Customer Segmentation

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Customer segmentation:

is the practice of dividing a customers
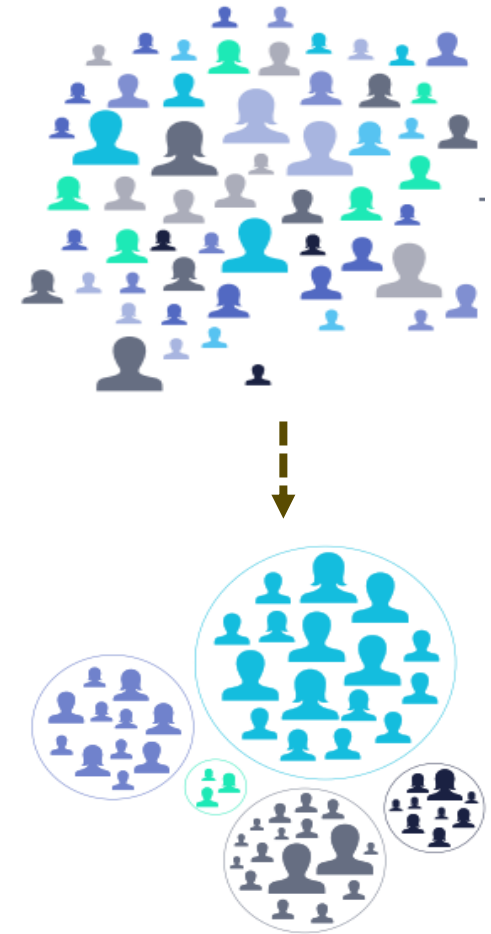
into groups based on :

- Age   - Gender

- interests   - spending habits.

Benefit of Customer segmentation

In this project I will apply the idea by classify the customers into four segmentations (A,B,C,D) based on Age, work experience ,etc.
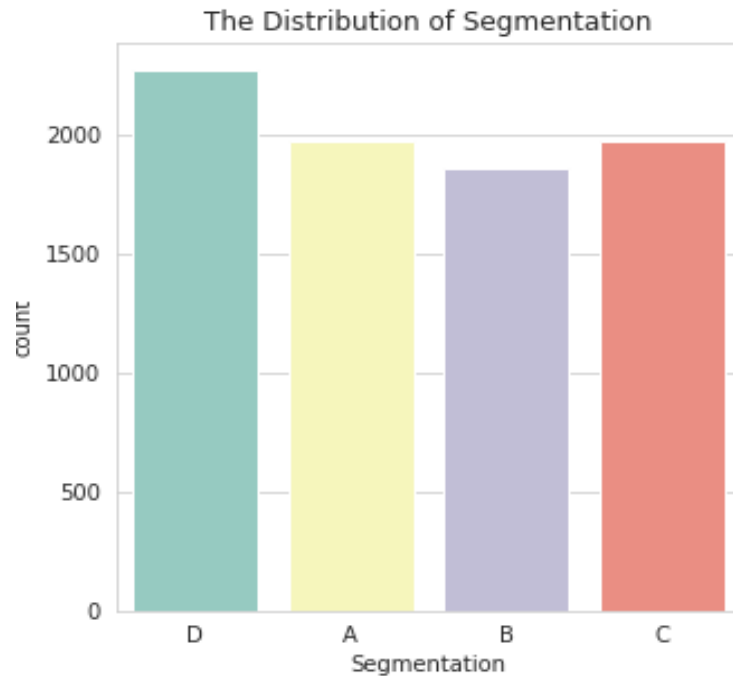
Process:

1 **Exploratory Data Analysis (EDA)**

- Analytic the data.

- Data Cleaning.

- Drop ID column

- Visualization between features

  and Segmentation(target)

Process:

1 **Exploratory Data Analysis (EDA)**

At the end of EDA I noticed the different
of Segmentation A,B,C and D

Process:

2 **Extract Features**

- Categorical Features.

- Derived Features.

Process:

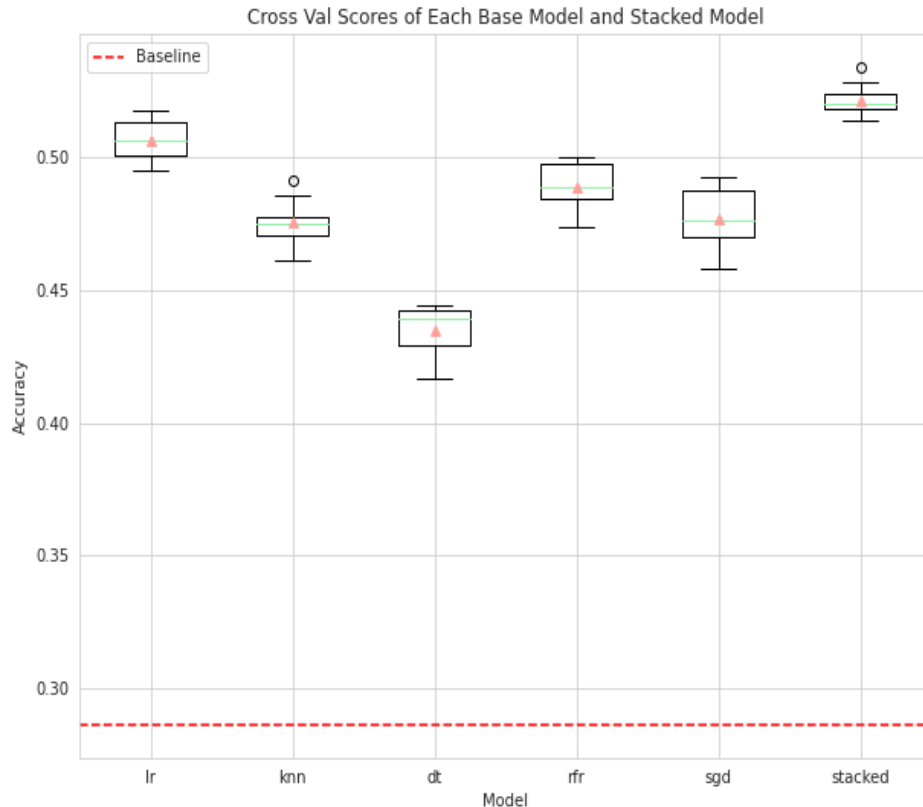Cross Val Scores of Each Base Model and Stacked Model

3 **Data Modlling**

- Scale Data

- Split the data.

- Baseline Model

- Build Classifications models:

    (Logistic Regression,

    Decision Tree, Random

    Forest, KNN ,SGD, Stacking)

```
lr, Score: 0.5065689168934869
knn, Score: 0.47552061126642187
dt, Score: 0.435509068588474
rfr, Score: 0.4889682728082165
sgd, Score: 0.47663569925581417
stacked, Score: 0.5217518981079227
```
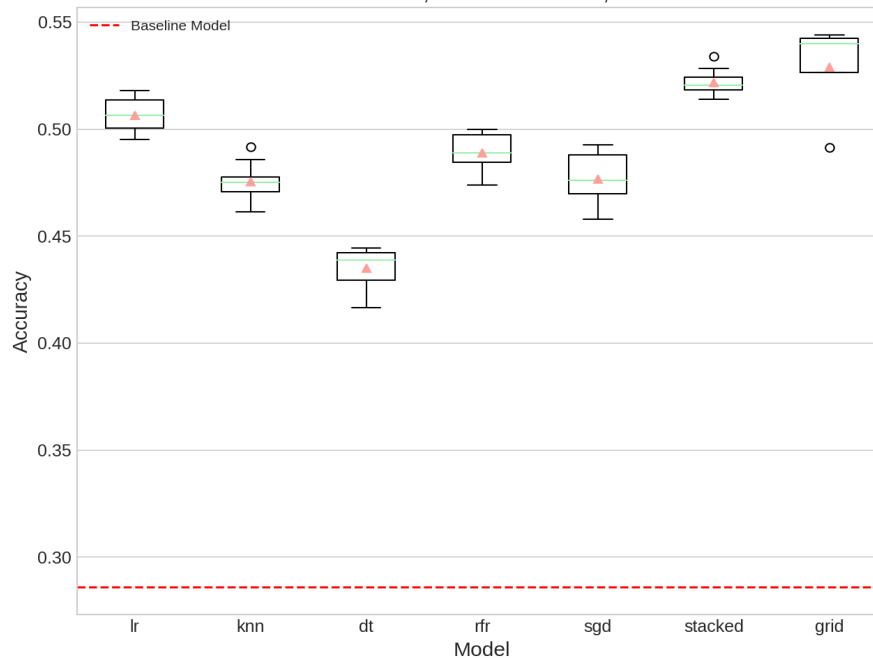
Process:

6 **Optimizing the Model:**

- optimizing the Stacking

model

Grid model score: 0.5288825842692313

Cross Val Scores of Each Base Model, Stacked Model, and Best Tuned Stacked Model

Tech used:

Thank you for listening 👏