

Traffic Intelligence: Advanced Traffic Volume Estimation with Machine Learning

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MY TASKS:


TSK-338833:

Download the dataset

traffic volume.csv

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|----|---------|--------|------|------|---------|------------|------|
| | holiday | temp | rain | snow | weather | date | Time |
| 1 | None | 288.28 | 0 | 0 | Clouds | 02-10-2012 | 9 |
| 2 | None | 289.36 | 0 | 0 | Clouds | 02-10-2012 | 10 |
| 3 | None | 289.58 | 0 | 0 | Clouds | 02-10-2012 | 11 |
| 4 | None | 290.13 | 0 | 0 | Clouds | 02-10-2012 | 12 |
| 5 | None | 291.14 | 0 | 0 | Clouds | 02-10-2012 | 13 |
| 6 | None | 291.72 | 0 | 0 | Clear | 02-10-2012 | 14 |
| 7 | None | 293.17 | 0 | 0 | Clear | 02-10-2012 | 15 |
| 8 | None | 293.86 | 0 | 0 | Clear | 02-10-2012 | 16 |
| 9 | None | 294.14 | 0 | 0 | Clouds | 02-10-2012 | 17 |
| 10 | None | 293.1 | 0 | 0 | Clouds | 02-10-2012 | 18 |
| 11 | None | 290.97 | 0 | 0 | Clouds | 02-10-2012 | 19 |
| 12 | None | 289.38 | 0 | 0 | Clear | 02-10-2012 | 20 |
| 13 | None | 288.61 | 0 | 0 | Clear | 02-10-2012 | 21 |
| 14 | None | 287.16 | 0 | 0 | Clear | 02-10-2012 | 22 |
| 15 | None | 285.45 | 0 | 0 | Clear | 02-10-2012 | 23 |
| 16 | None | 284.63 | 0 | 0 | Clear | 03-10-2012 | 0 |
| 17 | None | 283.47 | 0 | 0 | Clear | 03-10-2012 | 1 |
| 18 | None | 281.18 | 0 | 0 | Clear | 03-10-2012 | 2 |
| 19 | None | 281.09 | 0 | 0 | Clear | 03-10-2012 | 3 |
| 20 | None | 279.53 | 0 | 0 | Clear | 03-10-2012 | 4 |
| 21 | None | 278.62 | 0 | 0 | Clear | 03-10-2012 | 5 |
| 22 | None | 278.23 | 0 | 0 | Clear | 03-10-2012 | 6 |
| 23 | None | | | | | | |

TSK-338834:

Import Necessary Libraries

```
[1]: import pandas as pd
import numpy as np
import sklearn as sk
from sklearn import linear_model
from sklearn import tree
from sklearn import ensemble
from sklearn import svm
import xgboost
```

```
[2]: !pip install seaborn
```

TSK-338835:

Importing the Dataset

```
Requirement already satisfied: six>=1.5 in
c:\users\dell\appdata\local\programs\python\python313\lib\site-packages (from
python-dateutil>=2.7->matplotlib!=3.6.1,>=3.4->seaborn) (1.17.0)
```

```
[3]: df = pd.read_csv('traffic volume - traffic volume.csv')
```

```
[4]: df.head()
```

| [4]: | holiday | temp | rain | snow | weather | date | Time | traffic_volume |
|------|---------|--------|------|------|---------|------------|----------|----------------|
| 0 | NaN | 288.28 | 0.0 | 0.0 | Clouds | 02-10-2012 | 9:00:00 | 5545 |
| 1 | NaN | 289.36 | 0.0 | 0.0 | Clouds | 02-10-2012 | 10:00:00 | 4516 |
| 2 | NaN | 289.58 | 0.0 | 0.0 | Clouds | 02-10-2012 | 11:00:00 | 4767 |
| 3 | NaN | 290.13 | 0.0 | 0.0 | Clouds | 02-10-2012 | 12:00:00 | 5026 |
| 4 | NaN | 291.14 | 0.0 | 0.0 | Clouds | 02-10-2012 | 13:00:00 | 4918 |

TSK-338845:

Build HTML Code

