

eda-ds-project-1

January 2, 2024

- 1 Explanation of the dataset:
- 2 No. of Columns: 15
- 3 Dependent variable: Delivery_Status
- 4 Task: Classification
- 5 NA's: Yes
- 6 Explanation of the Columns:
- 7 Year: 2008
- 8 Month: 1 month time is needed
- 9 DayofMonth: 3rd or 4th day of month
- 10 DayofWeek: 4th or 5th day of Week
- 11 Actual_Shipment_Time: The Actual time when the package was sent for shipment. (ex: 1955 means 19 hours and 55 minutes i.e 7:55 PM)
- 12 Planned_Shipment_Time: The time when the package should have been sent for shipment. (ex: 1955 means 19 hours and 55 minutes i.e 7:55 PM)
- 13 Planned_Delivery_Time: The time when the package should be delivered. (ex: 1955 means 19 hours and 55 minutes i.e 7:55 PM)
- 14 Carrier_Name: The name of the Carrier which carried the package.
- 15 Carrier_Num: The number of the Carrier which carried the package.
- 16 Planned_TimeofTravel: The estimated time to reach from Source to Destination. (in minutes)
- 17 Shipment_Delay: The time by which the package was shipped late. (in minutes. Negative value indicates that the package was shipped early. Ex: 4 indicates that the package was shipped 4 minutes late, whereas, -4 indicates that the package was shipped 4 minutes early)

```
[2]: pip install pandas
```

```
Requirement already satisfied: pandas in /usr/local/lib/python3.10/dist-packages (1.5.3)
```

```
Requirement already satisfied: python-dateutil>=2.8.1 in /usr/local/lib/python3.10/dist-packages (from pandas) (2.8.2)
```

```
Requirement already satisfied: pytz>=2020.1 in /usr/local/lib/python3.10/dist-packages (from pandas) (2023.3.post1)
```

```
Requirement already satisfied: numpy>=1.21.0 in /usr/local/lib/python3.10/dist-packages (from pandas) (1.23.5)
```

```
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-packages (from python-dateutil>=2.8.1->pandas) (1.16.0)
```

```
[4]: import pandas as pd

dir(pd)

project = pd.read_csv(r"/content/Datasets.csv")
```

23 Measures of Central Tendency / First moment business decision

MEAN

```
[7]: project.Actual_Shipment_Time.mean()
```

```
[7]: 1370.203435114504
```

```
[8]: project.Planned_Shipment_Time.mean()
```

```
[8]: 1335.3175396924617
```

```
[9]: project.Carrier_Num.mean()
```

```
[9]: 1422.2832854106764
```

```
[10]: project.Planned_TimeofTravel.mean()
```

```
[10]: 112.89911238904863
```

```
[11]: project.Distance.mean()
```

```
[11]: 637.847230903863
```

```
[12]: project.Shipment_Delay.mean()
```

```
[12]: 21.389185750636134
```

MEDIAN

```
[13]: project.Actual_Shipment_Time.median()
```

```
[13]: 1356.0
```

```
[14]: project.Planned_Shipment_Time.median()
```

```
[14]: 1330.0
```

```
[15]: project.Carrier_Num.median()
```

```
[15]: 1023.0
```

```
[16]: project.Planned_TimeofTravel.median()
```

```
[16]: 90.0
```

```
[17]: project.Distance.median()
```

```
[17]: 447.0
```

```
[18]: project.Shipment_Delay.median()
```

```
[18]: 9.0
```

MODE

```
[19]: project.Actual_Shipment_Time.mode()
```

```
[19]: 0    700.0  
      Name: Actual_Shipment_Time, dtype: float64
```

```
[20]: project.Planned_Shipment_Time.mode()
```

```
[20]: 0    630  
      Name: Planned_Shipment_Time, dtype: int64
```

```
[61]: project.Carrier_Num.mode()
```

```
[61]: 0    102  
      1   1414  
      2   2361  
      Name: Carrier_Num, dtype: int64
```

```
[22]: project.Planned_TimeofTravel.mode()
```

```
[22]: 0    75
      Name: Planned_TimeofTravel, dtype: int64
```

```
[23]: project.Distance.mode()
```

```
[23]: 0    337
      Name: Distance, dtype: int64
```

```
[24]: project.Shipment_Delay.mode()
```

```
[24]: 0    0.0
      Name: Shipment_Delay, dtype: float64
```

24 Measures of Dispersion / Second moment business decision

```
[26]: project.Actual_Shipment_Time.var()
```

```
[26]: 219064.81202535334
```

```
[27]: project.Actual_Shipment_Time.std()
```

```
[27]: 468.0436005601971
```

```
[28]: range = max(project.Actual_Shipment_Time) - min(project.Actual_Shipment_Time)
      range
```

```
[28]: 2294.0
```

```
[29]: project.Planned_Shipment_Time.var()
```

```
[29]: 199051.0494435085
```

```
[30]: project.Planned_Shipment_Time.std()
```

```
[30]: 446.1513750326323
```

```
[31]: range = max(project.Planned_Shipment_Time) - min(project.Planned_Shipment_Time)
      range
```

```
[31]: 1600
```

```
[33]: project.Carrier_Num.var()
```

```
[33]: 1334677.2670761766
```

```
[34]: project.Carrier_Num.std()
```

[34]: 1155.282332192515

```
[35]: range = max(project.Carrier_Num) - min(project.Carrier_Num)  
range
```

[35]: 3948

```
[37]: project.Planned_TimeofTravel.var()
```

[37]: 3453.4533112900676

```
[36]: project.Planned_TimeofTravel.std()
```

[36]: 58.766089807728974

```
[38]: range = max(project.Planned_TimeofTravel) - min(project.Planned_TimeofTravel)  
range
```

[38]: 325

```
[42]: project.Distance.var()
```

[42]: 204261.43802402657

```
[41]: project.Distance.std()
```

[41]: 451.952915715815

```
[40]: range = max(project.Distance) - min(project.Distance)  
range
```

[40]: 2230

```
[44]: project.Shipment_Delay.var()
```

[44]: 1060.3784808231076

```
[45]: project.Shipment_Delay.std()
```

[45]: 32.56345314648168

```
[46]: range = max(project.Shipment_Delay) - min(project.Shipment_Delay)  
range
```

[46]: 325.0

25 Third moment business decision

```
[47]: project.Actual_Shipment_Time.skew()
```

```
[47]: 0.03738851063385681
```

```
[48]: project.Planned_Shipment_Time.skew()
```

```
[48]: 0.038648946989911614
```

```
[49]: project.Carrier_Num.skew()
```

```
[49]: 0.6508091440601923
```

```
[50]: project.Planned_TimeofTravel.skew()
```

```
[50]: 1.423396585192246
```

```
[51]: project.Distance.skew()
```

```
[51]: 1.4608790007256947
```

```
[53]: project.Shipment_Delay.skew()
```

```
[53]: 2.740589193560789
```

26 Fourth moment business decision

```
[54]: project.Actual_Shipment_Time.kurt()
```

```
[54]: -1.1777053461904525
```

```
[55]: project.Planned_Shipment_Time.kurt()
```

```
[55]: -1.2031904488780858
```

```
[56]: project.Carrier_Num.kurt()
```

```
[56]: -0.847418945861568
```

```
[57]: project.Planned_TimeofTravel.kurt()
```

```
[57]: 1.7054182837994971
```

```
[58]: project.Distance.kurt()
```

```
[58]: 1.6504619593485272
```

```
[60]: project.Shipment_Delay.kurt()
```

```
[60]: 10.944013976268785
```

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