

Car accident analysis

Every year the lives of approximately 1.35 million people are cut short as a result of a road traffic crash. Between 20 and 50 million more people suffer non-fatal injuries, with many incurring a disability as a result of their injury.

Road traffic injuries cause considerable economic losses to individuals, their families, and to nations as a whole. These losses arise from the cost of treatment as well as lost productivity for those killed or disabled by their injuries, and for family members who need to take time off work or school to care for the injured. Road traffic crashes cost most countries 3% of their gross domestic product.

Problem Statement

Predicting the severity of an accident taking various attributes like weather, road condition, time, etc into consideration

Data Description

The dataset used for this project is based on car accidents which have taken place within France from the year 2005 to 2016. This data is regarding the severity of each car accidents along with the time and conditions under which each accident occurred.

Our Aim is to predict the severity of an accident, considering that, the variable of Severity Code was in the form of integers like 0's,1's and 2's.

You can download the data from the given link below

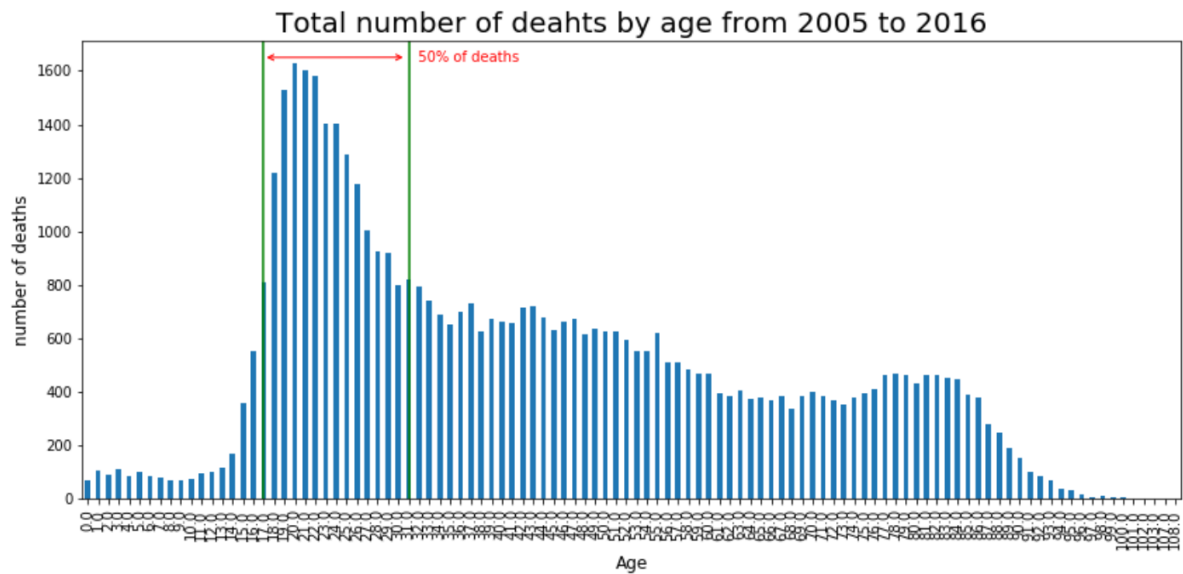
<https://www.kaggle.com/ahmedlahlou/accidents-in-france-from-2005-to-2016>

Check the code in GitHub

Insight into Data:

	ID	year	month	day	time	lum	agg	int	atm	col	...	road_num	traf_reg	num_lanes	res_lane	long_prof	shape	surf
0	2016000000001	16	2	1	1445	1	2	1	8.0	3.0	...	39	2.0	0.0	0.0	1.0	3.0	1.0
1	2016000000002	16	3	16	1800	1	2	6	1.0	6.0	...	39	1.0	0.0	0.0	1.0	2.0	1.0
2	2016000000003	16	7	13	1900	1	1	1	1.0	6.0	...	1	2.0	2.0	0.0	1.0	3.0	2.0
3	2016000000004	16	8	15	1930	2	2	1	7.0	3.0	...	0	2.0	0.0	0.0	1.0	1.0	1.0
4	2016000000005	16	12	23	1100	1	2	3	1.0	3.0	...	0	0.0	0.0	0.0	0.0	1.0	1.0

No. of deaths from 2005 to 2016



Modified Data.csv

	ID	time	lum	agg	int	atm	col	lat	long	dep	...	situation	school	crit_age	ped	dead_age	num_us	sev	date	weekend
0	2016000000001	14.0	1	2	1	8.0	3.0	0.0	0	590	...	1.0	0.0	0	0	0	2	1	2016-02-01	0
1	2016000000002	18.0	1	2	6	1.0	6.0	0.0	0	590	...	1.0	0.0	0	0	0	3	1	2016-03-16	0
2	2016000000003	19.0	1	1	1	1.0	6.0	0.0	0	590	...	3.0	99.0	1	1	0	2	1	2016-07-13	0
3	2016000000004	19.0	2	2	1	7.0	3.0	0.0	0	590	...	1.0	99.0	1	0	0	3	1	2016-08-15	0
4	2016000000005	11.0	1	2	3	1.0	3.0	0.0	0	590	...	1.0	3.0	0	0	0	3	1	2016-12-23	0
5	2016000000006	11.0	1	2	1	7.0	6.0	0.0	0	590	...	1.0	99.0	0	1	0	2	1	2016-12-23	0
6	2016000000007	11.0	1	2	1	7.0	2.0	0.0	0	590	...	1.0	99.0	0	0	0	3	0	2016-05-01	1
7	2016000000008	19.0	2	1	1	1.0	1.0	0.0	0	590	...	1.0	0.0	0	0	0	3	1	2016-05-14	1
8	2016000000009	19.0	1	2	1	1.0	3.0	0.0	0	590	...	1.0	99.0	0	0	0	2	1	2016-09-23	0

Jaccard evaluation

Time taken : 228.38241386413574

Jaccard : 0.6653809294213587

	precision	recall	f1-score	support
0	0.67	0.79	0.73	94297
1	0.65	0.51	0.57	73700
accuracy			0.67	167997
macro avg	0.66	0.65	0.65	167997
weighted avg	0.66	0.67	0.66	167997