



# Customer Segmentation

Using Machine Learning (KMeans Clustering)



Hackathon 2026 — BBAI & DS

🎯 Problem Statement

# Why Customer Segmentation?

- 🛒 Companies like Amazon & Flipkart have millions of customers
- 🎯 Targeted marketing saves time & money
- 💡 Real-world use: personalized offers, retention campaigns
- 👥 Not all customers behave the same way
- 📈 Group similar customers → better business decisions

## Our Approach

# Data → Model → Deploy



Dataset from Kaggle — 200



Features: Age, Annual Income, Spending Score (1–100)



Cleaned data, handled nulls, scaled features



Applied KMeans Clustering (unsupervised ML)



Built a modern web UI to predict segments live



# How We Built It

1

## Data Prep

- Removed null values
- Feature scaling
- Exploratory analysis

2

## Modeling

- Elbow method for K
- KMeans with K=4
- Silhouette score validation

3

## Deployment

- React + Tailwind UI
- Real-time prediction
- Color-coded segments

 Results

# 4 Customer Segments Discovered



## Careful Spenders

Budget-conscious



## High-Value

Premium buyers



## At-Risk

Impulsive buyers



## Low Engagement

Need campaigns

 Live Demo

# Let's See It In Action!

Enter customer data → get instant segment prediction  
with our beautiful dashboard

Age	35
Income	\$80,000
Spending Score	72



**High-Value Customer**

*Switch to the dashboard for a live demo →*



# Thank You!

Questions? We'd love to hear them 

 2 min Q&A

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