Sri Eshwar
College of Engineering
Coimbatore | Tamilnadu
An Autonomous Institution
Affiliated to Anna University, Chennai

Department of Information Technology

Course name /Course code: U23AD492/ Artificial intelligence and Machine learning **/Title of the project :**
Interview Performance Prediction

Class / Section / Semester	**:**	**IT / V**
Batch	**:**	**2023-2027**
Project Review	**:**	**First Review**
Date	**:**	**18.08.2025**
Project Guide with Designation	**:**	**XXX**
Name of the Industry (if applicable)	**:**	**Yyy**

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INTRODUCTION

- NextStep AI is an intelligent career guidance platform leveraging Artificial intelligence .
- It helps job seekers and students by providing personalized interview preparation, dynamic career roadmaps, aptitude training, and coding challenges.
- This platform bridges the gap between learning and employment through AI-driven insights.

PROBLEM STATEMENT

➢ Generic career platforms do not offer **customized, AI-powered interview training**.

➢ Lack of **data-driven insights** to track progress.

➢ No system to maintain **daily preparation streak** for coding/aptitude.

➢ Job seekers rely on **random resources**, not structured guidance.

SOLUTION TO IMPLEMENT

- An **AI-powered platform** that helps users:
  - **Prepare for interviews** through personalized mock sessions.
  - **Generate a career roadmap** based on skill gap analysis.
  - **Access data-driven insights** for trending technologies and job roles.
  - **Daily challenges & streaks** for coding and aptitude.
  - **Video resources**: Successful interviews, expert tips.

REFERENCES PAPERS

- ➢ **AI-based Virtual Interviews:** NLP used for Q&A evaluation.
- ➢ **Career Recommendation Systems:** ML algorithms for career guidance.
- ➢ **Gamification in Learning:** Helps in **engagement and retention**.
- ➢ **Data Science in EdTech:** Predicting performance and generating insights.

METHODOLOGY

➢ **Requirement Analysis**

Identify user needs: job seekers, freshers, professionals.

Define system features: AI Interview Mentor, Career Roadmap Generator, Data-Driven Insights.

➢ **Data Collection**

Collect datasets for interview questions, aptitude, coding challenges.

Collect successful career paths data for roadmap generation.

➢ **Model Development**

  ➢ **AI/ML for Interview Mentor:**

  NLP for analyzing answers (e.g., sentiment, correctness, confidence).

  Scoring system for mock interviews.

  ➢ **Career Roadmap Generator:**

  Machine Learning for personalized recommendations.

➢ **Integration**

  ➢ **Frontend:** React for UI/UX.

  ➢ **Backend:** Flask/Django for API handling.

  ➢ **Database:** MongoDB for storing user profiles and progress.

➢ **Testing & Deployment**

  ➢ Unit testing for AI components.

  ➢ Beta testing with sample users.

  ➢ Deploy on cloud (AWS/Heroku).

TECHNOLOGY USED

➢ **Frontend:** React.js, Tailwind CSS

➢ **Backend:** Flask (Python)

➢ **Database:** MongoDB

➢ **AI & Data Science:** Scikit-learn, Pandas, NumPy, NLTK, Transformers (BERT for NLP)

➢ **Additional:** JWT for authentication, Chart.js for analytics dashboard

Action Plan

S.No	Major activities (or mile stones) to be completed	Target period of completion	Actual date of completion
1	Project Idea Finalization & Problem Statement&UI	August 2025	Aug 18 – Aug 24
2		March 2025	
3		April 2025	
4		May 2025	

CONCLUSION

The proposed system, **AI Interview Mentor with Personalized Career Roadmap & Data-Driven Insights**, aims to revolutionize the way job seekers prepare for interviews and plan their careers. By integrating **Artificial Intelligence**, **Machine Learning**, and **Data Science**, this platform provides personalized interview guidance, career roadmaps, and real-time insights based on industry trends. Unlike generic platforms, it focuses on **customized learning paths**, **interactive mock interviews**, and **performance analytics** to enhance user confidence and employability. This solution bridges the gap between academic learning and real-world requirements, ensuring that candidates are well-prepared for competitive job markets.