

Car Accidents Severity

Introduction:

Urbanization is the major reason for increasing in number of vehicles on road. In this timely world everyone is in their own thought and hurry which are leading to road accidents. There are many factors leading to accidents. It depends on weather, road condition, vehicle condition, driver condition and many other factors. The main aim of our project is to reduce the car accidents.

Here we deal with the dataset which has been recorded by Seattle traffic management division since 2004 in Seattle. This data includes the types of collisions occurred, and all the necessary data.

We make a report on the factors leading to accidents and what can be done to reduce these accidents.

Dataset:

Seattle traffic management division has recorded the data of accidents which occurred since 2004, which includes many factors. We consider the following factors which determine the major accidents type.

Weather, road condition, vehicle condition, driver condition, Light condition, pedestrians, Junction are important to determine the accident in the dataset.

Firstly, to analyze the data we have imported data in CSV format into IBM Watson Studio.

```
In [10]: import itertools
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
from matplotlib.ticker import NullFormatter
import matplotlib.ticker as ticker
from sklearn import preprocessing
import matplotlib inline
```

```
In [12]: import types
import pandas as pd
from botocore.client import Config
import boto3

def __iter__(self): return 0

# @hidden_cell
# The following code accesses a file in your IBM Cloud Object Storage. It includes your credentials.
# You might want to remove those credentials before you share the notebook.
client_86d3d75d550f4ebda1fa8bc8be290586 = boto3.client(service_name='s3',
    aws_api_key_id='2_92ghbJXGNEHDBRQ85JusT0vB8K4CduyQ4X_k0z860',
    aws_auth_endpoint='https://iam.cloud.ibm.com/oidc/token',
    config=Config(signature_version='auth'),
    endpoint_url='https://s3.eu-geo.objectstorage.service.networklayer.com')

body = client_86d3d75d550f4ebda1fa8bc8be290586.get_object(Bucket='caraccidentseverity-donotdelete-pr-yukvsuytqzme',Key='Data-collisions.csv')['Body']
# add missing __iter__ method, so pandas accepts body as file-like object
if not hasattr(body, "__iter__"): body.__iter__ = types.MethodType(__iter__, body)

df_vech = pd.read_csv(body)
df_vech.head()
```

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Out[12]:
```

	SEVERITYCODE	X	Y	OBJECTID	INCKEY	COLDKEY	REPORTNO	STATUS	ADORTYPE	INTKEY	...	ROADCOND	LIGHTCOND	PEDROWNOTORNT	SDOTCOLNUM	SPEEDING	ST_COLCODE	ST_COLDESC	SEGLANEKEY	CROSSWALKKEY	HITPARKEDCAR	
0	2	-122.323148	47.703140	1	1307	1307	3502005	Matched	Intersection	37475.0	...	Wet	Daylight		NaN	NaN	10	Entering at angle	0	0	N	
1	1	-122.347204	47.647172	2	52200	52200	2607959	Matched	Block	NaN	...	Wet	Dark - Street Lights On		NaN	6354039.0	NaN	11	From same direction - both going straight - so...	0	0	N
2	1	-122.334540	47.607871	3	26700	26700	1482393	Matched	Block	NaN	...	Dry	Daylight		NaN	4223031.0	NaN	32	One parked - one moving	0	0	N
3	1	-122.334803	47.604803	4	1144	1144	3503937	Matched	Block	NaN	...	Dry	Daylight		NaN	NaN	NaN	23	From same direction - all others	0	0	N
4	2	-122.309429	47.545739	5	17700	17700	1807429	Matched	Intersection	34387.0	...	Wet	Daylight		NaN	4028032.0	NaN	10	Entering at angle	0	0	N

5 rows x 38 columns