RAJALAKSHMI ENGINEERING COLLEGE
An AUTONOMOUS Institution
Affiliated to ANNA UNIVERSITY, Chennai

25 years OF ACADEMIC EXCELLENCE

## Department of Computer Science and Engineering

# INSIGHTED: AN ML-POWERED PLATFORM CONNECTING LEARNERS WITH EXPERTS FOR TAILORED LECTURES


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# Problem Statement and Motivation

- In the current educational and professional ecosystem, finding and organizing relevant guest lectures is often a manual, inefficient, and disconnected process. Students, educators, and institutions struggle to identify expert speakers who match specific academic themes, industry trends, or learner needs. Traditional methods rely heavily on personal networks or outdated directories, limiting exposure to diverse perspectives and reducing the effectiveness of learning outcomes.

- **InsightEd** addresses this gap by offering a centralized, intelligent platform that simplifies the discovery and shortlisting of guest lecturers. Using machine learning for personalized recommendations and dynamic filtering, the platform enables users to find speakers based on topic relevance, expertise, audience type, and presentation style. The motivation behind InsightEd is to enhance experiential learning, promote industry-academia collaboration, and make global expertise more accessible—ultimately transforming the way knowledge is shared across educational and professional environments.

# Existing System

currently, most educational institutions and professional organizers rely on manual processes or fragmented platforms to arrange guest lectures and expert talks. These methods include using:

- **Personal and professional networks**: Most speakers are invited through known contacts, limiting diversity and discovery.
- **Social media and LinkedIn**: While useful, they require manual searches, lack relevance filters, and provide no speaker shortlisting or recommendation features.
- **Event management or webinar platforms**: These focus on hosting and logistics, not on intelligently discovering or matching expert speakers.
- **Speaker bureaus or agency websites**: These are often commercial, limited to high-profile speakers, and not tailored to academic or niche professional audiences.

These systems lack personalization, intelligent recommendations, and dynamic filtering based on specific user requirements such as topic, audience, tone, and teaching style. As a result, institutions often miss out on connecting with the most relevant speakers who can add value to their sessions.

# Objectives

- **Centralize Access to Guest Speakers**

  Provide a unified platform for students, educators, and institutions to explore a wide range of expert speakers across disciplines.

- **Enable Smart Shortlisting and Filtering**

  Allow users to filter speakers based on criteria such as expertise, topics, audience type, personality, and speaking style.

- **Implement ML-Based Recommendations**

  Use machine learning models (e.g., TF-IDF or content-based filtering) to recommend suitable speakers based on user input or previous preferences.

- **Enhance Academic-Industry Collaboration**

  Facilitate meaningful connections between academia and industry professionals for knowledge sharing and skill development.

- **Promote Inclusivity and Diversity**

  Encourage access to a broad, diverse pool of speakers, enabling exposure to different ideas, backgrounds, and experiences.

# Abstract


- In the rapidly evolving landscape of education and professional development, there is a growing need for seamless access to expert knowledge and real-world insights. Guest lectures play a vital role in bridging the gap between theoretical learning and industry practices. However, the traditional methods of identifying and inviting guest speakers are often manual, inefficient, and limited by personal networks.

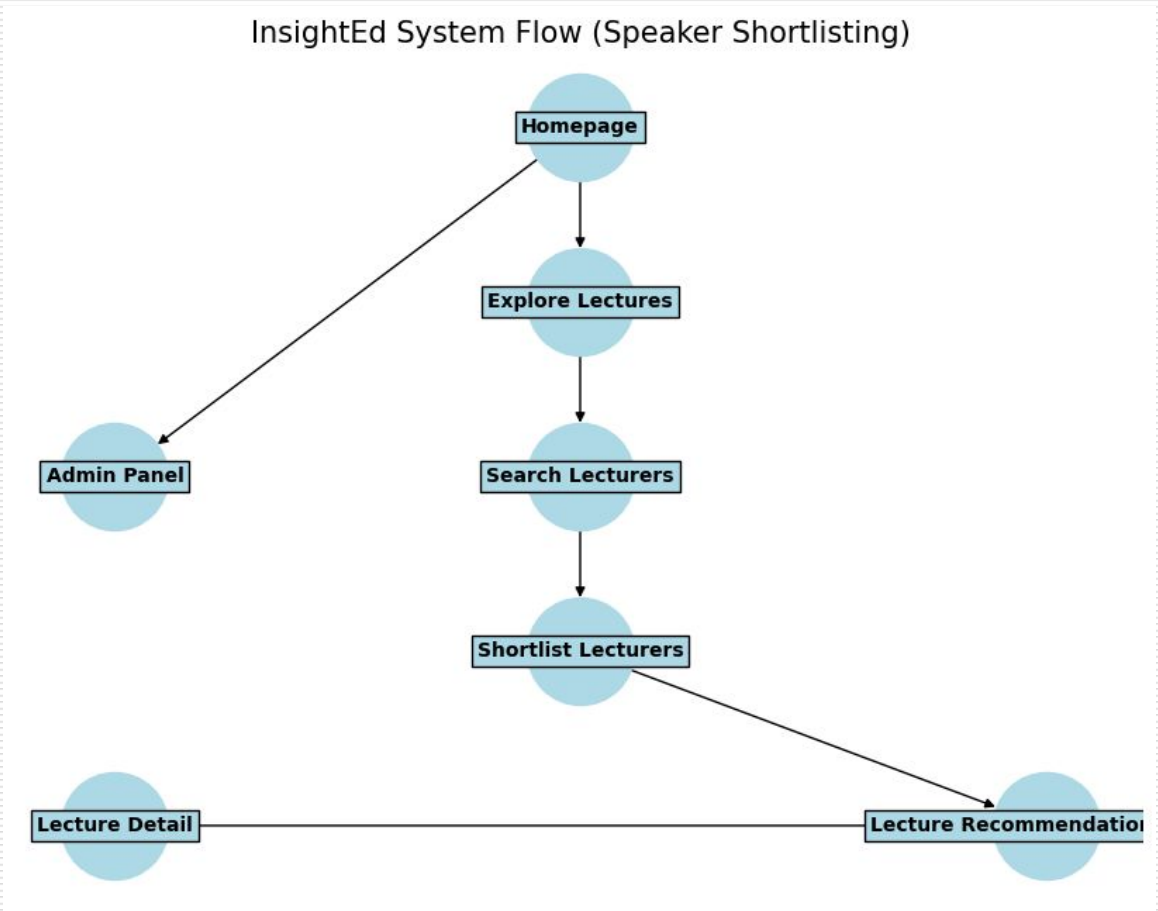
- **InsightEd** is a smart, AI-powered platform designed to simplify the process of discovering, shortlisting, and connecting with guest lecturers. By leveraging machine learning techniques and dynamic filtering mechanisms, InsightEd allows users to find speakers based on their domain expertise, speaking style, personality, audience type, and relevance to academic or professional goals. The platform is aimed at students, educators, and institutions seeking a more intelligent and inclusive way to enrich their learning environments.

- Through a centralized and recommendation-driven approach, InsightEd enhances industry-academia collaboration, promotes diverse perspectives, and transforms the way educational and professional events are planned and executed.

# Proposed System

- The proposed **InsightEd** platform aims to simplify the process of discovering and connecting with expert guest lecturers. It uses machine learning for personalized speaker recommendations, allowing users to filter speakers based on expertise, audience type, and speaking style. The platform features a centralized directory, dynamic search options, and detailed speaker profiles, making it easy for students, educators, and institutions to find and book relevant speakers. By streamlining the process and enhancing academic-industry collaboration, InsightEd offers a smarter, more efficient way to enrich learning experiences.

# System Architecture



# List of Modules

**Frontend (User Interface)**:

- **UI Design**: The user interface has been designed to be clean, responsive, and user-friendly, likely using **Angular**for the frontend.
- **Search and Filters**: A search bar with filters for exploring speakers based on expertise, topic, audience, and more.
- **Speaker Profiles**: Speaker cards that provide detailed information about each guest lecturer, including bio, expertise, ratings, etc.

**Speaker Directory**:

- A curated directory of guest speakers with detailed profiles (expertise, topics covered, etc.).
- Filtering options for users to narrow down results based on their specific needs (e.g., topic, audience type).

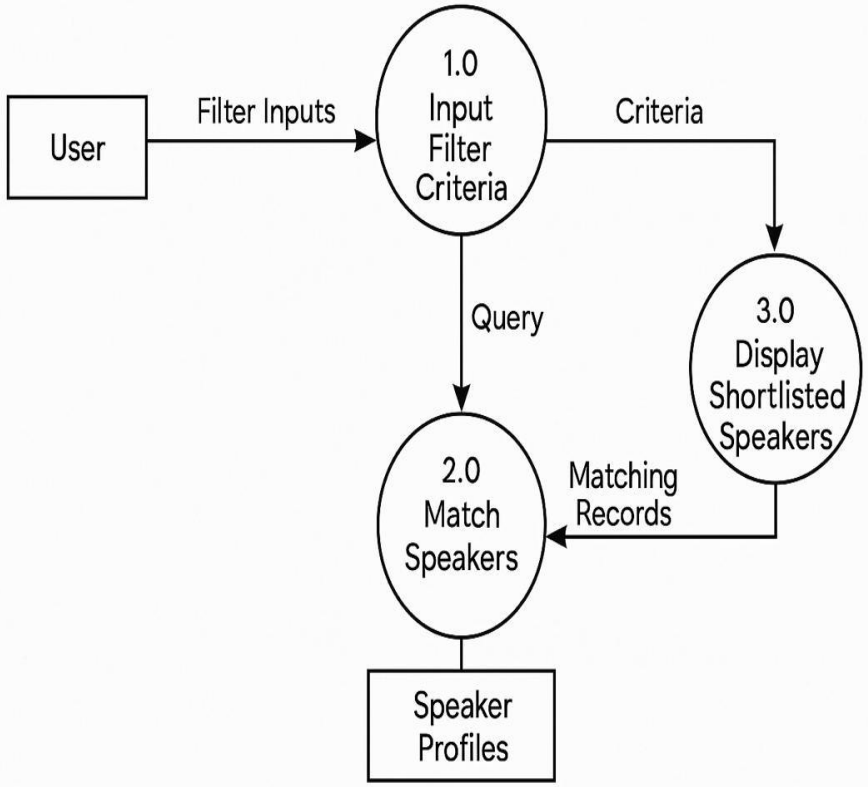
**Machine Learning-based Recommendation Engine**:

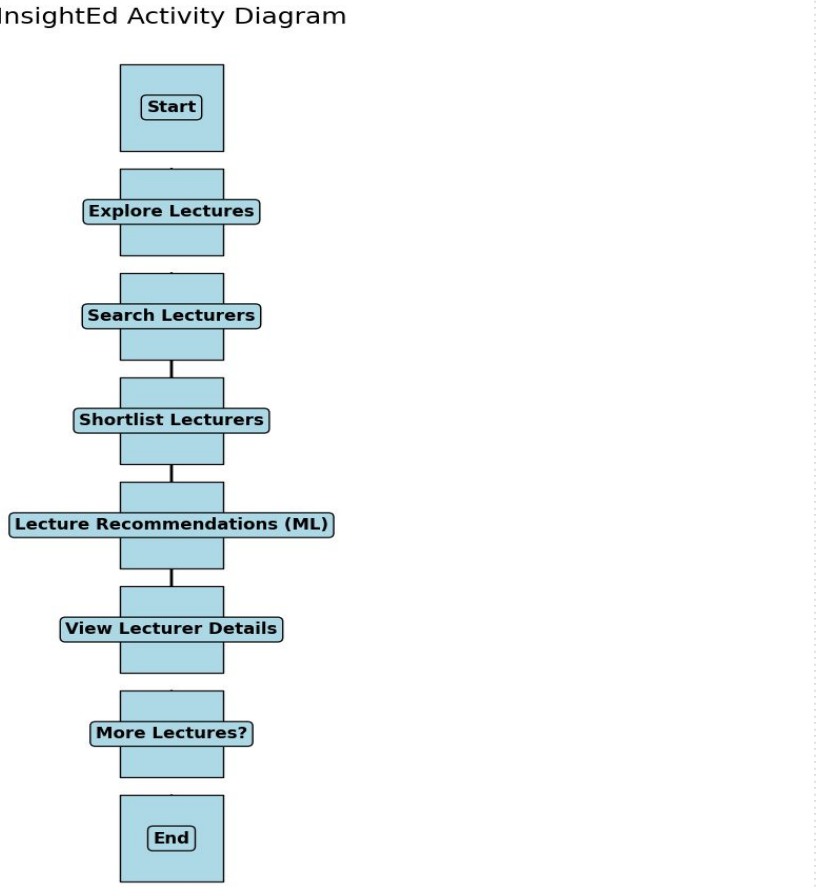
- **TF-IDF or Content-Based Filtering**: To recommend speakers to users based on their search preferences or past selections.
- A personalized approach that learns from user interactions to improve speaker recommendations over time.

**User Management**:

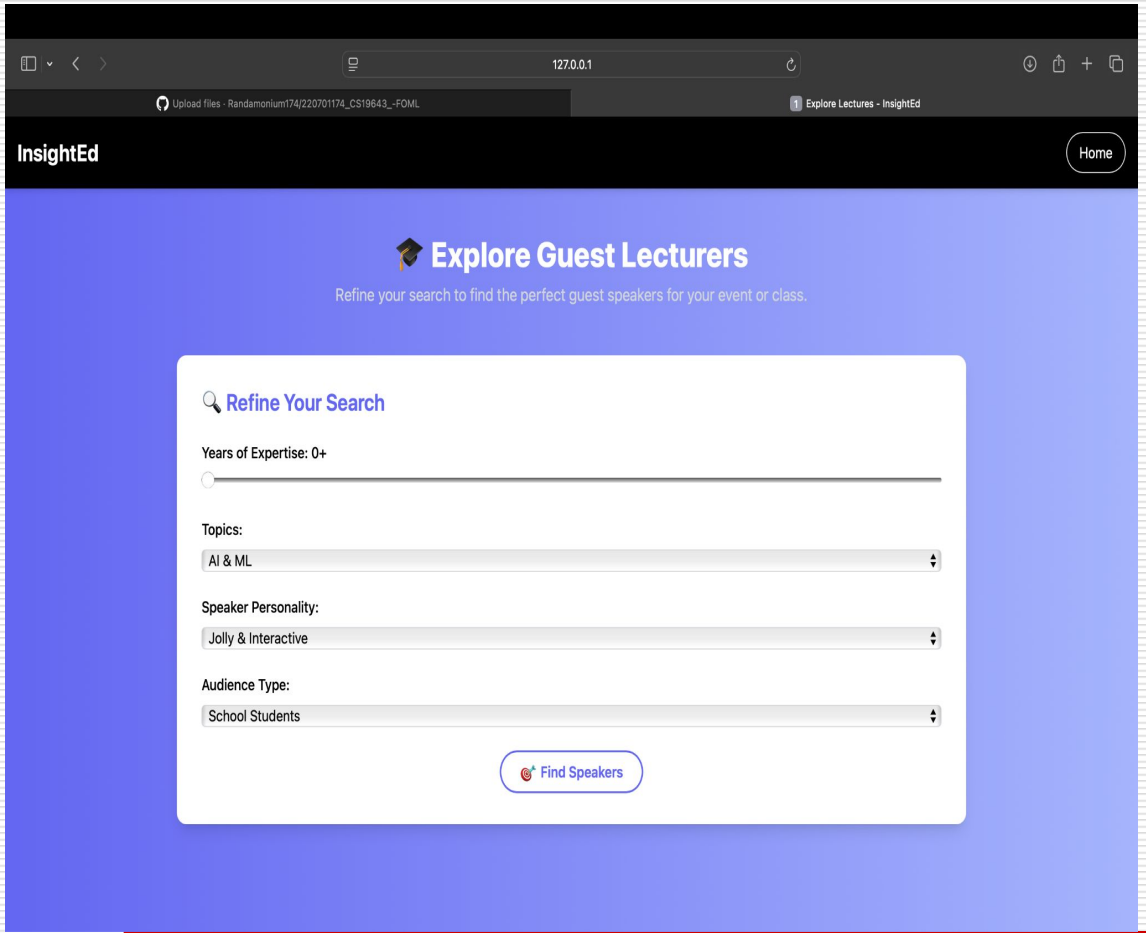
- User profiles with personalized preferences (for students, educators, or institutions).
- Ability to save favorite speakers and manage session requests.

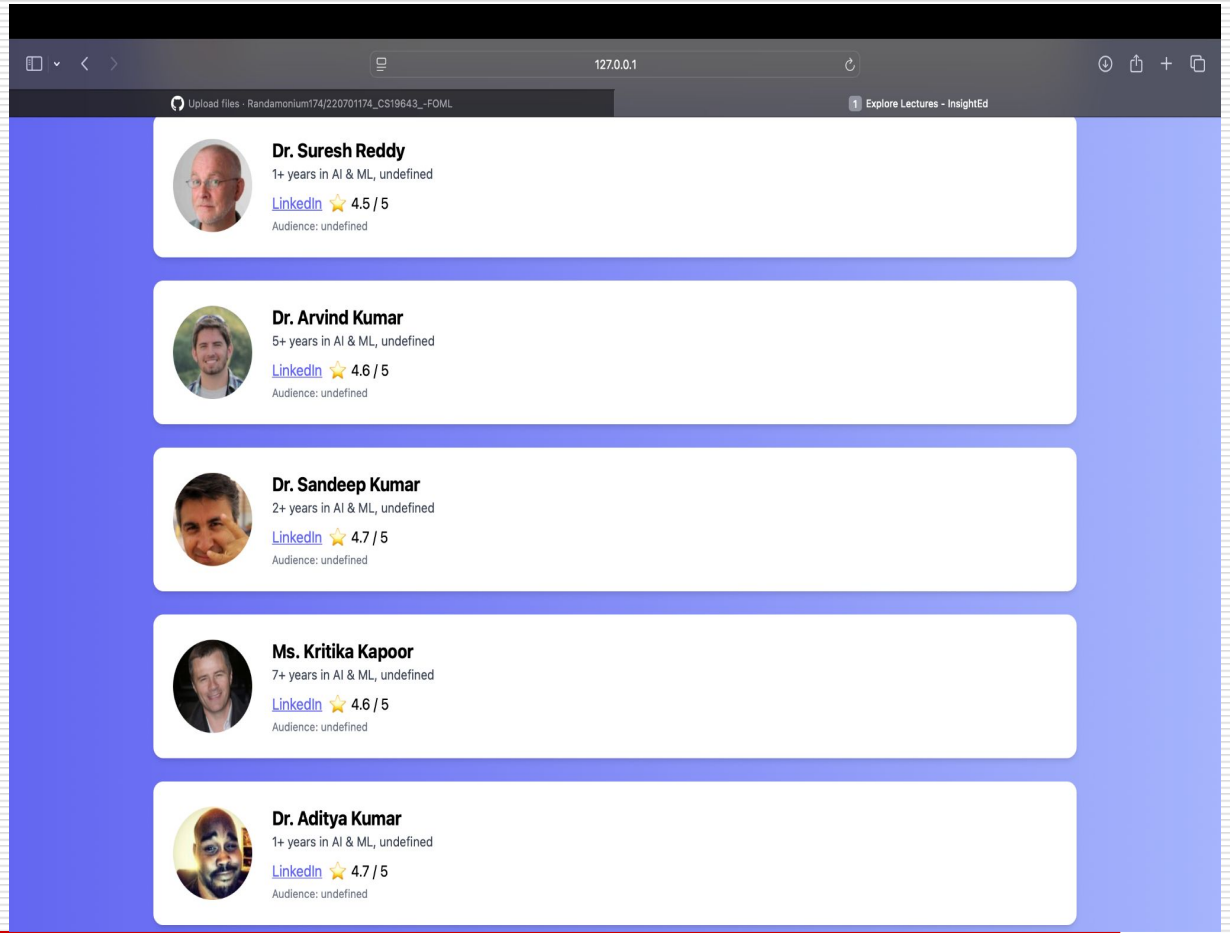
# Functional Description for each modules with DFD and Activity Diagram



# Implementation & Results of Module



# Conclusion & Future Work

The **InsightEd** platform successfully connects users with industry experts, providing a seamless experience for discovering speakers, booking sessions, and receiving personalized recommendations. The integration of machine learning algorithms for speaker suggestions, real-time session management, and user feedback systems ensures continuous improvement. It empowers users with easy navigation, personalized recommendations, and valuable insights while offering admins efficient tools to manage platform content and performance. The platform effectively meets the needs of both users and speakers, creating a dynamic environment for professional development and knowledge sharing.

Looking ahead, there are several opportunities for enhancement. The recommendation system can be further improved by incorporating advanced machine learning techniques, such as collaborative filtering or deep learning, to refine speaker suggestions based on user behavior. Integrating interactive features like live Q&A sessions or webinars could enrich the user experience. Expanding the platform's capabilities to support multiple languages and regions would broaden its user base. Enhancing real-time analytics and performance monitoring would provide better administrative control. Lastly, implementing AI-based moderation for feedback and ratings could improve the credibility and quality of user reviews. These future developments would strengthen **InsightEd** as a leading platform for professional networking and learning.

# References


**[1]** S. K. Gupta, A. Agarwal, and V. Kumar, "A Survey on Personalized Recommendation Systems," *International Journal of Computer Applications*, vol. 88, no. 9, pp. 6–10, 2014.

**[2]** J. R. K. Uskov, L. A. Cummings, and K. R. Vasilenko, "Smart Learning Systems and Technologies for Personalized Learning," in *Smart Innovation, Systems and Technologies*, Springer International Publishing, 2017

**[3]** R. A. Baeza-Yates and B. Ribeiro-Neto, *Modern Information Retrieval*, Addison-Wesley, 1999.

**[4]** T. R. M. E. S. Q. Chen, H. Zhang, Y. Y. P. Lin, and S. A. Chien, "A User-Driven, Interactive Personalized Recommendation System," in *Proceedings of the International Conference on Data Engineering*, pp. 248–253, 2002.

# Paper Publication Status

- IN PROGRESS…..

# Thank You