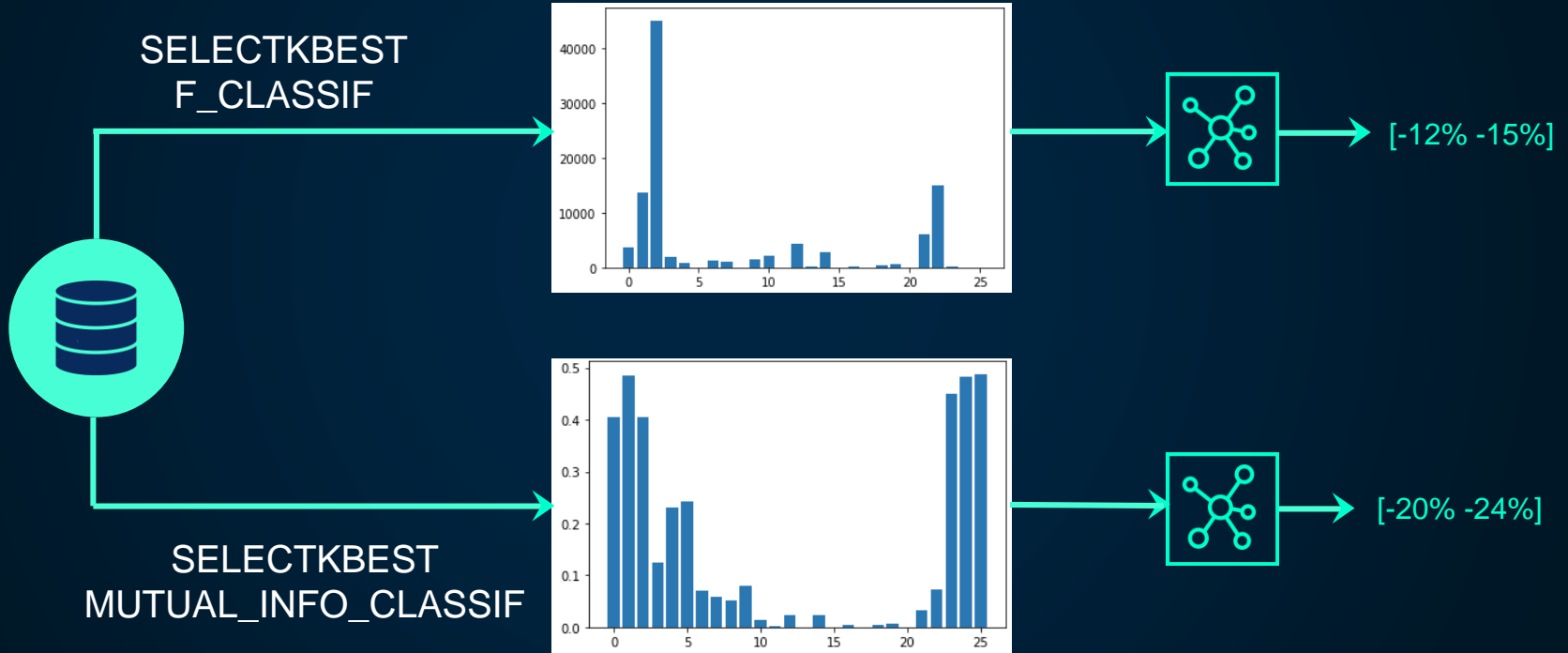
FILL NaN VALUES/DATA RESAMPLE



DATA DISCRETIZATION



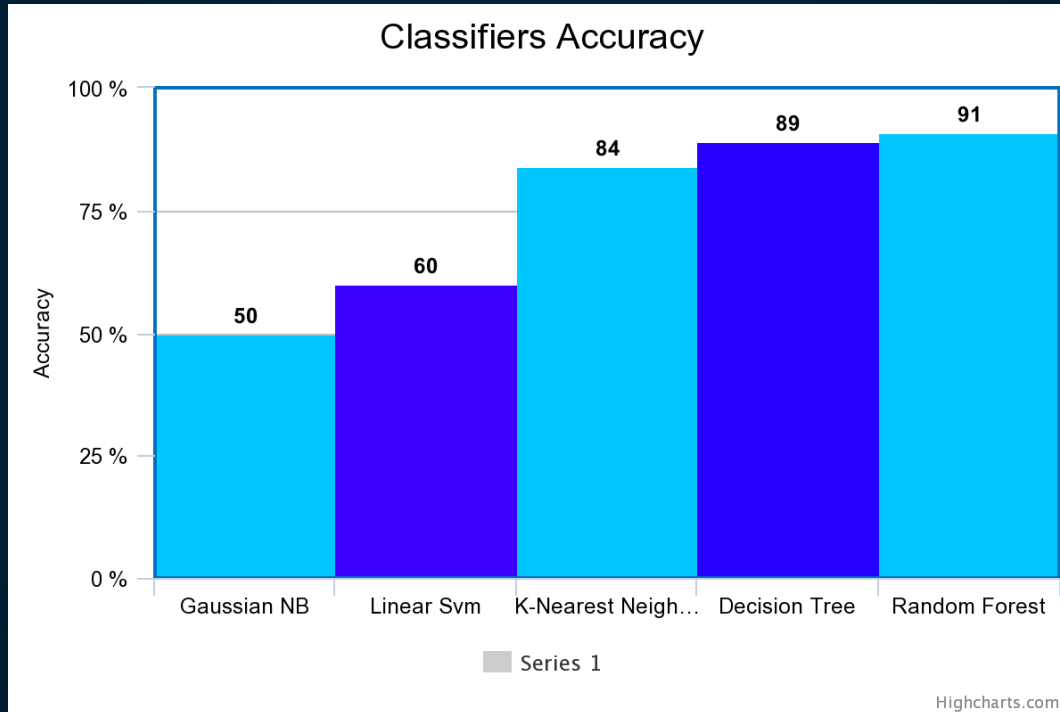
2° FEATURE SELECTION



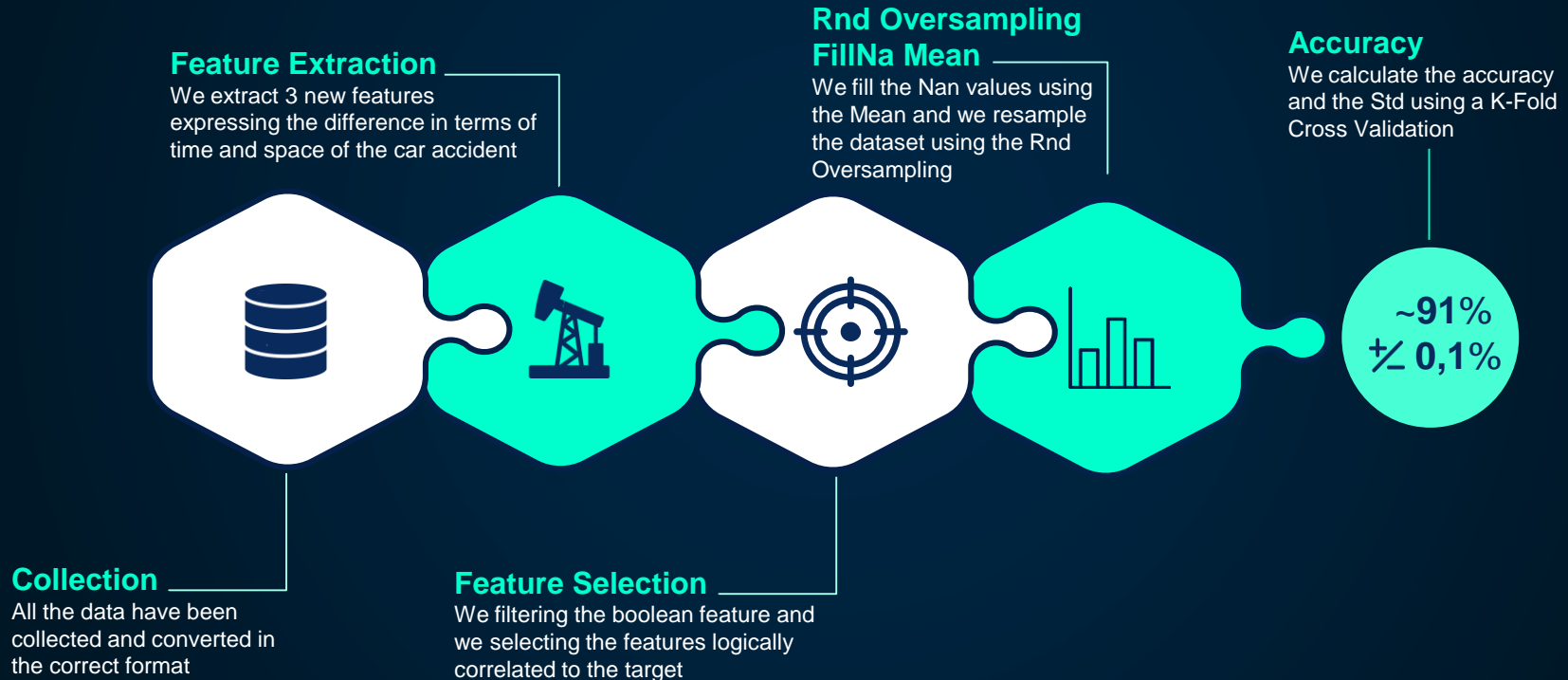
TRAINING



CLASSIFIERS



BEST MODEL ACCURACY



APPLICATION



APPLICATION FLOW

APPLICATION
START



FILE
SELECTION



CLASSIFICATION



APPLICATION
OUTPUT





THANK YOU

Any Question?

Leonardo Turchetti