



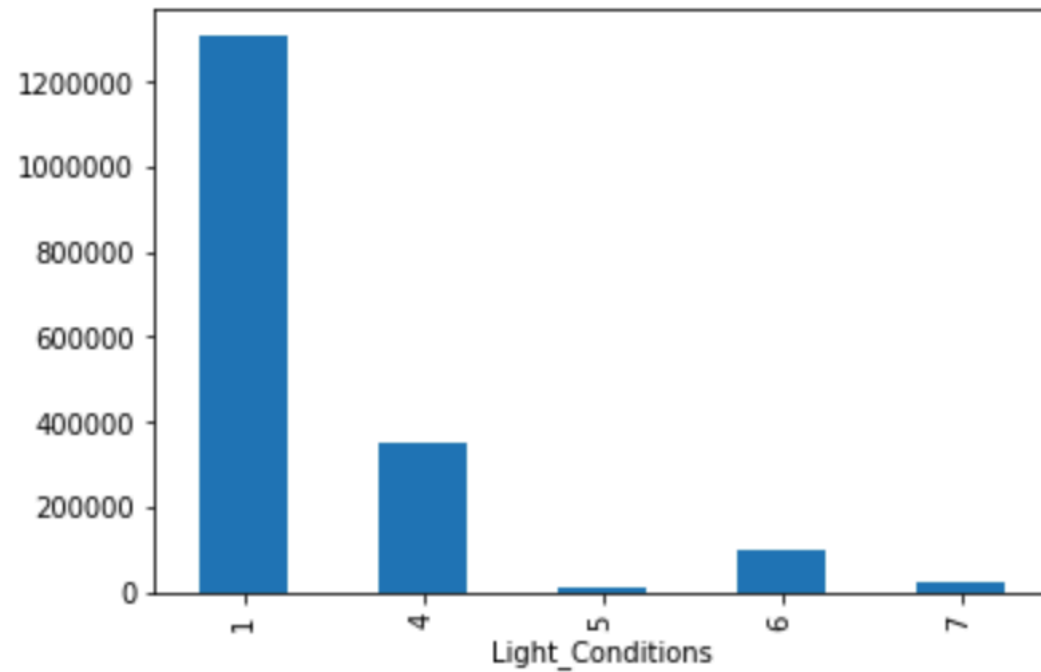
A BRIEF ANALYZE OF THE CAUSES OF CAR ACCIDENTS IN THE UK FROM 2010-2015

COURSERA CASPSTONE PROJECT'S PRESENTATION



THE DATASET I USED

- UK Car Accidents 2005-2015 - Kaggle
- <https://www.kaggle.com/silicon99/dft-accident-data?select=Accidents0515.csv>
- The original data are come from UK Department for Transport



1: Daylight

4: Darkness - Lights Lit

5: Darkness - Lights Unlit

6: Darkness - No Litting

7: Darkness - Litting Unknown

LIGHT CONDITIONS

1: Roundabout

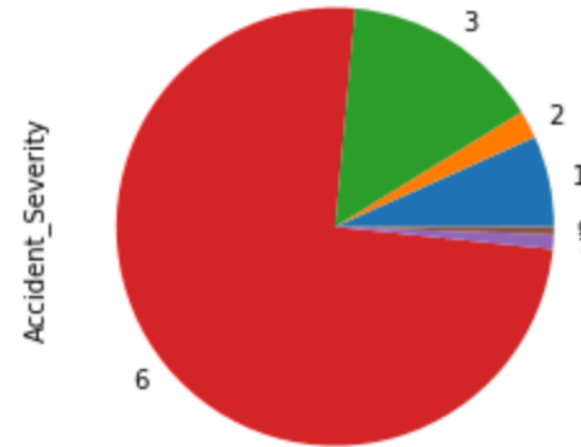
2: One way street

3: Dual carriageway

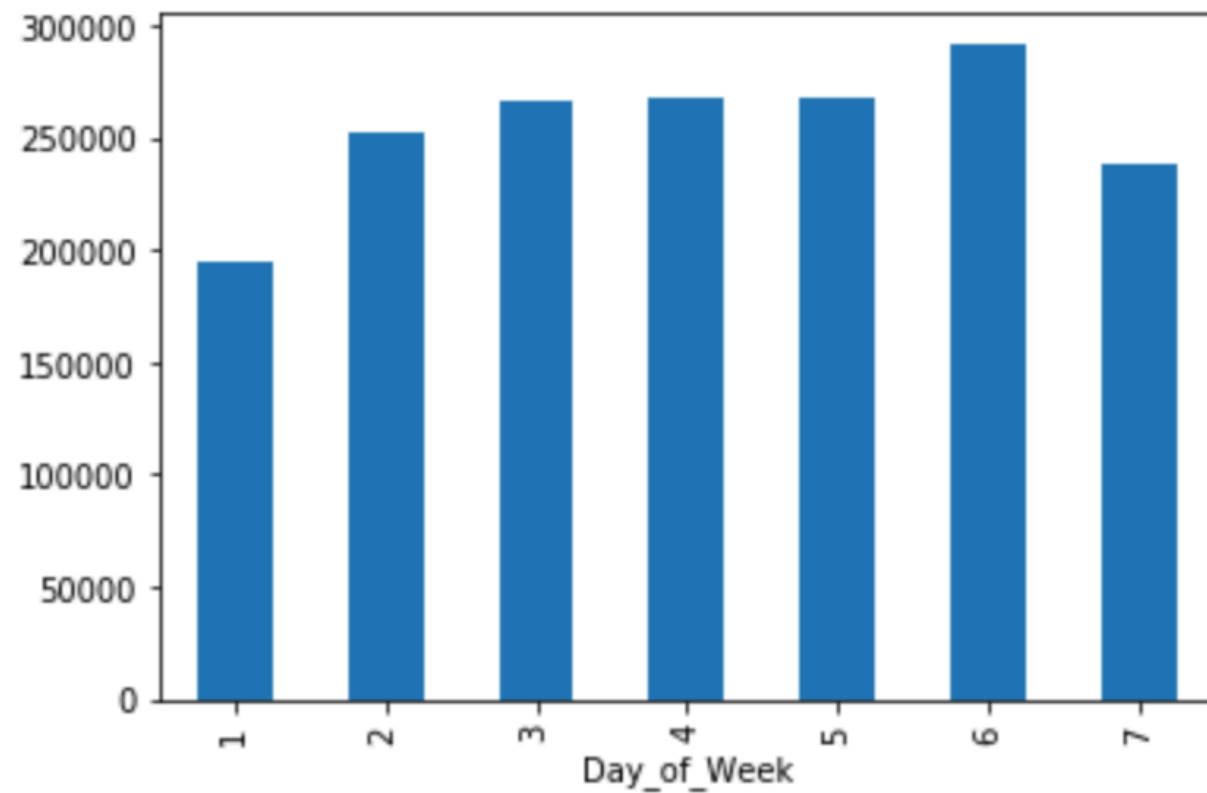
6: Single carriageway

7: Slip road

9: Unknown

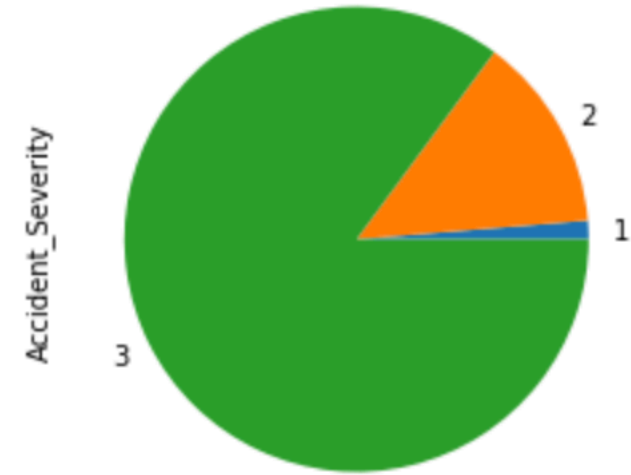


ROAD TYPE



DAY OF WEEK

ACCIDENT SEVERITY

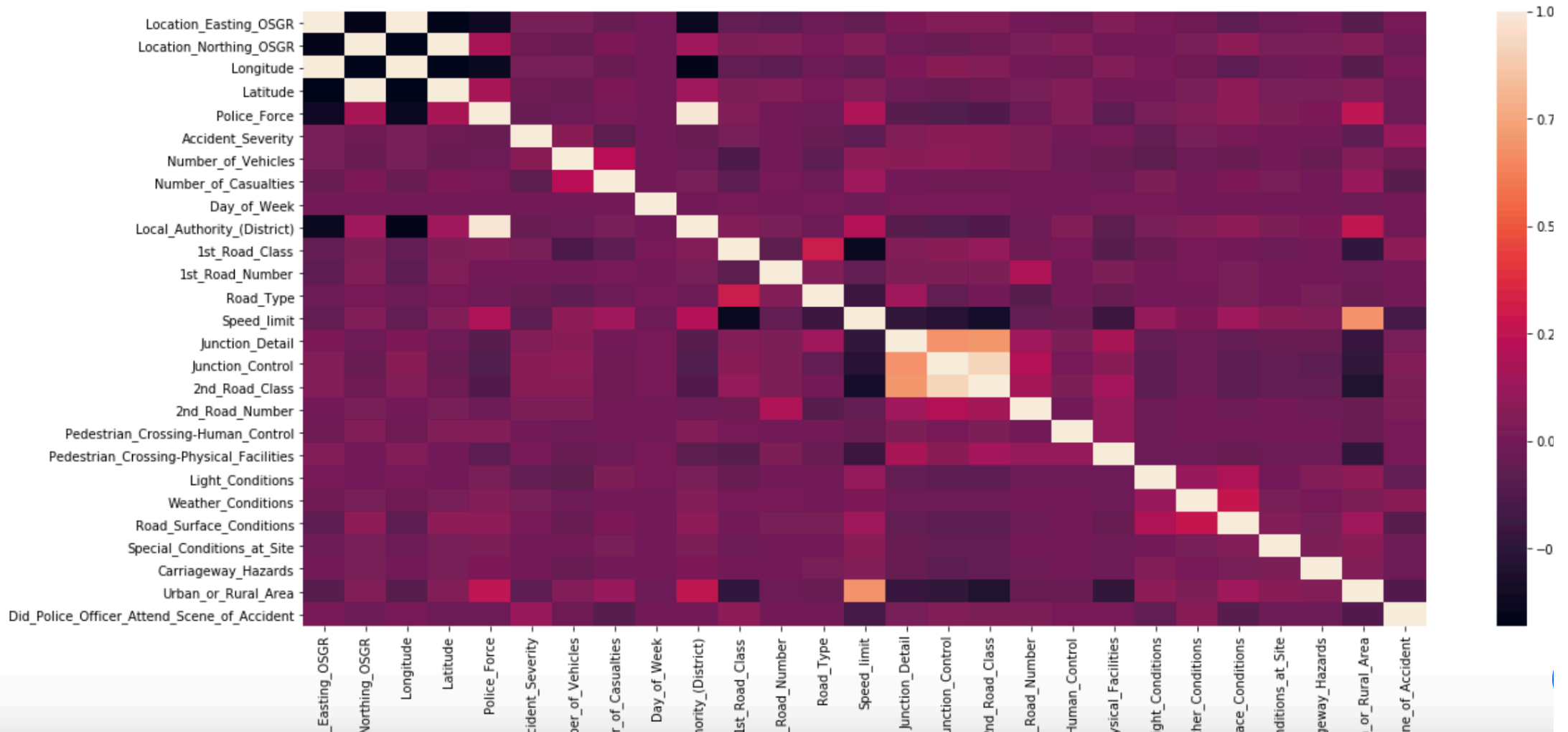


1: Fatal

2: Serious

3: Slight

CORRELATION



LOGISTIC REGRESSION

Accuracy 85.21

	precision	recall	f1-score	support
1	0.000000	0.000000	0.000000	4570
2	0.000000	0.000000	0.000000	48084
3	0.852150	1.000000	0.920174	303477
micro avg	0.852150	0.852150	0.852150	356131
macro avg	0.284050	0.333333	0.306725	356131
weighted avg	0.726159	0.852150	0.784126	356131

Out[43]:

Predicted	3	All
Actual		
1	4570	4570
2	48084	48084
3	303477	303477
All	356131	356131

Accuracy 85.01

	precision	recall	f1-score	support
1	0.018868	0.000438	0.000855	4570
2	0.177840	0.003972	0.007771	48084
3	0.852354	0.996926	0.918989	303477
micro avg	0.850072	0.850072	0.850072	356131
macro avg	0.349687	0.333778	0.309205	356131
weighted avg	0.750587	0.850072	0.784176	356131

Out[44]:

Predicted	1	2	3	All
Actual				
1	2	27	4541	4570
2	27	191	47866	48084
3	77	856	302544	303477
All	106	1074	354951	356131

DECISION TREE

RESULTS

- The major part of accidents happened in daytime.
- A good light condition could avoid a car accident in most cases.
- The amount of car accidents is bigger on single carriageway.
- The accidents happened on Saturday is more than the weekday-accidents.
- The accident happened on Monday is the least.
- During the correlation analyse, the variables' correlation are not obvious, which might shows that the factors caused an accident might be very complicated.

RECOMMENDATION

- A driver should create a better light condition when he have to drive in night-time.
- Government could create more sign on some single carriageways.
- Some rest before driving is very important.



THANK YOU!