Team Name

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Team Member

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Executive Summary

Our goal in this project is to develop a recommendation system using the Yelp dataset to enhance user experience and help businesses connect with potential customers. We plan to leverage machine learning models to deliver personalized recommendations based on user preferences

Project Background

In real-world customer purchase behavior, we think that personalized recommendations play a crucial role in promoting new business. This project aims to connect users with the most relevant businesses based on their review's history. We assume that users are more likely to leave positive reviews for businesses in categories they prefer. For this time, we have chosen coffee shops as our focus. By providing tailored recommendations, users can enjoy more relevant suggestions, while coffee shop owners gain increased visibility among their target audience.

Data Sources

We anticipate using the following datasets:

review.json: user_id, business_id, stars and text

user.json: user_id, review_count, average_stars, friends and elite

business.json: categories, stars, review_count, is_open, latitude, longitude, city, state and attributes

photo.json: optional

Proposed Solution

We plan to build a hybrid recommendation system that combines content-based filtering and collaborative filtering approaches:

1. **Content-Based Filtering**: Utilize business attributes such as categories, star ratings, and user reviews to recommend similar businesses.

2. **Machine Learning Models**: Employ factorization methods such as SVD and neural network models to enhance recommendation accuracy.

3. **Evaluation Metrics**: Use metrics like Precision, Recall, and RMSE to evaluate performance and optimize the system.