

Exploring Recommendation Systems with ML

The surge in data collection has triggered a new information era where Recommender systems play a paramount role in enhancing user experiences on various online platforms, including e-commerce websites, streaming services, and social media. Essentially, these systems sift through user data to refine search outcomes, offering tailored recommendations.

The significance of these systems is monumental. They're pivotal in driving app installs on Google Play, watch time on YouTube, purchases on Amazon, and movies watched on Netflix, as per McKinsey's findings:

- 40% of app installs on Google Play
- 60% of watch time on YouTube
- 35% of purchases on Amazon
- 75% of movies watched on Netflix

In this project, I plan on exploring 3 different types of recommendation systems. I will be applying these methods on a movie dataset consisting of 5000 movies and providing custom recommendations. These recommendations systems are as follows:

1. Simple recommender: non-personalized recommendation based on general popularity.
2. Content-Based recommendation: Venturing into personalized recommendations. These movie recommendations are based on plot overview, genre, and other metadata similarities.
3. Collaborative filtering: Another personalized recommendation based on the behavior and preferences of similar users.

The goal of this project will be to highlight when to use, limitations, and the best model using Root Mean Squared Error (RMSE), and Mean Absolute Percentage Error (MAPE) metrics.

Come along on my journey as a novice Data Scientist, where I lay a foundation for building recommendation systems through a diverse skill set. These skills will allow me to tackle complex problems, drive business impact, and remain adaptable in a data-driven landscape.