DEPARTMENT OF APEX INSTITUTE OF TECHNOLOGY

AML LAB PROJECT PROPOSAL

Movie Recommendation System

**Project Title:**

**Project Scope:** Our project scope includes collecting comprehensive movie data, employing advanced algorithms for precise recommendations, creating a user-friendly interface, and ensuring real-time updates. We prioritize user satisfaction through continuous feedback and maintain strict data privacy measures. Our goal is to redefine movie discovery, offering effortless and enjoyable recommendations for users.

1. **Overview:** Our project, Smart Movie Suggestions, does just that. It uses clever technology to recommend movies personalized to your liking. No more endless scrolling or guessing – it's like having a movie expert at your fingertips. With a user-friendly interface and real-time updates, you'll discover great films effortlessly.
2. **Objectives:**

* Developing a recommendation system that surpasses existing solutions in terms of accuracy and personalization.
* Enhancing the user experience by providing insights into why a particular movie is recommended.
* Keeping recommendations up-to-date and relevant in the fast-paced world of entertainment.
* Maximize user satisfaction through continuous feedback and improvement.
* Create an intuitive user interface for effortless interaction and customization of preferences.
* Implement explainable AI to provide users with insights into why a particular movie is recommended.

1. **Dataset:** We utilize two primary datasets:

* **tmdb\_5000\_movies:** Contains comprehensive movie information like titles, genres, keywords, and overviews.
* **tmdb\_5000\_credits:** Provides data on cast and crew members, including their roles and names.

1. **Constraints:**

* **Data Quality:** Ensuring accurate and diverse movie data is paramount for reliable recommendations.
* **Scalability:** Building a system that can handle a growing movie library and user base without performance issues is essential.
* **Privacy and Security:** Safeguarding user data while delivering personalized recommendations is a top priority.
* **Real-Time Updates:** Keeping recommendations current with changing trends and preferences requires robust real-time data integration.
* **Explainability:** Balancing advanced AI-driven recommendations with user-friendly, transparent explanations presents a unique challenge.

1. **Methodology:**

* Data Collection & Preprocessing: Gather and clean movie data.
* Feature Engineering: Extract relevant movie features.
* Recommendation Algorithms: Implement ML/DL algorithms.
* User Interface Design: Create an intuitive interface.
* Real-Time Data Updates: Incorporate real-time data.
* Explainable AI (XAI): Use XAI models for transparency.
* Deployment & Scaling: Deploy and ensure scalability.
* Monitoring & Maintenance: Continuously monitor and update the system.

# Requirements:

Hardware Requirements 1. Memory

2. Storage

3. GPU

4. Internet

Software Requirements 1. Python

2. Scikit-Learn

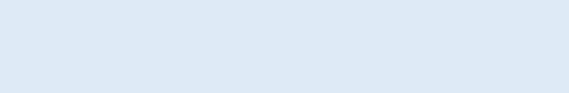
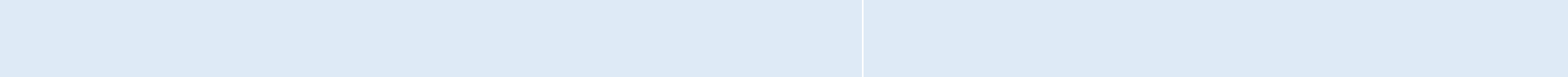
3. Web Hosting Service

4. Web Framework

5. Jupiter Notebook

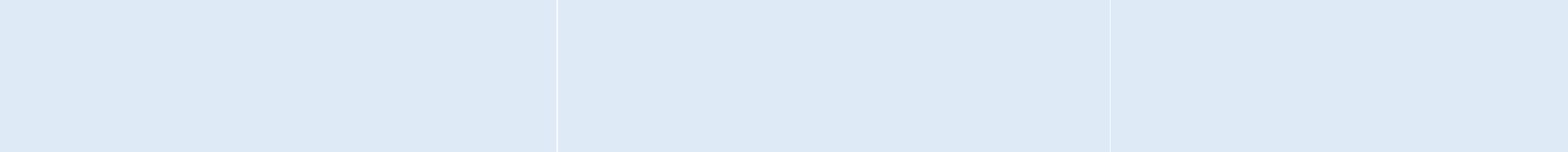
6. APIs

# STUDENTS DETAILS



|  |  |  |
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APPROVAL AND AUTHORITY TO PROCEED

We approve the project as described above, and authorize the team to proceed.

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| --- | --- | --- |
| Name | Title | Signature  (With Date) |
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