OPTIMIZING CONTENT LIKELY PERSONALIZATION

INTRODUCTION

Comcast is the second-largest broadcasting and cable television company in the world by revenue and the largest home Internet service provided in the United States. Comcast's main streaming platform, Xfinity X1, is a gateway for multiple streaming content providers such as Netflix or Amazon Prime. To improve customer satisfaction after COVID-19 has put a significant emphasis on the streaming industry, Comcast has been trying to optimize their content recommendation routine.

Problem Statement: How can we recommend the right content at the right moment to the right user? And how can we improve targeted marketing campaigns to boost ads placement and sales revenues using recommender systems?

KEY RESULTS

Significant Improvement relative to Baseline: According to our simulations results, we could improve the quality of good recommendations (Precision) by 3 points and the relevant recommendations actually retrieved (Recall) by 8 points.

Well calibrated predictions and ratings distributions using the Collaborative Filtering based methodology

Our model could bring an uplift of at least $5M in sales revenues and $20-30K in additional revenue on Advertisements for each new show compared to the current methodology.

METHODOLOGY

After a review of all available open-source libraries, we chose an Apple implemented library called turicreate to do the ratings / probabilities predictions using Collaborative Filtering methods as it is the most scalable and efficient one.

Despite a weak performance in pure prediction, Content-Based Filtering and Auto-Encoders can be used to find similar items to answer the Cold Start Problem in Collaborative Filtering.

PROJECT TIMELINE

JAN  Matched with Comcast
FEB  Visa Procedure & Project Scoping
MAR  EDA & Literature Review
APR  First CF models evaluations
MAY  Refining computational understanding
JUN  Feature Engineering & Building CBF models
JUL  Establishing criteria and selecting models
AUG  Evaluating CBF and CF based recommenders