

# Shopping Trends Analysis: Exploratory Data Analysis (EDA) Project

This project focuses on **Exploratory Data Analysis (EDA)** for understanding consumer shopping trends. By leveraging a dataset with detailed customer and purchase information, the analysis aims to uncover meaningful insights into purchasing behaviors, preferences, and patterns.

## Features of the Dataset

The dataset includes the following key attributes:

- **Customer ID:** Unique identifier for each customer.
- **Age:** Age of the customer.
- **Gender:** Gender of the customer (Male/Female).
- **Item Purchased:** The specific item bought by the customer.
- **Category:** The category of the purchased item.
- **Purchase Amount (USD):** Total cost of the purchase in USD.
- **Location:** Location of the purchase.
- **Size:** Size of the purchased item.
- **Color:** Color of the purchased item.
- **Season:** Season during which the purchase was made.
- **Review Rating:** Customer feedback rating for the purchased item.

## Objectives

- Perform a comprehensive EDA to identify trends and patterns in shopping behavior.
- Analyze demographic factors (e.g., age, gender) and their influence on purchasing habits.
- Examine product-related attributes like category, color, and size to uncover popular choices.
- Visualize data to highlight seasonal trends and geographical purchasing variations.

## Tools and Technologies

- **Python:** Programming language for data analysis.
- **Pandas & NumPy:** For data manipulation and numerical analysis.
- **Matplotlib & Seaborn:** For creating insightful visualizations.
- **Jupyter Notebook:** Interactive environment for documenting the analysis.

## Visuals and Key Insights

The project uses descriptive statistics and compelling visualizations to communicate findings. Examples include:

- Sales trends over time.
- Product category preferences segmented by demographics.
- Distribution of review ratings across item categories.