

# Movie Recommender System

## Introduction:

For the past year we are in our house due to a pandemic so most of our time we will spend watching mobile or watching movies and series with family or alone. But at that time it's hard for us to select which movie we should watch because we have so many options but we are confused about what movie is similar to the content of the other movies or if you like one movie and you would like to similar genera movie how we find? So there my website will guide you, you just have to select a movie that you watch and then the website automatically recommended you a similar type of movie using the Machine learning model. It will ease our needs and reduce the effort of finding movies

Let's clarify this concept of recommender system by a simple example, suppose you go clothing shop to buy the "Jeans", then the shopkeeper shows us multiple types, colors, and materials jeans from his shop collections. Then we pick up the one jean similar to our need and ask the shopkeeper that leads us similar to this pattern, material jeans and then shopkeeper shows us or recommended us the particular type of jeans as per our need this is a recommendation system. The movie recommender system uses the movie dataset and with the help of Machine learning model to process the data and handle that data using the concept of data science, we create a website where you should select the movie and similar to that movie we give a proper recommendation

A Recommender System refers to a system that is capable of predicting the future preference of a set of items for a user and recommending the top items. One key reason why we need a recommender system in modern society is that people have too many options to use due to the prevalence of the Internet

## Existing System:

### YouTube:

YouTube tries to predict what a user would like to see next based on what they usually like to watch, based on their own preferences and interests. It does not use connections from the social network to recommend what to watch next.

YouTube takes signals from a mix of user behaviours which are strong indicators that they like a video. So clicks on videos, watchtime and shares are taken as good cues. Along with these, YouTube also measures "valued watchtime" using user surveys that ask them to rate a watched video on a scale of one to five.

YouTube early days when it started it used content based filtering system to recommender system like it will suggest video on person to person match percentage now So basically it uses a mixed collaborative filtering system like on user watching preference by old data .

### **Proposed system:**

This system consist of person to person similarity we suggest movie and this system known as content based filtering system that we are implementing in our system.

## **Survey of Technologies:**

### **FrontEnd:**

- **Python:**

Python is a computer programming language.

It was created by Guido van Rossum, and released in 1991.

Often used to build websites and software, automate tasks, and conduct data analysis, Artificial Intelligence and machine learning.

- **Python library:**

- **Streamlit:**

Streamlit is an open source app framework in Python language.

It helps us create web apps for data science and machine learning in a short time.

It is compatible with major Python libraries such as scikit-learn, Keras, PyTorch, SymPy (latex), NumPy, pandas, Matplotlib etc.

- **Pickle:**

Pickle in Python is primarily used in serializing and deserializing a Python object structure.

In other words, it's the process of converting a Python object into a byte stream to store it in a file/database, maintain program state across sessions, or transport data over the network.

- **Pandas:**

Pandas is an open-source library that is made mainly for working with relational or labelled data both easily and intuitively.

It provides various data structures and operations for manipulating numerical data and time series. This library is built on top of the NumPy library.

- **Requests:**

The requests library is the de facto standard for making HTTP requests in Python.

It abstracts the complexities of making requests behind a beautiful, simple API so that you can focus on interacting with services and consuming data in your application.

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- **Numpy**

NumPy is a Python library used for working with arrays.

It also has functions for working in domain of linear algebra, fourier transform, and matrices.

NumPy was created in 2005 by Travis Oliphant. It is an open source project and you can use it freely.

- **OS**

OS comes under Python's standard utility modules.

This module provides a portable way of using operating system-dependent functionality.

The `*os*` and `*os.path*` modules include many functions to interact with the file system.

## **Hardware Requirements:**

Processor: Intel(R) Core(TM) i5-9600K CPU @ 3.70GHz 3.70 GHz

Installed RAM: 16.0 GB

System type: 64-bit operating system, x64-based processor

## Software Requirements:

- **Pycharm**

PyCharm is a dedicated Python Integrated Development Environment (IDE) providing a wide range of essential tools for Python developers, tightly integrated to create a convenient environment for productive Python, web, and data science development.

PyCharm provides smart code completion, code inspections, on-the-fly error highlighting and quick-fixes, along with automated code refactorings and rich navigation capabilities.

- **Jupyter Notebook**

The Jupyter Notebook App is a server-client application that allows editing and running notebook documents via a web browser.

The Jupyter Notebook App can be executed on a local desktop requiring no internet access (as described in this document) or can be installed on a remote server and accessed through the internet.

The Jupyter Notebook is an open source web application that you can use to create and share documents that contain live code, equations, visualizations, and text. Jupyter Notebook is maintained by the people at Project Jupyter.

- **Heroku**

Heroku is a container-based cloud Platform as a Service (PaaS).

Developers use Heroku to deploy, manage, and scale modern apps. Our platform is elegant, flexible, and easy to use, offering developers the simplest path to getting their apps to market.

Heroku is based on AWS and its services are simpler to use than Elastic Compute Cloud. It supports efficient building, deploying, and fast scaling. It is popular for its add-on capabilities as it supports many alerts and management tools.

- **Kaggle**

Kaggle is an online community platform for data scientists and machine learning enthusiasts

Kaggle allows users to collaborate with other users, find and publish datasets, use GPU integrated notebooks, and compete with other data scientists to solve data science challenges.

From in this website we were taking our dataset of 5000 movies to create recommender system

- **Web Browser**

The web browser is application software to explore www (World Wide Web). It provides an interface between the server and the client and requests to the server for web documents and services. It works as a compiler to render HTML which is used to design a webpage

## **Conclusion:**

So we successfully created web based application for movie recommendation system using python and used machine learning model to create recommended system model

## **Future Scope:**

To make a web application for movie recommendation system which is

Easy to operate,

Quick to response

Effectively handling operational error.

Providing simple yet consider constituent user interface.

The objective of recommender systems is to provide recommendations based on recorded information on the users' preferences. These systems use information filtering techniques to process information and provide the user with potentially more relevant items.