Los Angeles Parking Citations

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Los Angeles Parking Citations

Analyze the Los Angeles Parking Citation DataSet

- Top 20 Violation Description (779 type of citations)
- Issue time
    - Near issue time
    - Between issue time
- Issue Date- Day of week
- Serial Models
    - Cloud - GPU.
    - Local environment.

Dataset

- Los Angeles Parking Citations 2015 - Present
- Source: Kaggle - Los Angeles Parking Citations
- Format: Csv
- Size: 1.11 GB

Model Planning

- Python
- Pandas
- Mathplotlib
- Jupyter Notebook
- Ipyparallel - IPython’s architecture for parallel and distributed computing
- Google Collaboratory- free Jupyter notebook environment that requires no setup and runs entirely in the cloud.
- Clear data.
- Use Mathplotlib to show data results
- Group violation descriptions, issue time, issue date

Result

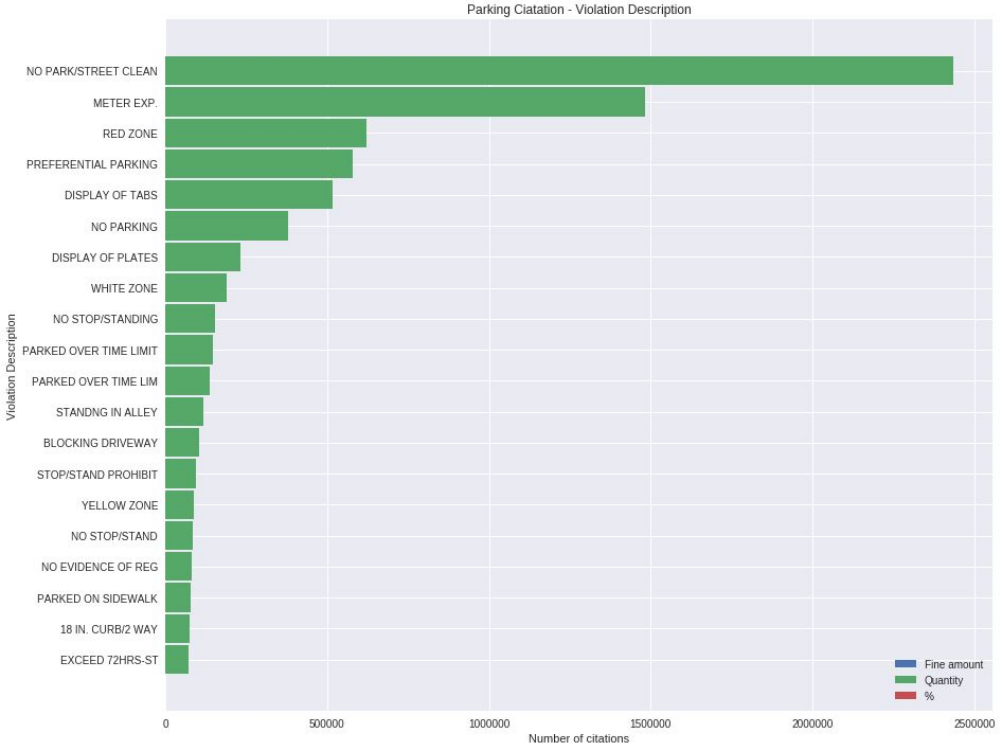
Local Machine - Execution time: 445 seconds

Google Collaboratory - Execution time: 119 seconds

Number of Parking Citations: 8,434,069 (2015-2018)

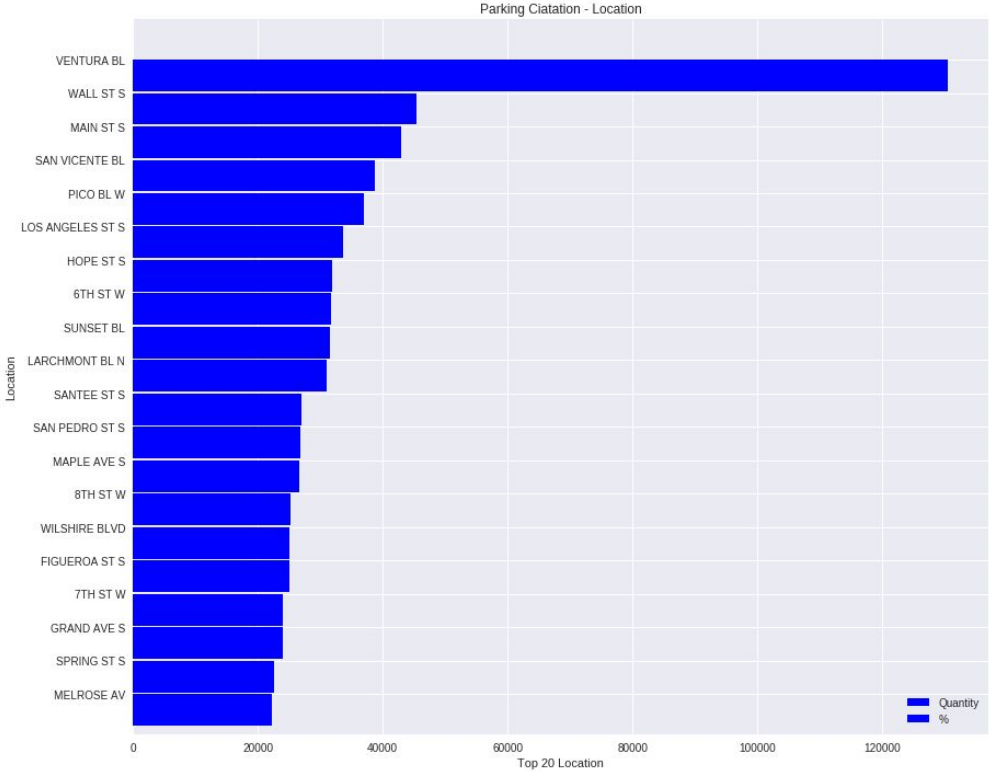
Total Fine:$ 590,644,016.00

Top 20 Violation Descriptions



Violation Description	Fine Amount	Quantity	%
NO PARK/STREET CLEAN	73.00	2,434,742	28.9
METER EXP.	63.00	1,483,118	17.6
RED ZONE	93.00	621,533	7.4
PREFERENTIAL PARKING	68.00	580,289	6.9
DISPLAY OF TABS	25.00	51,7651	6.1

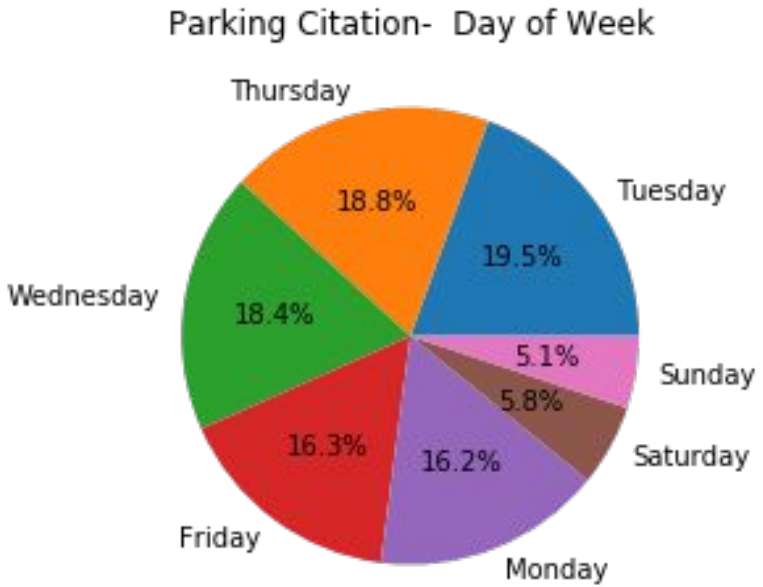
Location



Location	Quantity	%
Ventura BL	130,481	1.55
Wall St	45,413	0.53
Main St	42,972	0.50
San Vicente BL	38,732	0.46
Pico BL	37,002	0.43
LOS ANGELES ST	33,695	0.40

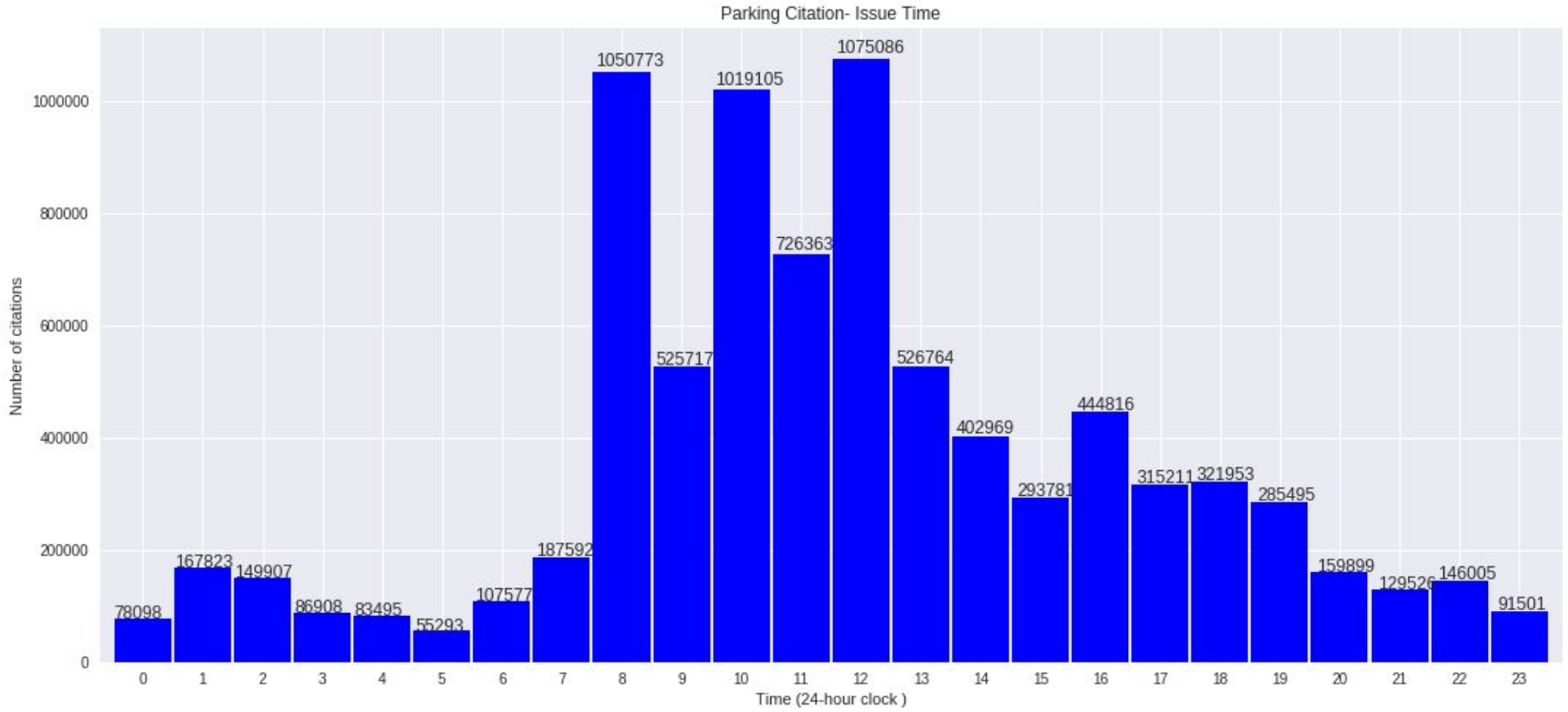
Data: 142,804 locations

Issue Date

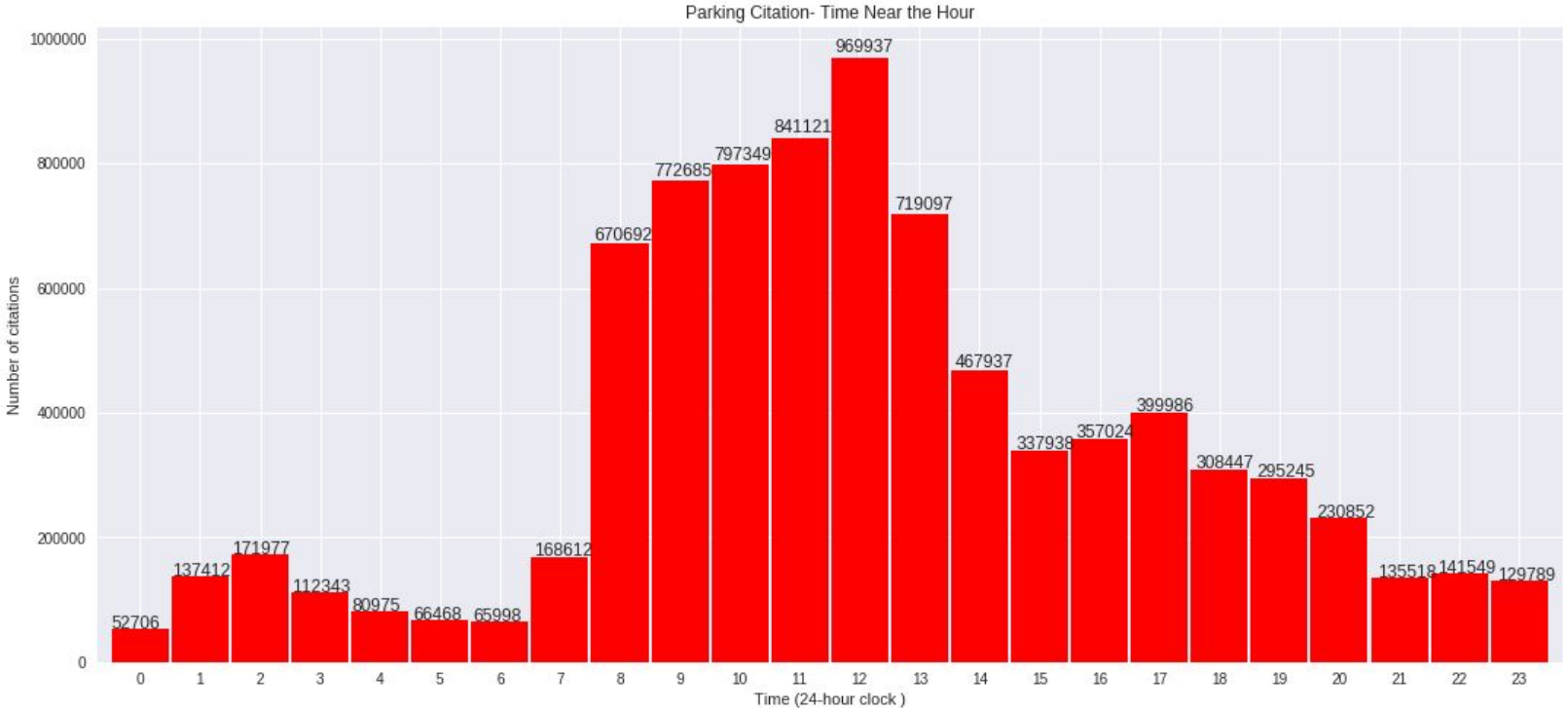


Day of Week	Quantity	%
Tuesday	1,640,958	19.5
Thursday	1,584,621	18.8
Wednesday	1,552,237	18.4
Friday	1,374,309	16.3
Monday	1,365,862	16.2
Saturday	485,931	5.8
Sunday	42,963	5.0

Issue Time - Between Issue Time



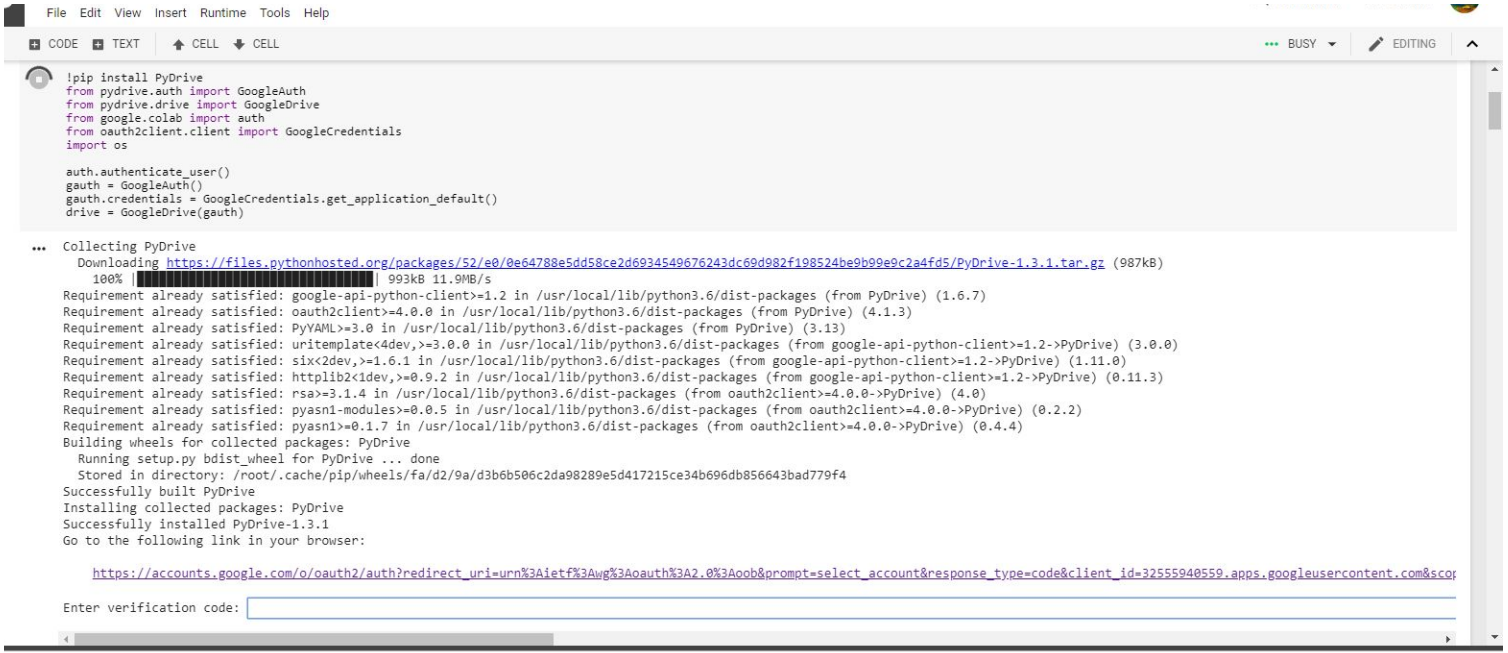
Issue Time - Near Issue Time



Demo

Google Collaboratory- free Jupyter notebook environment that requires no setup and runs entirely in the cloud.

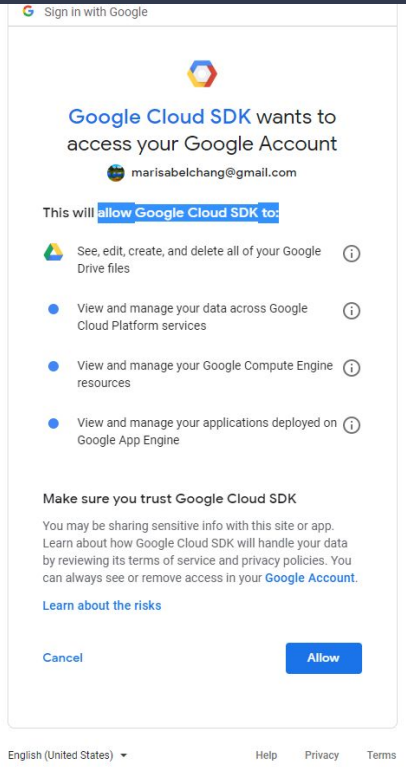
Google Authorization



- Run the block that ask for google authorization

-Click the link is in the bottom

Permission



Allow Google Cloud SDK to get access to your google drive

Download, Unzip and Read the dataset

Run These two blocks of code

```
#Get the parking citation csv file from the google drive
if os.path.exists("parking-citations.csv"):
  print("Parking citation csv already exists")
else:
  download_test = drive.CreateFile({'id': '1VLvTcMT4R015_GkdcyvADscydwSF58Ol'}) #id of the file that contains the dataset(google drive)
  citation_file = download_test.GetContentFile('citation.zip')
#unzip the citation file
!unzip citation.zip
```

```
Archive:  citation.zip
  inflating: parking-citations.csv
```

```
[ ]  #Read the parking csv file
     df = pd.read_csv('parking-citations.csv')
     print(list(df)) # column names
     print ('Number of data:',df.shape)
```

```
/usr/local/lib/python3.6/dist-packages/IPython/core/interactiveshell.py:2718: DtypeWarning: Columns (0,7) have mixed types. Specify dtype opt
  interactivity=interactivity, compiler=compiler, result=result)
['Ticket number', 'Issue Date', 'Issue time', 'Meter Id', 'Marked Time', 'RP State Plate', 'Plate Expiry Date', 'VIN', 'Make', 'Body Style',
Number of data: (8434069, 19)
```

Analyze data

Run the block of code that contains the data that you desire to analyze