

Introduction

Recommender Systems

Recommender systems are algorithms that are designed to recommend relevant items to users. They are useful in cases where there are a large number of potential items or choices that could be suggested. The objective of a recommender system is to predict the most likely items that would be of interest to the user. Due to the overwhelming number of items or choices that can be presented by online platforms, having a way to filter, prioritise, and efficiently present items of interest can help alleviate overloading the user with choices.

Recommender systems have proven to be critical in some industries as they can boost sales while also improving customers' experience. Recommender systems have proven particularly useful for e-commerce, online advertising, and streaming services such as YouTube, Netflix, and Spotify. Companies use state-of-the-art recommender systems to distinguish them from competitors and to improve customer retention.

There are many different methods and approaches to building a recommender system. However, the underlying concept of how they all work remains fairly constant. Recommender systems search through large volumes of dynamically generated data to provide users with personalised content and services [IFO15]. The system filters the most important information for the user, including user's item history and interests. It then computes the similarity between the user and all items and recommends the items with the highest similarity score. There are two major paradigms of recommender systems [Roc19], collaborative and content based methods.

Collaborative Recommenders

Collaborative recommenders rely solely on data generated by users. This approach focuses on past interactions between users and items in order to make new recommendations. These user-item interactions are stored in a so-called "user-item interactions matrix". The primary advantage of a collaborative approach is that it requires no contextual data about users or items.

Content Recommenders

Content recommenders rely on user-item interactions as well as user and/or item features. This type of system can incorporate user information such as age, sex, location, occupation or any other personal information or any item features. Content based methods can often explain the observed user-item interactions.

Objective

The objective of this project is to develop a recommender system for music artists. To do this we will use the [Last.fm](#) dataset, which can be accessed from [here](#).



