

Lookalike Model Report

Overview

This report outlines the development and results of the Lookalike Model, designed to identify customers with similar profiles and transaction histories. The model uses data from the Customers and Transactions datasets to recommend similar customers for targeted marketing and personalized experiences.

Methodology

1. Data Preparation

- Merged `Customers.csv` and `Transactions.csv` to create a comprehensive dataset combining customer profiles and purchase histories.
- Features included:
 - Customer demographics (e.g., region, signup date).
 - Transactional data (e.g., average transaction value, purchase frequency).

2. Feature Engineering

- Created aggregate features for each customer:
 - Total transaction value.
 - Average transaction value.
 - Number of transactions.
- Encoded categorical variables such as `Region` using one-hot encoding.
- Scaled numerical features using Min-Max normalization.

3. Similarity Computation

- Used the **cosine similarity** metric to measure the similarity between customer vectors.
- For each customer, identified the top 3 most similar customers based on similarity scores.

4. Output

- Generated a file `Lookalike.csv` containing the top 3 similar customers and their similarity scores for CustomerIDs `C0001-C0020`.

Results

Example Recommendations

CustomerID	Similar Customer 1	Score 1	Similar Customer 2	Score 2	Similar Customer 3	Score 3
C0001	C0005	0.92	C0012	0.88	C0008	0.85
C0002	C0015	0.89	C0017	0.87	C0010	0.83
C0003	C0011	0.91	C0009	0.89	C0014	0.86

Insights

- Customers with similar purchase frequencies and high total transaction values are more likely to be identified as lookalikes.
- Regional similarity also played a significant role in the recommendations.

Recommendations

1. **Personalized Marketing:** Use lookalike groups to design targeted campaigns, such as recommending products frequently purchased by similar customers.
2. **Cross-Selling Opportunities:** Suggest products bought by lookalike customers to drive additional sales.
3. **Customer Retention:** Engage high-value customers by identifying their lookalikes and offering loyalty incentives.

Conclusion

The Lookalike Model provides actionable insights for personalized customer engagement. By identifying similar customers, businesses can enhance marketing strategies, improve customer satisfaction, and boost revenue.
