# Data Analysis Project

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## Customer Shopping Behavior Analysis

Uncovering insights from 3,900 purchases to drive strategic decisions

OVERVIEW

# Project Scope

## Dataset Size

3,900 transactions across multiple categories

## Key Features

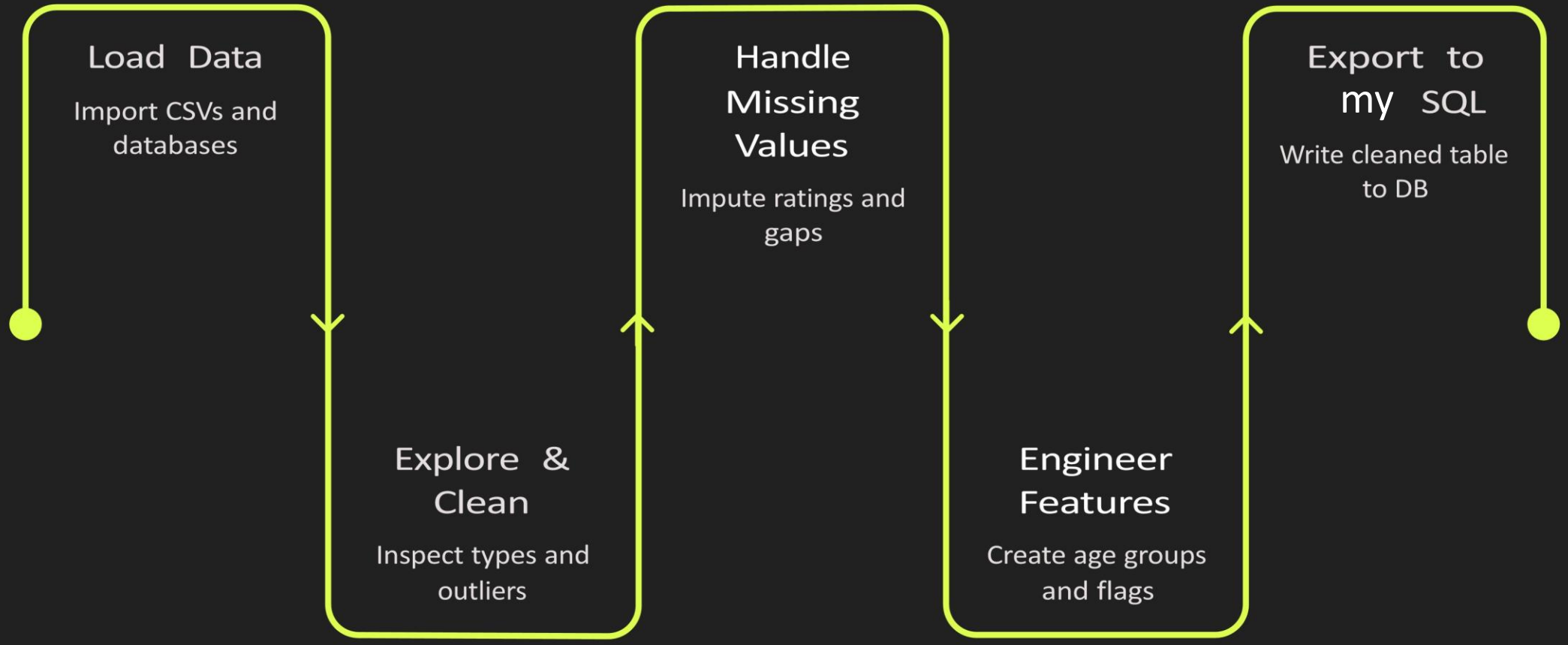
18 columns covering demographics, purchases, and behavior

## Goal

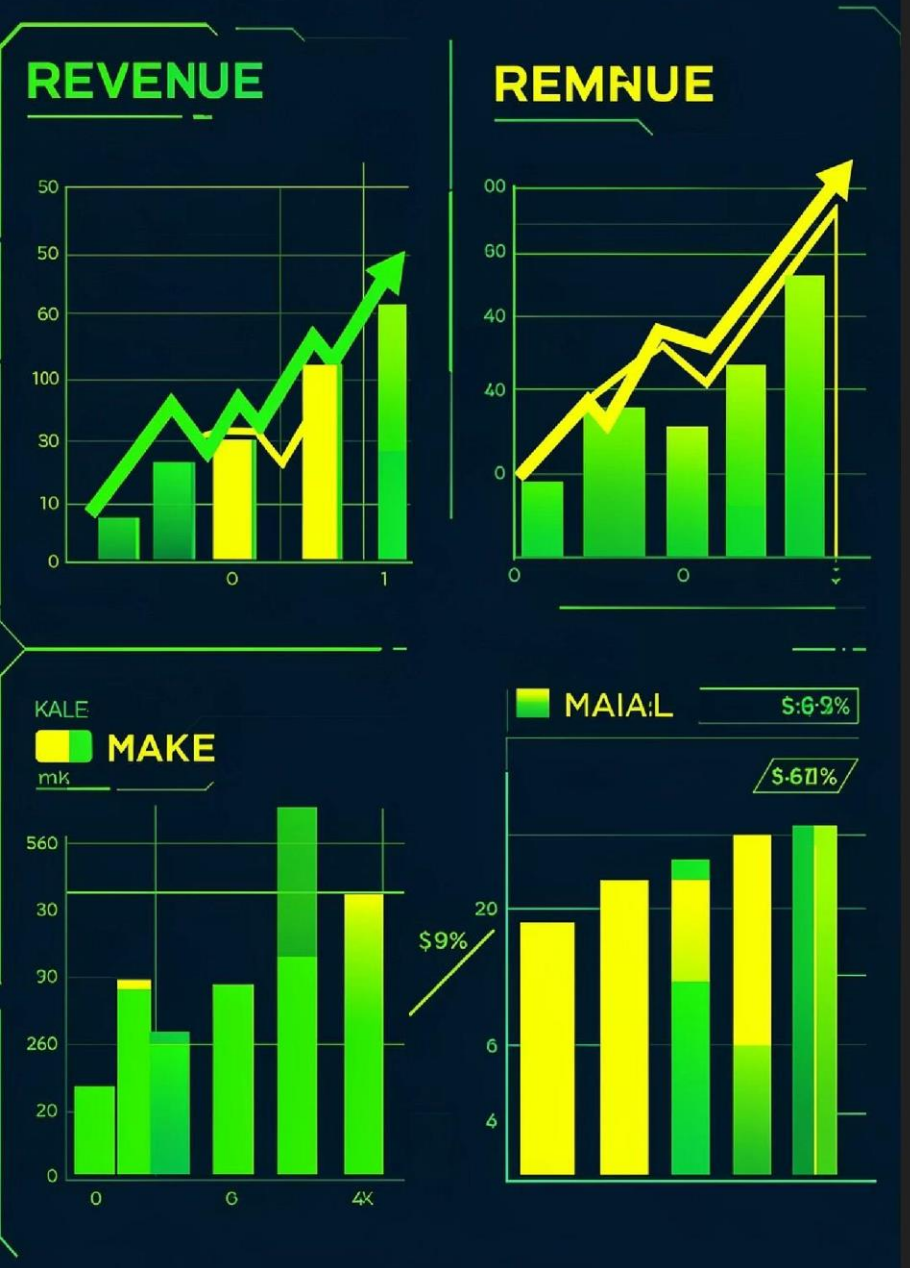
Guide strategic business decisions with data-driven insights

DATA PREPARATION

# Python Analysis Pipeline




Cleaned and standardized dataset using pandas, imputed missing review ratings, and created age groups for segmentation




# Revenue by Gender

**$158K**

Male Customers

Significantly higher revenue contribution

**$75K**

Female Customers

Strong secondary revenue stream

**68%**

Male Share

Of total revenue generated

☆ TOP PERFORMERS

# Product Excellence

1

### Gloves

3.86 rating

2

### Sandals

3.84 rating

3

### Boots

3.82 rating

4

### Hat

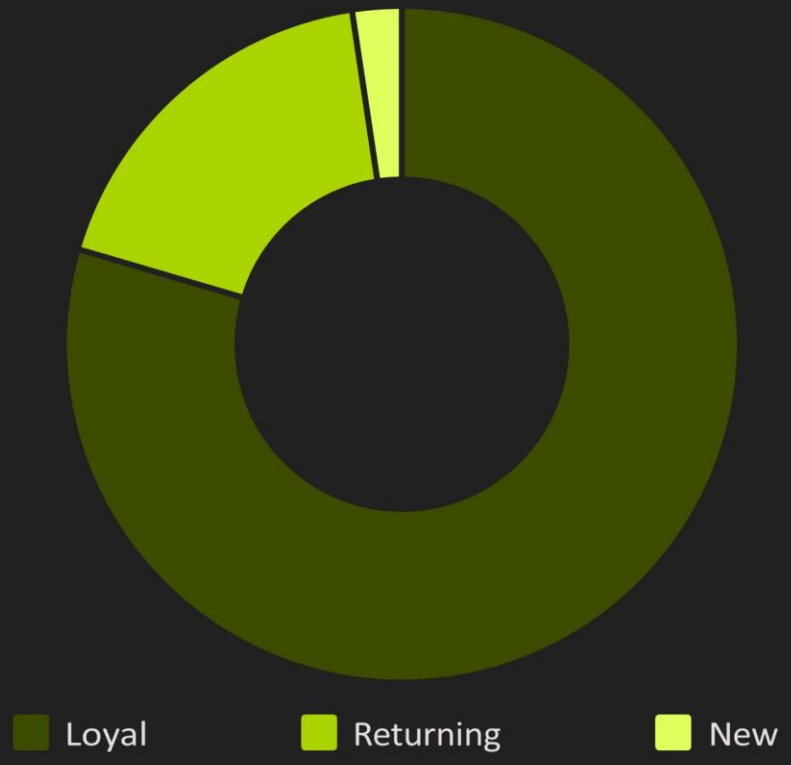
3.80 rating

5

### Skirt

3.78 rating

# Customer Segmentation




## Segment Breakdown

**Loyal customers dominate** with 80% of the customer base showing repeat purchase behavior

- 3,116 loyal customers with 5+ purchases
- 701 returning customers building habits
- 83 new customers entering the funnel

Focus on converting returning customers to loyal status

SUBSCRIPTION INSIGHTS

# Subscription vs Non-Subscription

## Subscribers

1,053 customers

$59.49 avg spend

$62.6K total revenue

## Non-Subscribers

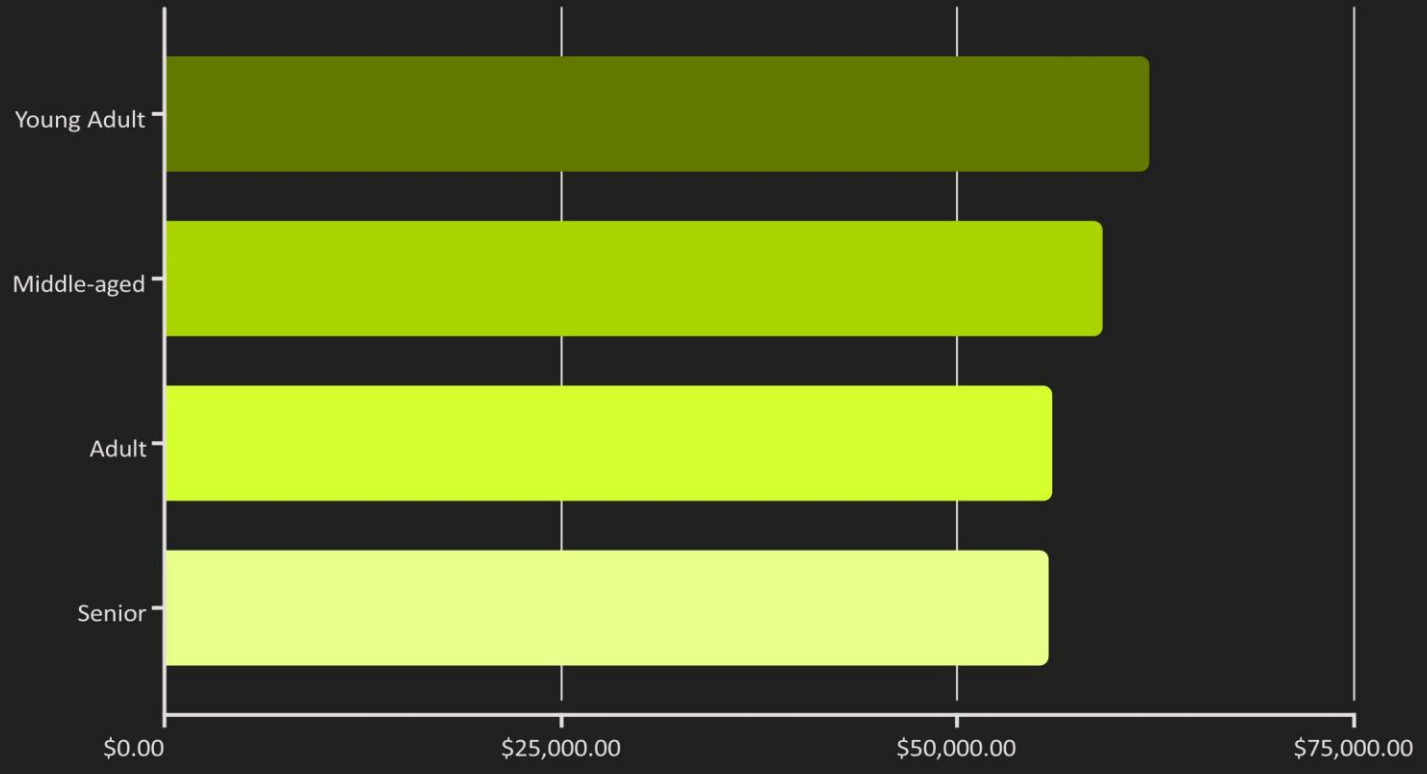
2,847 customers

$59.87 avg spend

$170.4K total revenue

Only 27% subscribed despite similar spending patterns—major growth opportunity

# Revenue by Age Group




## Age Distribution Insights

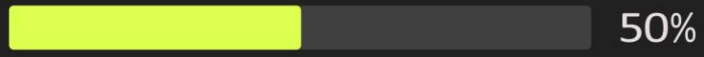
Young adults lead revenue generation with $62K contribution

Remarkably balanced spending across all age groups—no segment to ignore

Target marketing should maintain broad appeal while optimizing for young adult preferences

DISCOUNT ANALYSIS

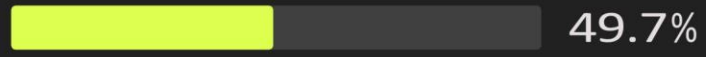
# Discount-Dependent Products



50%

## Hat

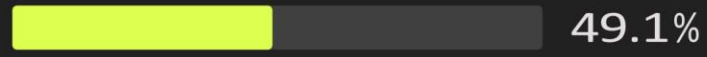
Highest discount rate



49.7%

## Sneakers

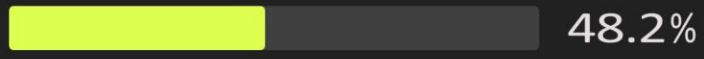
Nearly half discounted



49.1%

## Coat

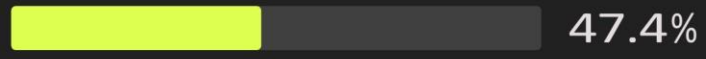
Heavy discount reliance



48.2%

## Sweater

Discount-driven sales



47.4%

## Pants

Promotion dependent

839 customers used discounts but still spent above average—smart shoppers seeking value, not just deals

ACTION PLAN

# Strategic Recommendations

## Boost Subscriptions

Promote exclusive benefits to convert 73% non-subscribers

## Loyalty Programs

Reward repeat buyers to grow loyal segment

## Review Discounts

Balance sales boosts with margin control

## Targeted Marketing

Focus on young adults and express shipping users

## Product Positioning

Highlight top-rated items in campaigns