Customer Segmentation Project

Overview:

This project involves the analysis of customer data to identify different segments based on various attributes such as gender, age, annual income, spending score, profession, work experience, and family size. The goal is to gain insights into customer behavior and preferences, ultimately helping in targeted marketing and service improvements.

Data:

The dataset contains the following columns:

CustomerID: Unique identifier for each customer.

Gender: The gender of the customer.

Age: Age of the customer.

Annual Income ($): Annual income of the customer.

Spending Score (1-100): Spending score indicating customer spending behavior.

Profession: The profession of the customer.

Work Experience: The number of years of work experience.

Family Size: The size of the customer's family.

Steps:

Data Collection:

Data was collected from various sources, ensuring privacy and compliance with data protection regulations.

Data Cleaning:

Checked for missing values, outliers, and inconsistencies.

Standardized and cleaned the data for analysis.

Exploratory Data Analysis (EDA):

Explored the distribution of each variable.

Visualized relationships between different variables.

Extracted key insights to inform further analysis.

Customer Segmentation:

Used clustering algorithms to group customers based on similarities.

Explored clusters to understand characteristics of each segment.

Insights and Recommendations:

Provided actionable insights for marketing strategies, product offerings, and customer engagement.

Recommended targeted approaches for different customer segments.

Documentation:

This README file serves as documentation for the project, providing an overview of the dataset, project goals, and key steps in the analysis.

Files:

customer\_data.csv: Raw data file containing customer information.

customer\_segmentation.ipynb: Jupyter notebook containing the code for data analysis and segmentation.

Dependencies:

Python 3.x

Libraries: pandas, numpy, matplotlib, seaborn, scikit-learn

How to Run:

Clone the repository.

Install the required dependencies using pip install -r requirements.txt.

Open and run the Jupyter notebook customer\_segmentation.ipynb for detailed analysis.

Conclusion:

This project aims to provide valuable insights into customer behavior and preferences, aiding in the development of targeted marketing strategies and improved customer satisfaction.