Statement of Work

Mall Customers Segmentation using ML

What is Customer Segmentation?

Customer segmentation is the process of driving customers into groups based on common characteristics so companies can market to each group effectively and appropriately.

In business-to-business marketing, a company might segment customers according to a wide range of factors, including:

- Industry
- Number of employees
- Product previously purchased from the company
- Location

In business-to-consumer marketing, companies often segment customers according to demographics that include:

- Age
- Gender
- Marital status
- Location (urban, suburban, rural)
- Life stage (single, married, divorced, empty nester, retires, etc.)

Why Segment Customers?

Segmentation allows marketers to better tailor their marketing efforts to various audience subsets. Those efforts can relate to both communications and product development. Specially, segmentation helps a company:

- Create and communicate targeted marketing messages that will resonate with specific groups of customers, but not with others (who will receive messages tailored to their needs and interests, instead).
- Select the best communication channel for the segment, which might be email, social media posts, radio advertising, or another approach, depending on the segment.
- Identify ways to improve products or new product or service opportunities.
- Establish better customer relationships.
- Test pricing options.
- Focus on the most profitable customers.
- Improve customer service.
- Upsell and cross-sell other products and services.

Data Source:

Mall Customers : https://www.kaggle.com/shwetabh123/mall-customers

The dataset consists of 200 customer's details with their unique number, Genre, Age, Annual Income (k$) and Spending Score (1-100).

Feature Description:

- Customer ID – Unique number for every customer
- Genre – Customer Gender
- Age – Customer Age
- Annual Income – Customer Annual Income
- Spending Score – Spending score of customers which range from 1(being least) to 100(being the highest).

Sample Data:

	A	B	C	D	E
1	Customer	Genre	Age	Annual In	Spending Score (1-100)
2	1	Male	19	15	39
3	2	Male	21	15	81
4	3	Female	20	16	6
5	4	Female	23	16	77
6	5	Female	31	17	40
7	6	Female	22	17	76
8	7	Female	35	18	6
9	8	Female	23	18	94
10	9	Male	64	19	3
11	10	Female	30	19	72
12	11	Male	67	19	14
13	12	Female	35	19	99
14	13	Female	58	20	15
15	14	Female	24	20	77

Methodology:

Methods to perform customer segmentations (clustering algorithms):

- K-Means
- Affinity Propagation
- BIRCH
- DBSCAN
- Mini Batch K-Means
- Mean Shift
- OPTICS
- Spectral Clustering
- Gaussian Mixture Model
- Agglomerative Clustering

These are the several techniques that are to be performed on the dataset which will help us to segment the customers with various categories.