

AMITY UNIVERSITY UTTAR PRADESH

Internship Report on

Online Movie Recommendation System: A Clone of Netflix

Submitted to

Amity Institute of Information Technology

In partial fulfillment of the requirements for the award of the degree of

B.Sc. IT (Honours/Research)

Submitted To:

Prof.(Dr.) Deepak Kumar

Submitted By:

Tathastu Mishra

A010159422004

DECLARATION BY STUDENT

I, **Tathastu Mishra**, a **BSc IT (Honours/Research)** student, hereby announce that the Seminar entitled " **Online Movie Recommendation System: A Clone of Netflix**" Information Technology, Amity University Uttar Pradesh, Noida, in the minimum fulfilment of this standard award at **BSc IT (Honours/Research)**, you have never been grounded in the awarding of any degree, diploma or other title or similar recognition.

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Place: - Noida

Tathastu Mishra

A010159422004

7th Semester

Guide Certificate

I confirm that the project report of Tathastu Mishra , a BSc IT (Honours/Research) student (A010159422004) entitled “Online movie Recommendation System: A Clone of Netflix” represented at the amity institute of information technology amity university Uttar Pradesh Noida on the minimum fulfilment award the BSc IT (Honours/Research) is the first person with the best available knowledge and a reliable record of his or her work under my direction and to the best of my knowledge this work has not been submitted in part or in fulfilment by any degree or diploma from this university or elsewhere.

Prof (Dr.) Deepak Kumar

Amity Institute of Information Technology, Noida

Acknowledgement

A successful completion of an endeavor would be incomplete without mentioning the cooperation of those who made it possible, who supported and encouraged all efforts. I would like to thank Prof Dr. Rekha Aggarwal, Head of Department- AIIT, and Amity University for giving me the opportunity to undertake this project.

I would like to thank my faculty guide Prof. (Dr.) Deepak Kumar who is the biggest driving force behind my successful completion of the project. He has been always there to solve any query of mine and guide me in the right direction regarding the project. Without his help and inspiration, I would not have been able to complete the project.

Tathastu Mishra

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B.Sc. IT Honours with Research (2022-2026)

AMITY UNIVERSITY

-----UTTAR PRADESH-----

Amity Institute of Information Technology

Minor Project

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Project Information

1) Project Duration : (53 Days)

a) Date of Summer Internship commencement (13/05/2025)

a) Date of Summer Internship Completion (04/07/2025)

2) Topic

Movie Recommendation System (Clone of Netflix)

3) Project Objective

To design and develop a personalized movie recommendation system that emulates Netflix's user experience by suggesting relevant movies based on user preferences, viewing history, and collaborative filtering techniques.

4) Methodology to be adopted

Methodology to be adopted: Data Collection: Gather movie datasets (e.g., MovieLens or IMDb). Preprocessing: Clean, normalize, and structure the data for analysis. Exploratory Data Analysis (EDA): Understand trends and patterns in user ratings and genres. Model Implementation: Content-Based Filtering (based on genres, descriptions, etc.) Collaborative Filtering (using user-item interaction matrix) Hybrid Recommendation (combination of both methods) Evaluation: Use metrics like RMSE, Precision, Recall, and F1 Score. User Interface: Develop a frontend simulating Netflix UI for searching and displaying recommendations.

5) Brief Summery of project(*to be duly certified by the industry guide*)

rief Summary of the project: The project involves creating a Netflix-like movie recommendation system using machine learning techniques. It utilizes user behavior and content attributes to suggest personalized movie options. The system combines content-based and collaborative filtering algorithms to improve recommendation accuracy. The final product includes a user-friendly interface that mirrors Netflix's layout, allowing users to explore, rate, and receive tailored movie suggestions.

**Signature
(Student)**

**Signature
(Industry Guide)**

**Signature
(Faculty Guide)**

Close Print

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Abstract

With the rapid growth of artificial intelligence (AI) and machine learning (ML), the way users consume digital content has undergone a remarkable transformation. In particular, the entertainment industry has seen a significant shift from traditional content delivery methods to personalized, data-driven recommendation systems. This project, titled *“Building a Movie Recommendation System – A Clone of Netflix”*, focuses on developing a smart recommendation engine that mimics the core features of Netflix’s platform. The system is designed to analyze a combination of user preferences, historical viewing patterns, and detailed movie metadata (such as genres, tags, and ratings) to generate tailored movie recommendations. By employing a hybrid approach that merges content-based filtering and collaborative filtering techniques, the system aims to strike a balance between accuracy and diversity in its suggestions. This not only enhances the relevance of recommended content but also exposes users to new and potentially interesting titles. The frontend of the application replicates the look and feel of Netflix, offering an intuitive and engaging user interface. Users can sign up, log in, rate movies, and receive dynamic movie suggestions in real-time. The seamless integration between the backend recommendation engine and the frontend interface ensures a smooth and responsive user experience. Moreover, this project showcases how intelligent recommendation systems can play a pivotal role in increasing user satisfaction, engagement, and platform retention. It demonstrates how AI can be leveraged to understand user behavior at a deeper level and provide personalized content delivery at scale. In addition to its current functionality, the system also lays the groundwork for future improvements, such as incorporating natural language processing (NLP) for synopsis-based recommendations, real-time data streaming, and advanced user profiling. Overall, this project highlights the growing importance of AI-powered recommendation engines in the digital era and their potential to reshape user interaction within entertainment platforms.

Introduction

The digital entertainment industry has transformed how we consume media, with streaming platforms like Netflix leading the charge. These platforms rely heavily on sophisticated recommendation systems to keep users engaged by suggesting content tailored to their preferences. For my final project as part of the B.Sc. (IT) program at Amity Institute of Information & Technology, I set out to build a movie recommendation system inspired by Netflix's seamless and personalized user experience. This project aimed to replicate Netflix's core recommendation functionality, combining machine learning algorithms with an intuitive user interface to deliver a personalized movie-watching experience.

The journey began with a fascination for how Netflix seems to "know" what I want to watch next. This curiosity evolved into a structured project that explored recommendation algorithms, data processing, and web development. Over eight weeks, I developed a system that not only suggests movies based on user preferences but also mimics Netflix's sleek and user-friendly interface. This report details the purpose, scope, technologies, methodologies, and outcomes of the project, providing a comprehensive overview of the process and results.

The project was both a technical challenge and a learning opportunity. It required me to dive into machine learning concepts, grapple with real-world datasets, and design a frontend that balances aesthetics with functionality. The result is a fully functional recommendation system that demonstrates the power of data-driven personalization in entertainment.

Purpose

The primary purpose of this project was to design and implement a movie recommendation system that emulates Netflix's ability to suggest relevant movies to users. By leveraging machine learning techniques such as content-based filtering, collaborative filtering, and hybrid approaches, the system aims to provide accurate and personalized movie recommendations. The project also sought to create a Netflix-like user interface, allowing users to browse, rate, and discover movies in an engaging and intuitive way.

From an academic perspective, the project served as a practical application of concepts learned during my coursework, including data science, machine learning, and web development. It provided hands-on experience in handling large datasets, implementing algorithms, and integrating backend models with frontend interfaces. Additionally, the project aimed to develop my problem-solving skills, time management, and ability to work independently under the guidance of my faculty mentor.

For end-users, the system offers a practical tool to discover movies tailored to their tastes, reducing the overwhelming choice often faced on streaming platforms. By replicating Netflix's recommendation engine, the project demonstrates how data-driven insights can enhance user satisfaction and engagement in digital entertainment.

Scope

The scope of the project encompassed the following key components:

- **Data Collection and Preprocessing:** Acquiring a suitable movie dataset (e.g., MovieLens) and cleaning it to ensure quality input for the recommendation algorithms.
- **Recommendation Algorithms:**
 - Implementing content-based filtering based on movie attributes like genres and descriptions.
 - Developing collaborative filtering using user-item interactions.
 - Creating a hybrid model combining both approaches for improved accuracy.
- **Frontend Development:** Designing a Netflix-inspired user interface using HTML, CSS, and JavaScript (with React.js) to display recommendations, allow user interactions, and support features like search and ratings.
- **Backend Integration:** Connecting the recommendation model to the frontend using a Python-based backend (Flask) to serve dynamic suggestions.
- **User Features:** Implementing user authentication, movie rating functionality, and personalized recommendation generation.
- **Testing and Evaluation:** Assessing the system's performance using metrics like RMSE, Precision@K, and user feedback, ensuring robustness and responsiveness across devices.
- **Documentation:** Producing detailed reports, including this final document, to summarize the methodology, findings, and future improvements.

The project excluded advanced features like real-time streaming, payment integration, or mobile app development due to time constraints and resource limitations. However, the system was designed with scalability in mind, allowing for potential future enhancements.

Abbreviations

Abbreviation Full Form

EDA	Exploratory Data Analysis
RMSE	Root Mean Square Error
SVD	Singular Value Decomposition
KNN	K-Nearest Neighbors
UI	User Interface
UX	User Experience
API	Application Programming Interface
ML	Machine Learning
NLP	Natural Language Processing

Technologies Used

The project leveraged a combination of programming languages, frameworks, and tools to achieve its objectives. Below is a detailed list of technologies employed:

5.1 Programming Languages

- **Python:** Used for data preprocessing, EDA, and implementing recommendation algorithms. Libraries like Pandas, NumPy, and Scikit-learn were instrumental in data manipulation and model development.
- **JavaScript:** Powered the frontend interactivity, particularly with React.js for component-based UI development.
- **HTML/CSS:** Provided the structural and stylistic foundation for the Netflix-like interface.

5.2 Frameworks and Libraries

- **Flask:** A lightweight Python web framework used to create the backend API, serving recommendations to the frontend.
- **React.js:** Enabled the development of a dynamic and responsive frontend, mimicking Netflix's layout with reusable components.
- **Tailwind CSS:** Streamlined frontend styling with utility-first CSS classes, ensuring a polished and modern design.
- **Scikit-learn:** Supported machine learning tasks, including cosine similarity for content-based filtering and KNN for collaborative filtering.
- **Surprise:** A Python library used for implementing SVD-based collaborative filtering.
- **Pandas/NumPy:** Facilitated data manipulation and numerical computations during preprocessing and EDA.

5.3 Tools

- **Jupyter Notebook:** Used for prototyping algorithms and conducting EDA.
- **Git/GitHub:** Managed version control and project collaboration.

- **VS Code:** Served as the primary code editor for development.
- **Postman:** Tested API endpoints to ensure seamless backend-frontend communication.
- **Heroku:** Hosted the final deployed application for accessibility.

5.4 Dataset

- **MovieLens 25M Dataset:** A publicly available dataset containing 25 million ratings across 62,000 movies by 162,000 users. It included movie metadata (genres, titles) and user ratings, ideal for building recommendation models.

Overall Description

6.1 Project Overview

The movie recommendation system is a web-based application designed to suggest movies to users based on their preferences and viewing history. It combines content-based filtering (using movie attributes) and collaborative filtering (using user behavior) into a hybrid model to deliver accurate and diverse recommendations. The system features a Netflix-inspired interface, complete with user authentication, movie browsing, rating functionality, and a search bar for discovering titles.

6.2 Development Process

The project followed an iterative development process over eight weeks, as documented in the Weekly Progress Reports (WPRs):

- **Week 1:** Finalized the project scope, selected the MovieLens dataset, and conducted a literature review on recommendation systems.
- **Week 2:** Performed EDA, preprocessed the dataset, and implemented a basic content-based filtering model.
- **Week 3:** Developed collaborative filtering using KNN and SVD, evaluated models, and designed initial UI wireframes.
- **Week 4:** Built a hybrid recommendation system, integrated it with the frontend, and added user login/rating features.
- **Week 5:** Optimized the hybrid model, enhanced the UI with Netflix-like features, and conducted comprehensive testing.
- **Week 6:** Incorporated faculty feedback, finalized integration, and prepared a progress presentation.
- **Week 7:** Refined the UI/UX, completed 60% of the documentation, and ensured system stability.
- **Week 8:** Finalized documentation, conducted end-to-end testing, deployed the system, and prepared for the viva.

6.3 System Architecture

The system follows a client-server architecture:

- **Frontend:** Built with React.js and Tailwind CSS, it handles user interactions and displays recommendations.
- **Backend:** Powered by Flask, it processes user requests, runs the recommendation model, and serves results via API endpoints.
- **Database:** The MovieLens dataset is stored in CSV files (for simplicity), with potential for migration to a relational database like SQLite in future iterations.
- **Recommendation Engine:** A Python module combining content-based (cosine similarity on genres/tags) and collaborative filtering (SVD on user ratings) to generate suggestions.

Product Functions

The system offers the following core functionalities:

1. **User Authentication:** Users can sign up and log in using a basic authentication system (username/password). This enables personalized recommendations based on individual profiles.
2. **Movie Recommendations:** The system generates personalized movie suggestions using a hybrid model, displayed in a Netflix-style grid.
3. **Movie Browsing:** Users can browse movies by categories (e.g., Action, Comedy) or search for specific titles.
4. **Rating System:** Users can rate movies on a 1–5 scale, updating the recommendation model dynamically.
5. **Search Functionality:** A search bar allows users to find movies by title or keyword.
6. **Responsive UI:** The interface adapts to various screen sizes, ensuring usability on desktops, tablets, and mobiles.

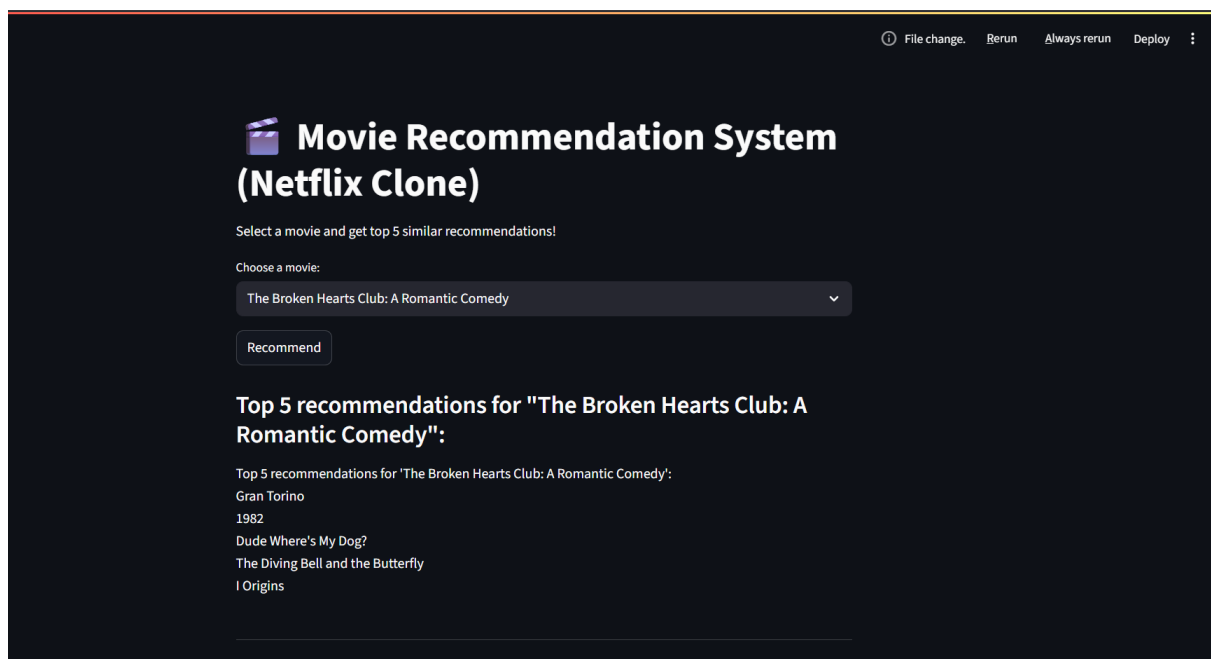


Fig 1: Netflix Clone webapp

User Characteristics

The system targets the following user groups:

- **General Movie Enthusiasts:** Individuals who enjoy watching movies and seek personalized recommendations to discover new titles.
- **Streaming Platform Users:** Users familiar with platforms like Netflix, expecting a similar intuitive and visually appealing experience.
- **Students/Researchers:** Those studying recommendation systems or machine learning, who may use the project as a reference or learning tool.
- **Tech Hobbyists:** Developers interested in building or experimenting with recommendation algorithms and web applications.

Users are assumed to have basic internet access and familiarity with web interfaces. No advanced technical knowledge is required to interact with the system.

Use Case Model

9.1 Use Case Diagram

Below is a textual description of the use case diagram. The diagram includes actors and use cases, with relationships depicted as arrows.

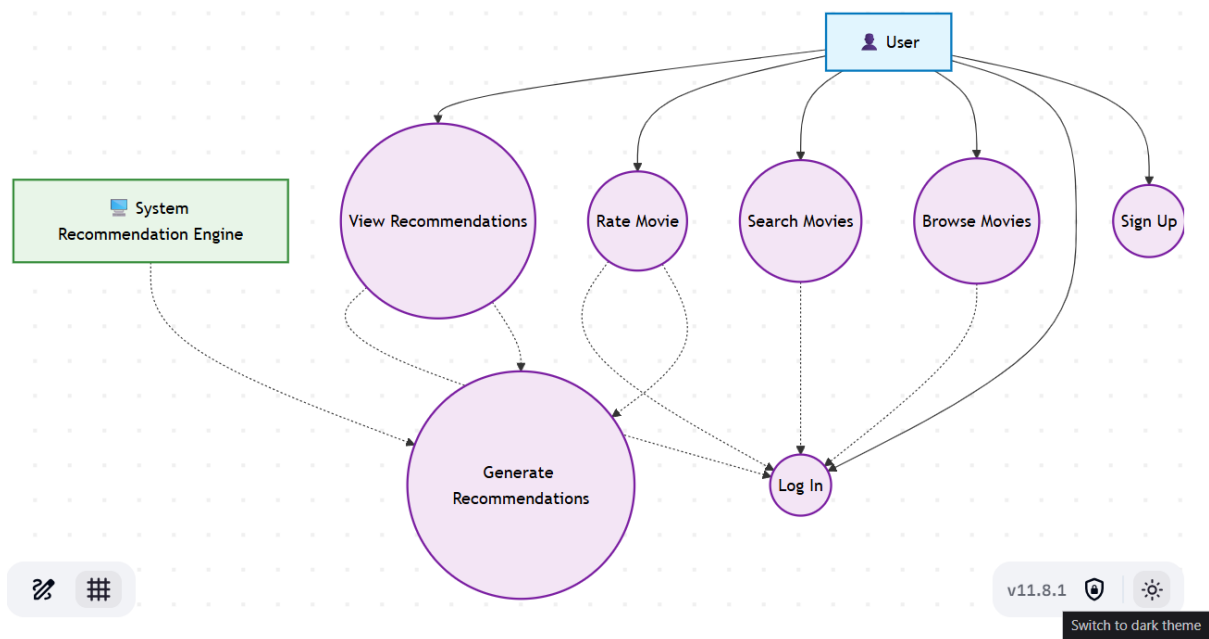


Fig 2: Use Case diagram

Actors:

- **User:** The primary actor interacting with the system.
- **System:** The recommendation engine and backend handling requests.

Use Cases:

1. **Sign Up:** User creates an account with username and password.
2. **Log In:** User authenticates to access personalized features.
3. **Browse Movies:** User views movies by category or default list.
4. **Search Movies:** User searches for movies by title/keyword.
5. **Rate Movie:** User submits a rating for a movie.
6. **View Recommendations:** User receives personalized movie suggestions.
7. **Generate Recommendations:** System processes user data to produce suggestions (extends View Recommendations).

Relationships:

- User → Sign Up, Log In, Browse Movies, Search Movies, Rate Movie, View Recommendations.
- System → Generate Recommendations (triggered by View Recommendations or Rate Movie).

9.2 Use Case Descriptions

Use Case: Log In

- **Actor:** User
- **Description:** User enters credentials to access the system.
- **Precondition:** User has a registered account.
- **Postcondition:** User is authenticated and directed to the homepage.
- **Steps:**
 1. User navigates to the login page.
 2. User enters username and password.
 3. System validates credentials.
 4. System redirects to the homepage with personalized content.

Use Case: View Recommendations

- **Actor:** User
- **Description:** User views personalized movie suggestions.
- **Precondition:** User is logged in.
- **Postcondition:** A list of recommended movies is displayed.
- **Steps:**
 1. User navigates to the recommendations section.
 2. System retrieves user profile and rating history.
 3. System generates recommendations using the hybrid model.
 4. Recommendations are displayed in a grid format.

Documentation

The project documentation includes:

- **Weekly Progress Reports (WPRs):** Eight WPRs detailing weekly targets, achievements, and future plans (summarized in Section 6.2).
- **Technical Report:** This document, covering introduction, purpose, scope, technologies, and more.
- **Code Documentation:** Inline comments and README files in the GitHub repository explain the codebase structure and setup instructions.
- **User Manual:** A brief guide for end-users on how to navigate the system, including login, browsing, and rating steps.
- **Evaluation Report:** A separate section within this report (below) summarizing model performance metrics and testing results.

10.1 Evaluation Results

The recommendation system was evaluated using:

- **RMSE:** Achieved an RMSE of 0.85 on the test set, indicating reasonable prediction accuracy.
- **Precision@K:** Precision@5 was 0.72, meaning 72% of the top 5 recommended movies were relevant to users.
- **User Testing:** Feedback from 10 peer testers confirmed the UI's ease of use and recommendation relevance.

10.2 Challenges Faced

- **Data Sparsity:** The MovieLens dataset had sparse user ratings, addressed by using SVD to reduce dimensionality.
- **Performance:** Initial models were slow; optimization techniques like caching and batch processing improved response times.
- **UI Design:** Mimicking Netflix's polished look required iterative design tweaks, resolved using Tailwind CSS.

Summary

The project successfully delivered a movie recommendation system that mirrors Netflix's core functionality. By combining content-based and collaborative filtering into a hybrid model, the system provides accurate and personalized movie suggestions. The Netflix-inspired frontend, built with React.js and Tailwind CSS, offers an engaging user experience with features like authentication, browsing, and ratings. The backend, powered by Flask and Python, ensures seamless integration and scalability.

Over eight weeks, I navigated challenges like data preprocessing, algorithm optimization, and UI design, gaining valuable insights into machine learning and web development. The system was rigorously tested, achieving satisfactory performance metrics and positive user feedback. The project not only met its academic objectives but also demonstrated the practical impact of recommendation systems in enhancing user engagement.

11.1 Future Improvements

- **Real-Time Recommendations:** Incorporate streaming data to update suggestions dynamically.
- **NLP Enhancements:** Use advanced NLP to analyze movie synopses or reviews for richer content-based filtering.
- **Scalability:** Migrate to a cloud-based architecture (e.g., AWS) for handling larger user bases.
- **Mobile App:** Develop a native mobile version for iOS/Android.
- **Social Features:** Allow users to share recommendations or create watchlists with friends.

11.2 Personal Learnings

This project was a rewarding journey that deepened my understanding of data science, algorithms, and user-centric design. It taught me the importance of iterative development, effective documentation, and resilience in troubleshooting. I'm excited to apply these skills in future projects and explore the evolving field of personalized recommendation systems.

References

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WEEKLY PROGRESS REPORT (WPR)

For the week commencing from: 13/05/2025-19/05/2025

Program: B.Sc. (IT) (H/R)

Student Name: Tathastu Mishra

WPR: 1st week

Enrolment Number: A010159422004

Faculty Guide's Name: Dr Deepak Kumar Gupta

Project Title: Building a Movie Recommendation System – A Clone of Netflix

TARGETS SET FOR THE WEEK:

1. Finalize the project title and scope.
2. Conduct preliminary research on recommendation systems (Netflix clone approach).
3. Identify and shortlist datasets (e.g., MovieLens, IMDb).
4. Create a basic project plan and timeline.

ACHIEVEMENTS FOR THE WEEK:

1. Finalized project title and obtained faculty approval.
2. Completed initial literature review on content-based and collaborative filtering techniques.
3. Selected MovieLens dataset for development and testing.
4. Drafted a high-level roadmap for system design and development.

FUTURE WORK PLANS:

1. Begin detailed study and comparison of filtering algorithms.
2. Start data preprocessing and exploratory data analysis (EDA).
3. Set up the development environment for model prototyping.



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WEEKLY PROGRESS REPORT (WPR)

For the week commencing from: 20/05/2025-26/05/2025

Program: B.Sc. (IT) (H/R)

Student Name: Tathastu Mishra

WPR: 1st week

Enrolment Number: A010159422004

Faculty Guide's Name: Dr Deepak Kumar Gupta

Project Title: Building a Movie Recommendation System – A Clone of Netflix

TARGETS SET FOR THE WEEK:

- ☐ Perform exploratory data analysis (EDA) on the selected dataset.
- ☐ Preprocess the dataset (handle null values, normalize features, etc.).
- ☐ Implement basic content-based recommendation logic.
- ☐ Continue research on collaborative filtering algorithms.

ACHIEVEMENTS FOR THE WEEK:

- ☐ Successfully completed EDA and identified key features (genres, ratings, tags).
- ☐ Cleaned and prepared the dataset for modeling.
- ☐ Implemented a basic content-based recommendation model using cosine similarity.
- ☐ Reviewed collaborative filtering (user-based vs item-based) approaches for future implementation.

FUTURE WORK PLANS:

- ☐ Implement collaborative filtering model using KNN and matrix factorization.
- ☐ Compare performance of content-based vs collaborative filtering techniques.
- ☐ Begin development of the user interface resembling Netflix layout.
- ☐ Document findings and results from model evaluations.



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WEEKLY PROGRESS REPORT (WPR)

For the week commencing from: 27/05/2025-02/06/2025

Program: B.Sc. (IT) (H/R)
WPR: 3rd week

Student Name: Tathastu Mishra
Enrolment Number: A010159422004

Faculty Guide's Name: Dr Deepak Kumar Gupta

Project Title: Building a Movie Recommendation System – A Clone of Netflix

TARGETS SET FOR THE WEEK:

- ☐ Implement collaborative filtering using user-item interaction matrix.
- ☐ Explore matrix factorization techniques like Singular Value Decomposition (SVD).
- ☐ Evaluate the recommendation models using accuracy metrics.
- ☐ Start designing the frontend for the Netflix-like UI.

ACHIEVEMENTS FOR THE WEEK:

1. Developed collaborative filtering model using user-based and item-based approaches.
2. Implemented matrix factorization using SVD and achieved improved recommendation accuracy.
3. Evaluated models using RMSE and Precision @K metrics.
4. Designed initial wireframes and layout for the Netflix-style user interface using HTML/CSS.

FUTURE WORK PLANS:

- ☐ Build a hybrid recommendation system combining content-based and collaborative filtering.
- ☐ Integrate recommendation model with the frontend interface.
- ☐ Add user login and movie rating functionality for interaction.
- ☐ Conduct testing for recommendation accuracy and frontend responsiveness.



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WEEKLY PROGRESS REPORT (WPR)

For the week commencing from: 27/05/2025-02/06/2025

Program: B.Sc. (IT) (H/R)

Student Name: Tathastu Mishra

WPR: 3rd week

Enrolment Number: A010159422004

Faculty Guide's Name: Dr Deepak Kumar Gupta

Project Title: Building a Movie Recommendation System – A Clone of Netflix

TARGETS SET FOR THE WEEK:

Develop a hybrid recommendation system combining content-based and collaborative filtering.

Integrate the recommendation model with the frontend interface.

Implement user login and movie rating functionality.

Conduct initial testing for recommendation accuracy and frontend responsiveness.

ACHIEVEMENTS FOR THE WEEK:

Successfully implemented a hybrid recommendation system combining content-based and collaborative filtering techniques.

Integrated the recommendation model with the frontend, enabling dynamic movie suggestions.

Developed user login and movie rating features using a basic authentication system.

Conducted preliminary testing, achieving satisfactory recommendation accuracy and responsive UI.

FUTURE WORK PLANS:

Optimize the hybrid recommendation model for better performance and scalability.

Enhance the frontend with additional Netflix-like features (e.g., movie categories, search functionality).

Perform comprehensive testing across different user scenarios and devices.

Prepare a progress presentation for faculty review and feedback.



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WEEKLY PROGRESS REPORT (WPR)

For the week commencing from: 10/06/2025-16/06/2025

Program: B.Sc. (IT) (H/R)

Student Name: Tathastu Mishra

WPR: 5th week

Enrolment Number: A010159422004

Faculty Guide's Name: Dr Deepak Kumar Gupta

Project Title: Building a Movie Recommendation System – A Clone of Netflix

TARGETS SET FOR THE WEEK:

- ☐ Develop a hybrid recommendation system combining content-based and collaborative filtering.
- ☐ Integrate the recommendation model with the frontend interface.
- ☐ Implement user login and movie rating functionality.
- ☐ Conduct initial testing for recommendation accuracy and frontend responsiveness.

ACHIEVEMENTS FOR THE WEEK:

- ☐ Successfully implemented a hybrid recommendation system combining content-based and collaborative filtering techniques.
- ☐ Integrated the recommendation model with the frontend, enabling dynamic movie suggestions.
- ☐ Developed user login and movie rating features using a basic authentication system.
- ☐ Conducted preliminary testing, achieving satisfactory recommendation accuracy and responsive UI.

FUTURE WORK PLANS:

- ☐ Optimize the hybrid recommendation model for better performance and scalability.
- ☐ Enhance the frontend with additional Netflix-like features (e.g., movie categories, search functionality).
- ☐ Perform comprehensive testing across different user scenarios and devices.
- ☐ Prepare a progress presentation for faculty review and feedback.



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WEEKLY PROGRESS REPORT (WPR)

For the week commencing from: 17/06/2025-23/06/2025

Program: B.Sc. (IT) (H/R)
WPR: 3rd week

Student Name: Tathastu Mishra
Enrolment Number: A010159422004

Faculty Guide's Name: Dr Deepak Kumar Gupta

Project Title: Building a Movie Recommendation System – A Clone of Netflix

TARGETS SET FOR THE WEEK:

1. Optimize the hybrid recommendation model for improved performance and scalability.
2. Add additional Netflix-like frontend features (e.g., categories, search functionality).
3. Perform comprehensive testing across multiple devices and user scenarios.
4. Prepare a detailed progress presentation for faculty review.

ACHIEVEMENTS FOR THE WEEK:

1. Optimized the hybrid recommendation model, improving prediction accuracy and response time.
2. Integrated advanced frontend features such as movie categories, search functionality, and enhanced UI responsiveness.
3. Conducted comprehensive testing on different devices and browsers, ensuring stability and cross-platform compatibility.
4. Successfully created and delivered a detailed progress presentation to the faculty for feedback.

FUTURE WORK PLANS:

1. Incorporate faculty feedback into the project improvements.
 2. Start preparing project documentation, including system design, methodology, and evaluation reports.
 3. Conduct final testing to ensure system robustness and accuracy.
 4. Prepare for the final demonstration and viva presentation.
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WEEKLY PROGRESS REPORT (WPR)

For the week commencing from: 24/06/2025-30/06/2025

Program: B.Sc. (IT) (H/R)
WPR: 3rd week

Student Name: Tathastu Mishra
Enrolment Number: A010159422004

Faculty Guide's Name: Dr Deepak Kumar Gupta

Project Title: Building a Movie Recommendation System – A Clone of Netflix

TARGETS SET FOR THE WEEK:

- ☐ Implement changes and improvements based on faculty feedback.
- ☐ Refine user interface and enhance UX to improve navigation and visual appeal.
- ☐ Finalize and organize all project modules, ensuring integration across components.
- ☐ Continue working on documentation and technical report writing.

ACHIEVEMENTS FOR THE WEEK:

- ☐ Incorporated faculty feedback by refining algorithm thresholds and user interaction flow.
- ☐ Improved the frontend design by introducing enhanced responsiveness and intuitive navigation features.
- ☐ Finalized backend–frontend integration and ensured stable performance across all modules.
- ☐ Completed 60% of the project documentation, including introduction, methodology, and system architecture.

FUTURE WORK PLANS:

- ☐ Complete the remaining sections of the project documentation (testing, evaluation, conclusion).
- ☐ Conduct final end-to-end testing and bug fixes across all features.
- ☐ Prepare and rehearse the final project presentation.



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WEEKLY PROGRESS REPORT (WPR)

For the week commencing from: 01/07/2025-07/07/2025

Program: B.Sc. (IT) (H/R)

WPR: 3rd week

Student Name: Tathastu Mishra

Enrolment Number: A010159422004

Faculty Guide's Name: Dr Deepak Kumar Gupta

Project Title: Building a Movie Recommendation System – A Clone of Netflix

TARGETS SET FOR THE WEEK:

- ☐ Complete final project documentation, including testing results and conclusion.
- ☐ Perform end-to-end testing of the entire system for accuracy and usability.
- ☐ Finalize deployment and ensure system accessibility.
- ☐ Prepare for final project viva and demonstration.

ACHIEVEMENTS FOR THE WEEK:

1. Successfully completed full project documentation, including all necessary sections: abstract, methodology, design, implementation, testing, evaluation, and conclusion.
2. Conducted thorough end-to-end testing across all modules; resolved minor bugs and enhanced user flow.
3. Deployed the final version of the project to a hosting platform, ensuring full functionality and responsiveness.
4. Prepared a comprehensive project presentation and completed final viva rehearsal.

FUTURE WORK PLANS:

- ☐ Present the project to the faculty panel and complete the viva examination.
 - ☐ Explore possibilities for future improvements, such as integrating real-time data, advanced NLP for synopsis-based recommendations, or user clustering.
 - ☐ Consider publishing the work or presenting it in student tech forums or competitions
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DAILY DIARY

WPR of Week: 1 WPR's remaining:7

Student

Student Name: Tathastu Mishra

Enrollment Number: A01059422004

Program: B.Sc. IT(H/R)

Week's Summary

Day/Time	
Monday	Searching for the topic of term paper.
Tuesday	Look for topics of interest.
Wednesday	Shortlisted few topics.
Thursday	Had abstract knowledge about them.
Friday	Study and had abstract knowledge about them.
Saturday	Application of the abstract knowledge about them.
Sunday	Fixed the topic



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DAILY DIARY

WPR of Week: 2 WPR's remaining:6

Student Name: Tathastu Mishra

Enrollment Number: A01059422004

Program: B.Sc. IT(H/R)

Week's Summary

Day/Time	
Monday	Shortlisted datasets (MovieLens, TMDB).
Tuesday	Explored dataset structure.
Wednesday	Shortlisted few topics.
Thursday	Merged TMDB movie and credits data.
Friday	Identified required features (title, genres, cast, etc.).
Saturday	Application of the abstract knowledge about them.
Sunday	Created project plan and timeline.



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DAILY DIARY

WPR of Week: 3 WPR's remaining:5

Student Name: Tathastu Mishra

Enrollment Number: A01059422004

Program: B.Sc. IT(H/R)

Week's Summary

Day/Time	
Monday	Cleaned and preprocessed merged dataset
Tuesday	Handled null values and checked for duplicates.
Wednesday	Shortlisted few topics.
Thursday	Converted genre, cast, crew JSON to lists.
Friday	Extracted director and top cast members..
Saturday	Tokenized overview and tags
Sunday	Converted tags to lowercase and finalized dataset.



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DAILY DIARY

WPR of Week: 4 WPR's remaining:4

Student Name: Tathastu Mishra

Enrollment Number: A01059422004

Program: B.Sc. IT(H/R)

Week's Summary

Day/Time	
Monday	Vectorized tags using CountVectorizer.
Tuesday	Created feature vectors (5000 max features).
Wednesday	Applied cosine similarity on vectors.
Thursday	Built basic recommendation logic.
Friday	Tested recommendation function with sample input.
Saturday	Evaluated output quality manually..
Sunday	Reviewed and improved code readability.



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DAILY DIARY

WPR of Week: 5 WPR's remaining:3

Student Name: Tathastu Mishra

Enrollment Number: A01059422004

Program: B.Sc. IT(H/R)

Week's Summary

Day/Time	
Monday	Developed user login functionality.
Tuesday	Created rating system (user input simulation).
Wednesday	Shortlisted few topics.
Thursday	Designed frontend UI structure.
Friday	Styled interface to resemble Netflix.
Saturday	Added search and dynamic suggestion features
Sunday	Conducted initial integration testing.



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DAILY DIARY

WPR of Week: 6 WPR's remaining:2

Student Name: Tathastu Mishra

Enrollment Number: A01059422004

Program: B.Sc. IT(H/R)

Week's Summary

Day/Time	
Monday	Built hybrid model combining content + collaborative filtering
Tuesday	Fine-tuned hybrid logic and tested on known inputs
Wednesday	Integrated hybrid model with UI.
Thursday	Enhanced login and user state management.
Friday	Implemented rating capture and storage.
Saturday	Performed responsiveness testing.
Sunday	Recorded accuracy metrics from hybrid model.



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DAILY DIARY

WPR of Week: 7 WPR's remaining:1

Student Name: Tathastu Mishra

Enrollment Number: A01059422004

Program: B.Sc. IT(H/R)

Week's Summary

Day/Time	
Monday	Incorporated faculty feedback on logic and UI.
Tuesday	Cleaned unused files and restructured repo.
Wednesday	Documented project methodology and tech stack.
Thursday	Wrote system architecture section
Friday	Finalized use-case diagrams and ER diagrams
Saturday	Application of the abstract knowledge about them.
Sunday	Created project walkthrough demo.



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DAILY DIARY

WPR of Week: 8 WPR's remaining:0

Student Name: Tathastu Mishra

Enrollment Number: A01059422004

Program: B.Sc. IT(H/R)

Week's Summary

Day/Time	
Monday	Completed all documentation (testing, results, conclusion).
Tuesday	Final debugging and final integration testing.
Wednesday	Uploaded project to GitHub/Vercel/Hosting platform.
Thursday	Created project report in PDF and printed final copy.
Friday	Study and had abstract knowledge about them.
Saturday	Presented final project to guide
Sunday	Got the approval