

Fashion Recommendations



IST 718 Big Data Analytics | Winter 2022

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INTRODUCTION

- H&M Group opened a public competition to develop product recommendations with a top prize of \$15,000.
- Want to enhance their customer's shopping experience by making personalized product recommendations.
- Invited the Kaggle community to develop product recommendations based on data from previous transactions, customer data, and product metadata.

Data

- Our team decided to conduct detailed EDA of the H&M data along with two product recommendation models.
- H&M provided:
 - Articles (105,542 products for sale)
 - Customers (1.3 mil customers' metadata)
 - Transactions (31.7 mil customer purchases)
 - Images (105,000 product images))

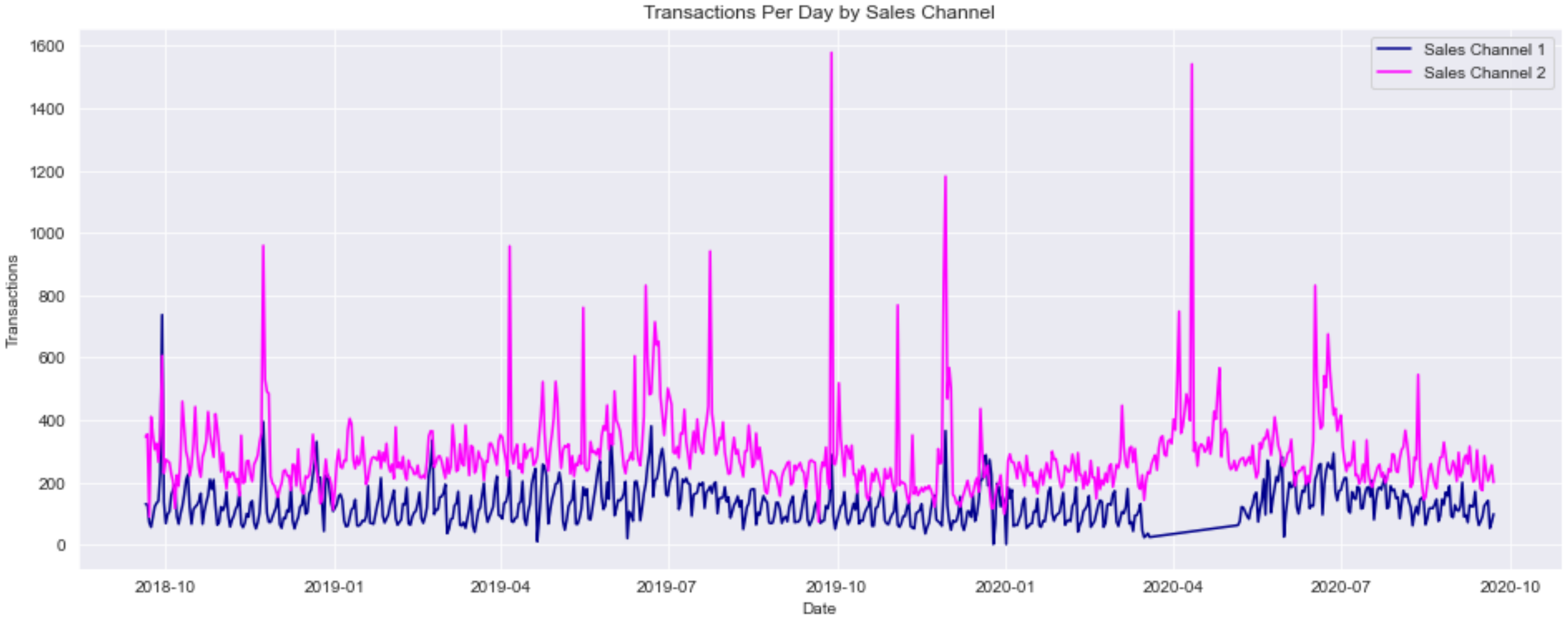




eda

- Majority of customers between 19-31 and 45-56 years old.
- More online purchases than in-store purchases.
- 5 product groups with numerous price outliers.
 - Coats and jackets had highest outliers.
- Mean product prices fluctuated over time.

EDA - TRANSACTIONS



models

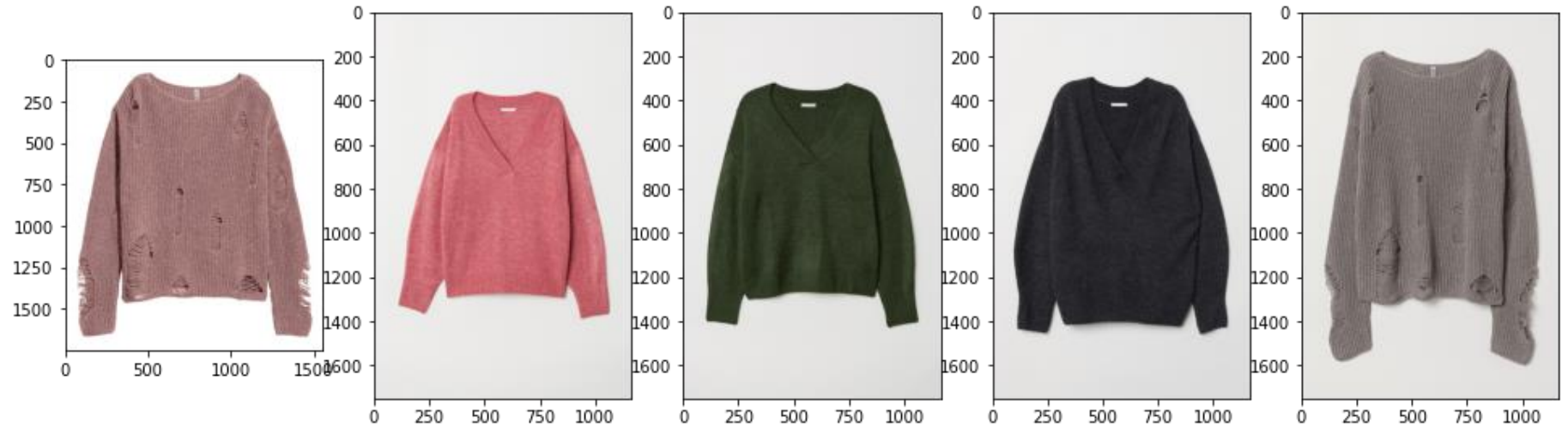
- Simple baseline model
 - Looked at most frequent recently purchased items.
- Content-based filtering model
 - Used item scoring for customers who made minimum of 2 and 5 purchases.

results

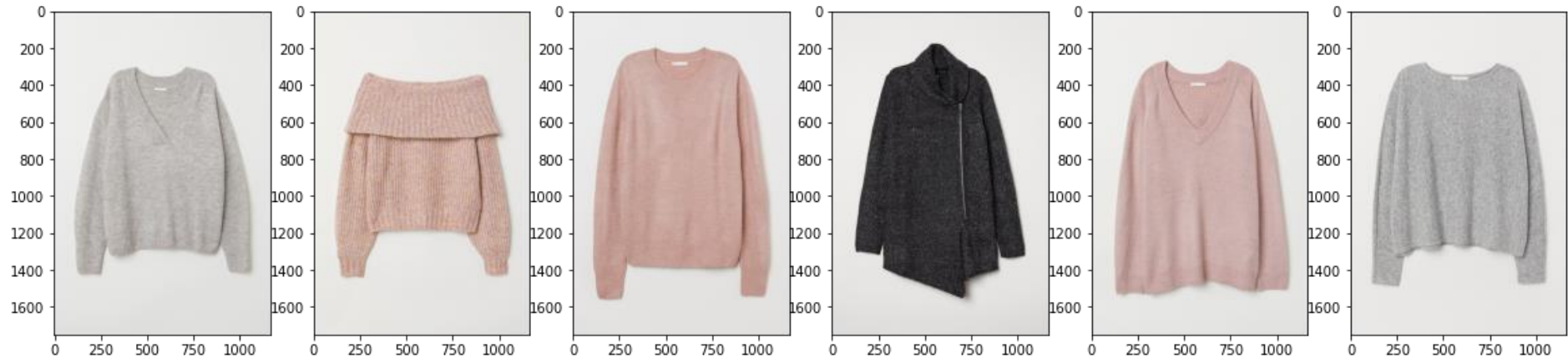
- Both models generated customer-specific recommendations
- Simple baseline model
 - 12 item recommendations per customer
 - 11 most frequently recommended items
- Content-based model more personalized
 - Made recommendations based on individual's prior preferences or choices.
 - 6 item recommendations per customer.

RESULTS – CONTENT-BASED FILTERING MODEL

- Items previously purchased by customer



- Items recommended for customer



SUMMARY

- Simple baseline model useful for identifying top future purchases among all customers, could assist developing marketing and ad campaigns
- Content-based filtering model better suited for making individual customer recommendations
- The second model is superior because it matches items to customer preferences

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Thank you!