IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 2, October 2026
Impact Factor: 8.2

AI-Based Smart Interview Analyzer System

[1]Sarvadnya Abruk, [2] Miss. Aayushi Deshmukh, [3] Mr. Aditya Chandure,
[4] Mr. Abhishek Padole, [5] Dr. Abrar S. Alvi
Students, Department of Information Technology[1-4]
Guide, Department of Information Technology[5]
Prof. Ram Meghe Institute of Technology & Research (Autonomous), Badnera, Amravati, Maharashtra, India.

Abstract: *The AI-Based Smart Interview Analyzer System is an artificial intelligence-based web application developed to help students and job seekers improve their interview skills through interactive mock interviews, automated performance evaluation, and personalized feedback. In today's competitive employment environment, candidates often face challenges such as nervousness, poor communication skills, lack of confidence, and insufficient interview practice. Traditional preparation methods may not provide immediate and consistent feedback, creating a need for an intelligent system that supports effective and personalized interview preparation. The proposed system integrates Artificial Intelligence (AI), Machine Learning (ML), and Natural Language Processing (NLP) techniques to support interview practice and analyze candidate responses. It provides job-role-based interview preparation, maintains interview history, and helps users identify their strengths and weaknesses through feedback. The application consists of two main modules: the Admin Module and the Student Module. The Admin Module manages student information, job roles, interviews, and feedback, while the Student Module allows users to access their dashboard, practice interviews, review previous sessions, view feedback, and manage their profiles. The system aims to provide an accessible and structured environment for continuous learning and performance improvement. By combining AI-based assessment with a user-friendly web interface, the AI-Based Smart Interview Analyzer System can help candidates develop better communication skills, increase confidence, and improve their readiness for real-world job interviews. Future enhancements may include advanced speech analysis, facial expression recognition, body-language assessment, multilingual support, and more comprehensive real-time performance evaluation*

Keywords: Artificial Intelligence (AI), AI-Based Smart Interview Analyzer System, Machine Learning (ML), Natural Language Processing (NLP), Mock Interview, Sentiment Analysis, Automated Performance Evaluation, Personalized Feedback, Communication Skills, Interview Preparation, Student Dashboard, Role-Based Access Control

I. INTRODUCTION

In today's competitive job market, performing well in an interview is an essential factor in achieving career success. Interviews allow employers to evaluate candidates' technical knowledge, communication skills, confidence, problem-solving abilities, and overall suitability for a particular job role. However, many students and job seekers face difficulties during interviews due to a lack of preparation, limited practice opportunities, nervousness, and insufficient feedback on their performance. Traditional interview preparation methods, such as practicing with friends, attending mock interviews, or receiving guidance from mentors, may not always provide consistent, personalized, and immediate feedback. Therefore, there is a growing need for an intelligent and accessible system that helps candidates prepare effectively and improve their interview skills[1].

The AI-Based Smart Interview Analyzer System is an artificial intelligence-based web application designed to assist students and job seekers in preparing for interviews through interactive mock interviews, automated performance evaluation, and personalized feedback. The system uses technologies such as Natural Language Processing (NLP),

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 2, October 2026 Impact Factor: 8.2

Machine Learning (ML), and sentiment analysis to analyze candidates' responses and provide useful insights into their communication and interview performance. Depending on the implemented features, the system can evaluate answer relevance, language quality, confidence-related indicators, and emotional expressions to identify areas requiring improvement. By providing a simulated interview environment, the application enables users to practice answering questions related to specific job roles and gain experience before attending real interviews[2].

The system consists of two major modules: the Admin Module and the Student Module. The Admin Module allows administrators to manage student records, job roles, interview information, and feedback. It also provides a dashboard for monitoring the overall activities of the platform. The Student Module enables users to access their dashboard, practice interviews, review previous interview sessions, view feedback, and manage their profiles. The interview history feature helps students track their progress over time, while personalized feedback guides them in identifying their strengths and weaknesses. Role-based access control ensures that administrative features are accessible only to authorized administrators, while students can access features relevant to their accounts[3].

The main objective of the AI-Based Smart Interview Analyzer System is to make interview preparation more efficient, accessible, and personalized through AI-driven assistance. The application aims to reduce the limitations of traditional preparation methods by offering structured practice, automated assessment, and performance tracking in a single platform. It can help students improve their confidence, communication abilities, and readiness for employment opportunities. Furthermore, the system can be extended with advanced features such as speech recognition, facial expression analysis, body-language assessment, multilingual interview support, and AI-generated job-specific questions. Overall, the AI-Based Smart Interview Analyzer System provides a technology-driven approach to interview preparation and supports continuous skill development for students and job seekers[4].

II. LITERATURE ANALYSIS

The five research papers focus on the application of Artificial Intelligence (AI), Machine Learning (ML), and Natural Language Processing (NLP) to improve interview preparation and candidate evaluation. Mune et al. (2024), in "AI-Based Smart Interview Analyzer System: Crafted Mastery Tactics for Interview Success," discuss data collection, model training, and evaluation techniques to support interview preparation and candidate personality assessment. Kumar et al. (2025), in "Artificial Intelligence Powered Mock Interview Generator: Revolutionizing Interview Preparation with Real-Time Feedback," propose a system using Next.js, Google Gemini API, and PostgreSQL to generate personalized interview questions and provide real-time feedback on verbal and non-verbal communication. Ghodichor et al., in "AI-Powered Mock Interview Evaluator," explore Machine Learning techniques to assess candidates' emotions, confidence, facial expressions, vocal tone, and language patterns. Waghmare et al., in "AI Bot for Interview Preparation," introduce an interactive chatbot that uses NLP, ChatGPT API, and Whisper API to support conversational interview practice and follow-up questions. Anitha et al., in "AI Based Mock Interview Evaluator," combine Machine Learning, NLP, CNN, LSTM, facial recognition, emotion recognition, and sentiment analysis to evaluate candidates' verbal responses, body language, eye contact, and emotional expressions. Overall, these studies demonstrate the potential of AI-based interview systems to provide personalized practice, automated assessment, and constructive feedback; however, further improvements are needed in evaluation accuracy, fairness, multilingual support, comprehensive multimodal analysis, and validation across diverse candidates.

TABLE I.: LITERATURE WORK

Sr. No.	Author & Year	Method / Technology	Summary	Pros	Cons / Research Gap
1	Dr. A. R. Mune, Pratik Deshmukh, Kaustubh Bhakare, Anjali Kale, and Srushti Dhole (2024)	AI, Machine Learning, Data Collection, Model Training, Evaluation Metrics	Proposes an AI-Based Smart Interview Analyzer System to improve interview preparation and assess candidate	Supports interview preparation, confidence development, and structured candidate assessment.	Specific algorithms and quantitative evaluation metrics are not stated. Real-time multimodal analysis could be

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 2, October 2026 Impact Factor: 8.2

			personality through AI-driven techniques.		explored further.
2	Pankaj Kumar, Navneet Kumar, Priyangsu Dutta, Tahshim Ansary, and G. Samiksha Reddy (2025)	Next.js, Google Gemini API, PostgreSQL, Audio, Video, Text Analysis	Develops a mock interview generator that creates role-specific questions, evaluates verbal and non-verbal communication, and tracks performance.	Provides personalized practice, real-time feedback, and performance tracking.	Multilingual support, advanced gesture recognition, and job portal integration are future improvements.
3	Prof. Farendrakumar S. Ghodichor, Prathamesh Dandage, Anil Jadhav, Aditya Shahane, and Pratik Mohite (2004)	Machine Learning, Emotion and Confidence Classification, Facial Expression Analysis, Vocal Tone Analysis, Language Analysis	Evaluates candidates' emotions and confidence by analyzing facial expressions, vocal tone, and language patterns.	Provides personalized questions, assesses non-verbal communication, and identifies strengths and weaknesses.	Publication year and performance metrics are unavailable. Accuracy, fairness, and reliability require further validation.
4	Kiran Waghmare, Girish Patil, Prem Bhalerao, Shruti Shelke, and Prof. S. R. Bhujbal (2024)	NLP, React, Vite, Python, FastAPI, ChatGPT API, Whisper API	Develops an interactive interview chatbot that asks follow-up questions and enables two-way conversations.	Supports interactive practice, dynamic question generation, and speech-to-text interaction.	Publication year and evaluation results are unavailable. Facial analysis and long-term performance tracking could be added.
5	B. Anitha, G. Bhavani, B. Divya, and M. Jyoshna (2025)	Machine Learning, NLP, Facial Recognition, CNN, LSTM, Emotion Recognition, Sentiment Analysis	Assesses verbal responses, body language, eye contact, and emotions using real-time audio and video analysis.	Combines verbal and non-verbal assessment, supports automated scoring, and aims to improve recruitment efficiency.	Publication year and quantitative results are unavailable. Emotion-recognition accuracy, potential bias, privacy, and validation across diverse candidates require attention.

III. WORKING METHODOLOGY

The AI-Based Smart Interview Analyzer System is a web-based application designed to provide an interactive and intelligent platform for interview preparation. The system combines web technologies with Artificial Intelligence (AI), Machine Learning (ML), and Natural Language Processing (NLP) techniques to support mock interviews, evaluate candidate responses, and provide performance feedback. The methodology consists of several stages, including user authentication, job role selection, interview question generation, candidate response collection, performance evaluation, feedback generation, and interview history management.

1. User Registration and Authentication

The process begins with student registration and login. Students provide the required information to create an account and access the platform. The system verifies login credentials and uses session management and role-based access control to distinguish between administrators and students. Administrators can manage student records, job roles, interview information, and feedback, while students can access interview preparation features and their personal information.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 2, October 2026
Impact Factor: 8.2

2. Job Role Selection and Interview Preparation

After logging in, students access the dashboard and select a relevant job role for interview practice. The system provides interview questions associated with the selected role, allowing candidates to practice according to their career interests. Questions may cover technical knowledge, general aptitude, communication skills, and behavioral interview topics. AI-based question generation can also be integrated to provide more personalized and diverse interview experiences.

3. Mock Interview and Response Collection

The application presents interview questions to the candidate and collects their responses through the supported input method, such as text or speech. In a text-based implementation, candidates enter their answers into the application. If speech recognition is integrated, spoken responses can be converted into text for further analysis. This process simulates an interview environment and enables candidates to practice answering questions systematically.

4. AI-Based Response Analysis

The collected responses are processed using NLP and relevant AI techniques. NLP techniques can be applied to examine the content, relevance, vocabulary, grammar, and structure of textual answers. Machine Learning models can support response classification or performance scoring when trained on suitable data. Sentiment analysis may be used to identify emotional tone in text, while speech and facial expression analysis can be incorporated if audio and video processing modules are implemented. These techniques help identify areas where candidates may need improvement.

5. Performance Evaluation and Feedback Generation

After analyzing the candidate's responses, the system generates feedback based on the evaluation criteria implemented in the application. Feedback may highlight answer relevance, communication quality, strengths, weaknesses, and suggestions for improvement. A performance score or report can help candidates understand their current level of preparation. Personalized recommendations encourage users to improve their answers and practice more effectively.

6. Interview History and Progress Tracking

The system stores interview records, evaluation results, and feedback in the database according to the application's data model. Students can access their interview history and review previous performance reports through the dashboard. This feature enables candidates to compare their practice sessions, identify recurring weaknesses, and monitor improvement over time. Administrators can manage relevant interview and feedback records through the admin dashboard.

7. Database Management and System Administration

The application uses a database to manage student accounts, job roles, interview questions, interview sessions, and feedback records. The Admin Module provides facilities for managing students, job roles, interviews, and feedback. The Student Module provides access to the dashboard, interview history, feedback, and profile management. Authentication, session handling, and role-based permissions help protect restricted pages from unauthorized access.

Overall Working Process

The complete workflow begins with student registration and login, followed by job role selection and mock interview participation. The candidate's answers are collected and analyzed using the available AI techniques. The system then generates performance feedback and stores the interview results for future reference. Students can review their reports and practice again to improve their skills, while administrators manage the platform through the admin dashboard. Thus, the AI-Based Smart Interview Analyzer System provides a structured environment for interview practice, performance assessment, and continuous improvement.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 2, October 2026
Impact Factor: 8.2

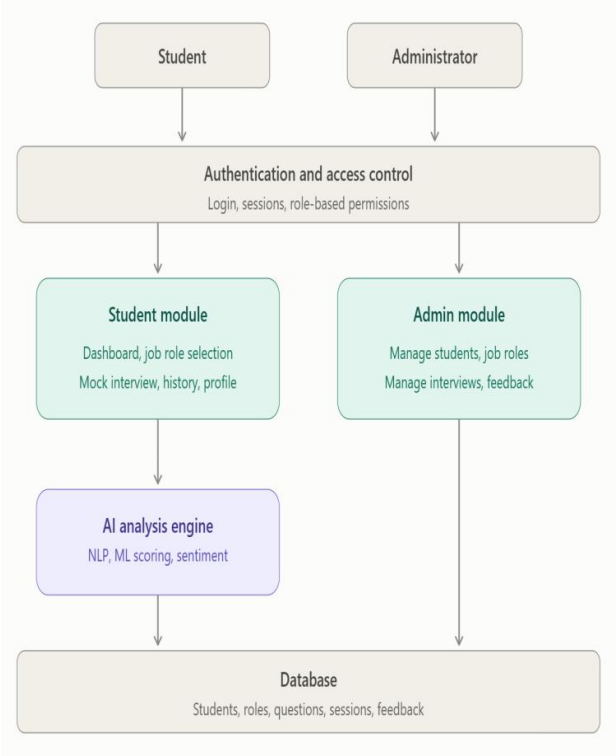


Figure 1. System Diagram

V. RESULTS AND DISCUSSION

The AI-Based Smart Interview Analyzer System provides a web-based platform for improving interview preparation through mock interviews, automated evaluation, and personalized feedback. The system integrates student and administrator functionalities to create a structured environment for interview practice and management. The results demonstrate the intended functionality of the application, including user authentication, role-based dashboards, job role management, interview history, feedback access, and profile management.

The Admin Module provides a centralized interface for managing student information, job roles, interview records, and feedback. Through the admin dashboard, administrators can access the available management features and maintain relevant platform information. The Student Module enables users to access their dashboards, participate in interview preparation activities, review previous interview sessions, view feedback, and manage their profiles. These features improve the accessibility and organization of the interview preparation process.

The AI-based evaluation component is intended to analyze candidate responses using techniques such as Natural Language Processing (NLP), Machine Learning (ML), and sentiment analysis, depending on the implemented functionality. Response analysis can help identify areas such as answer relevance, language quality, and communication effectiveness. The feedback mechanism provides candidates with guidance about their performance and areas requiring improvement. Interview history further supports continuous learning by allowing students to review previous results and track their progress across practice sessions.

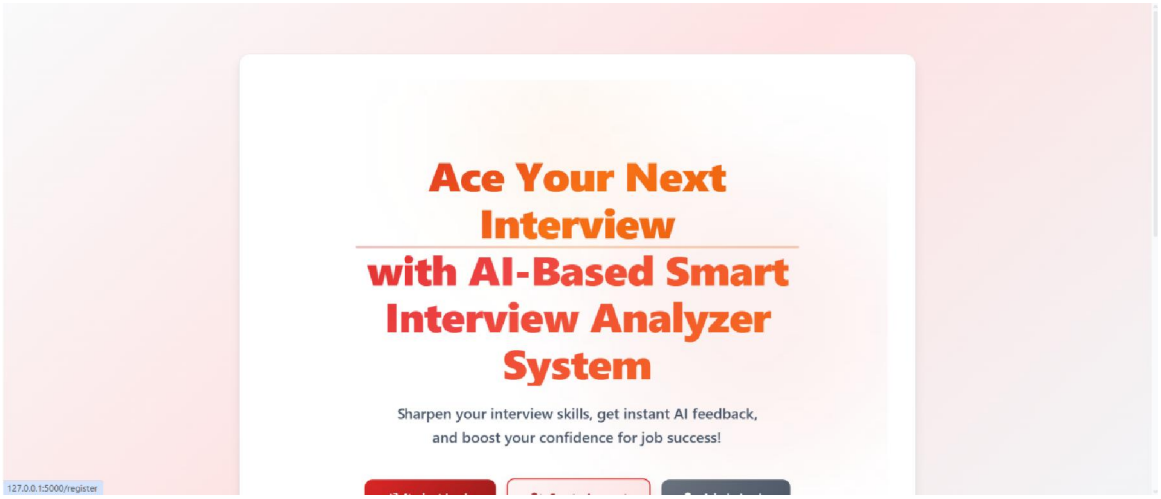
The discussion highlights the potential benefits of the system in making interview preparation more flexible, consistent, and accessible. Unlike conventional preparation methods that may depend on the availability of mentors or peers, the application can provide a convenient environment for repeated practice. However, the usefulness of automated feedback depends on the accuracy of the implemented AI models, the quality of the evaluation criteria, and the

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 2, October 2026
Impact Factor: 8.2

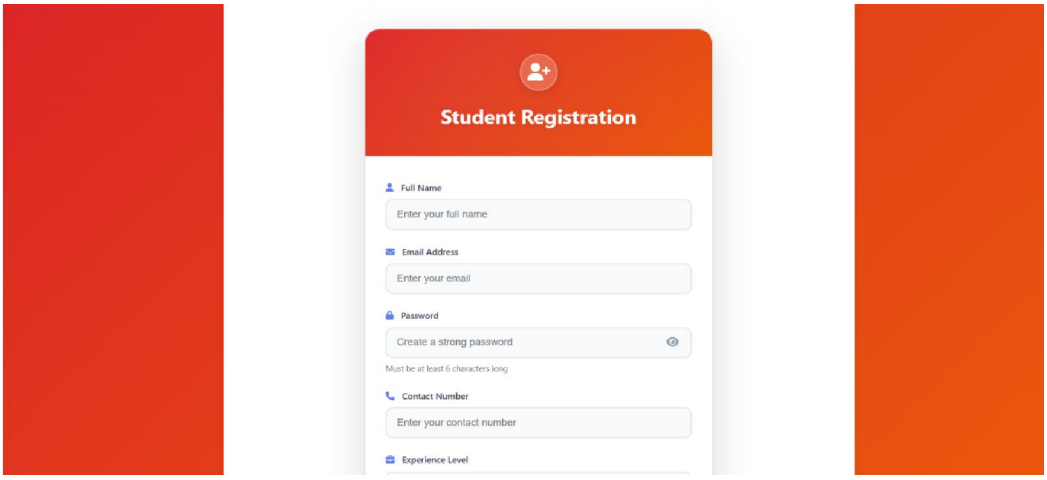
relevance of the generated questions. The system should therefore be evaluated using functional testing, usability testing, and appropriate model-performance metrics before making quantitative claims about its effectiveness.

Overall, the AI-Based Smart Interview Analyzer System offers an organized and technology-driven approach to interview preparation by combining web-based management features with AI-assisted assessment. It can support students in identifying weaknesses, practicing interview responses, and developing greater confidence. Future improvements may include advanced speech analysis, facial expression recognition, body-language assessment, multilingual support, and more comprehensive performance analytics. These enhancements could further improve the quality and personalization of the interview preparation experience.

Screenshots:

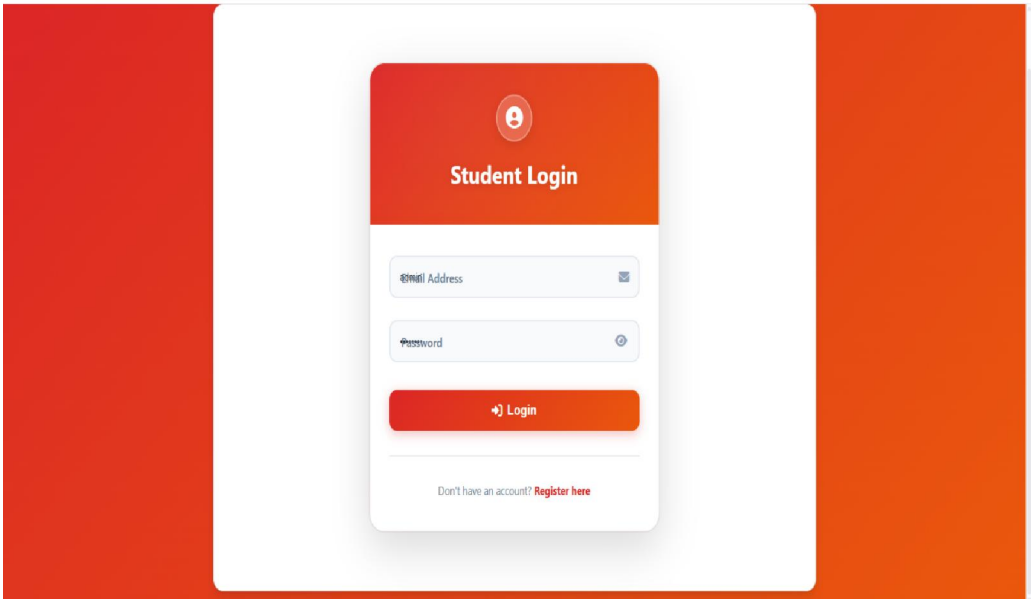


Screenshot 5.1 Home Page

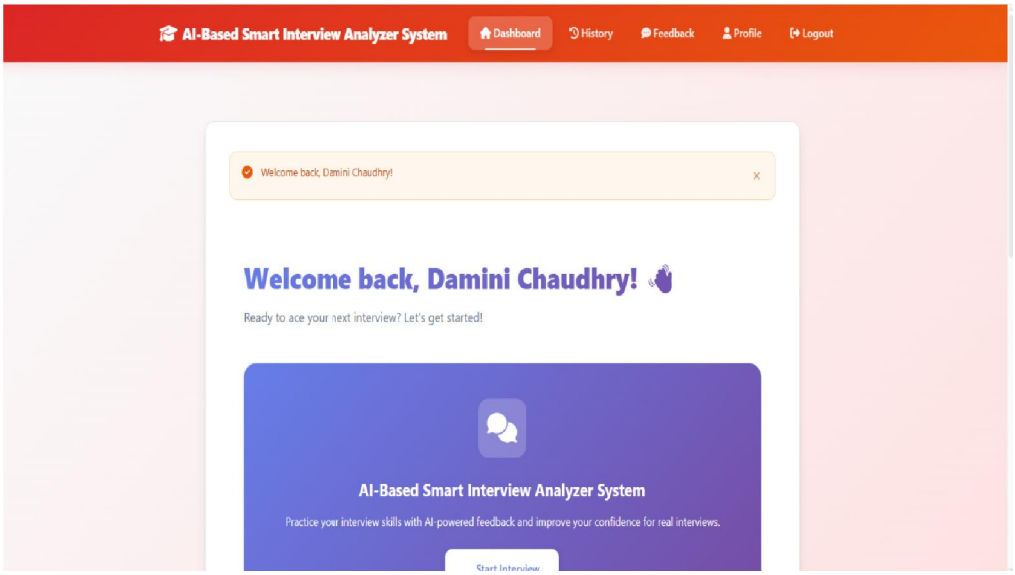


Screenshot 5.2 Registration Page

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 2, October 2026
Impact Factor: 8.2

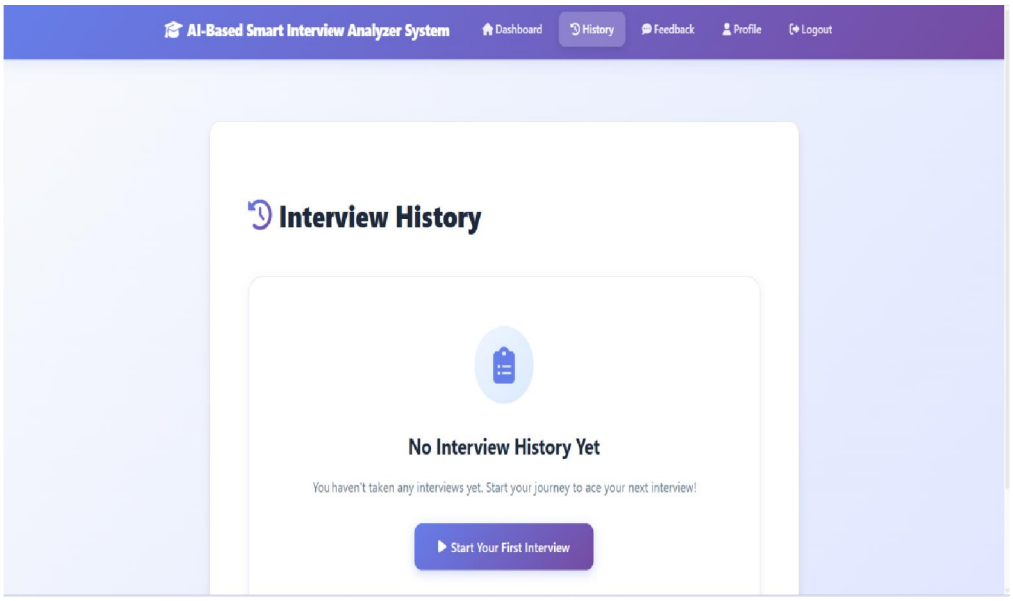


Screenshot 5.3 Login Page

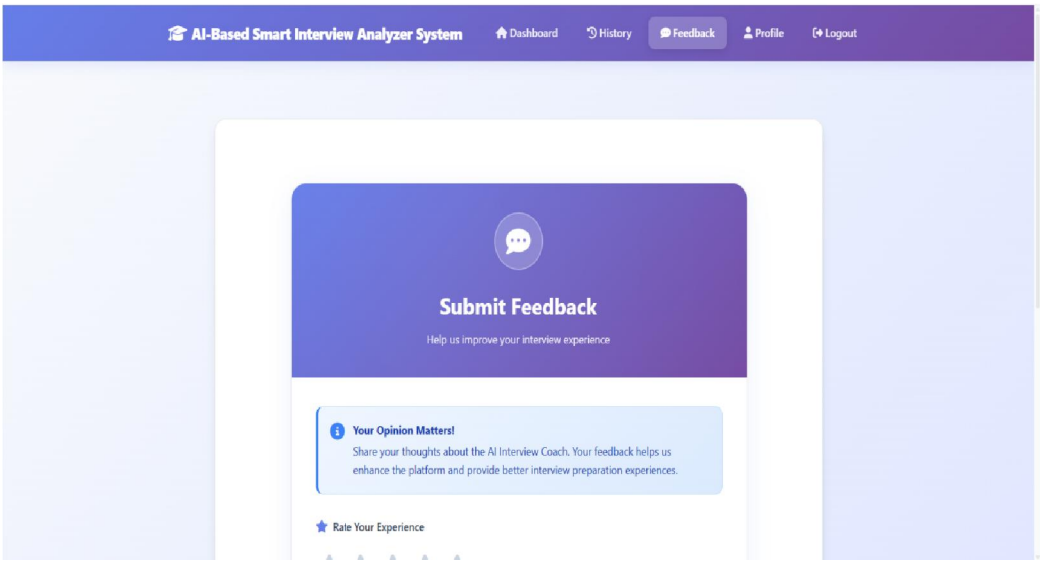


Screenshot 5.4 User Dashboard

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 2, October 2026
Impact Factor: 8.2



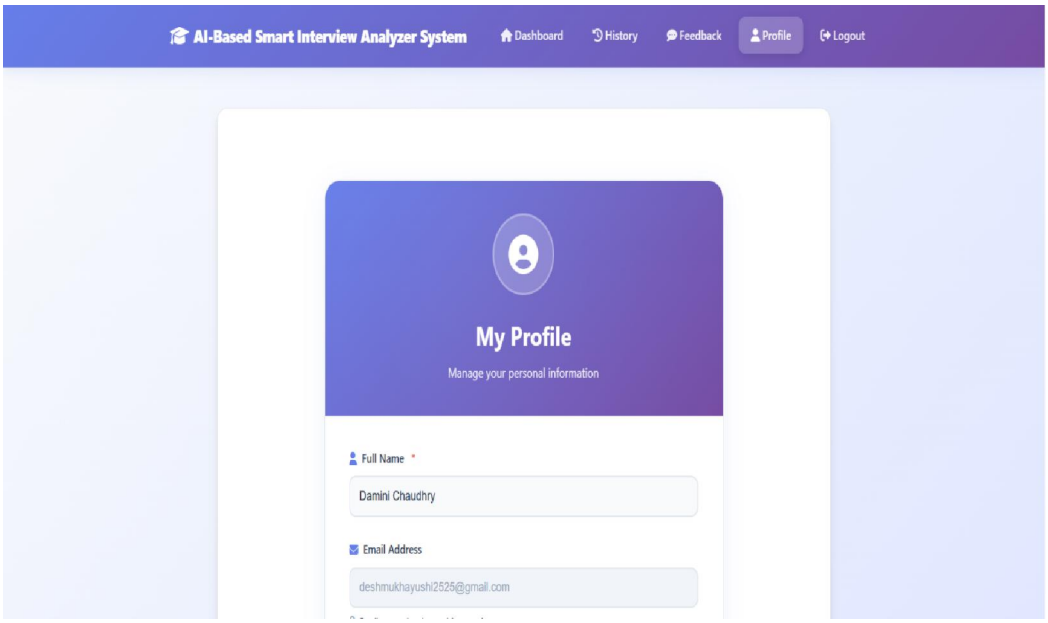
Screenshot 5.5 History



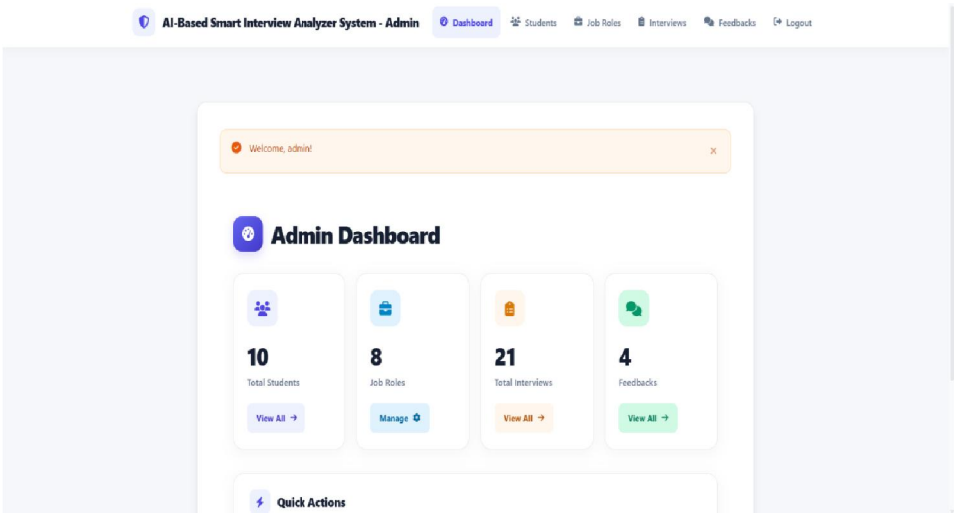
Screenshot 5.6 Submit Feedback

Copyright to IJARSCT
www.ijarsct.co.in
DOI: 10.48175/IJARSCT-38860

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 2, October 2026
Impact Factor: 8.2



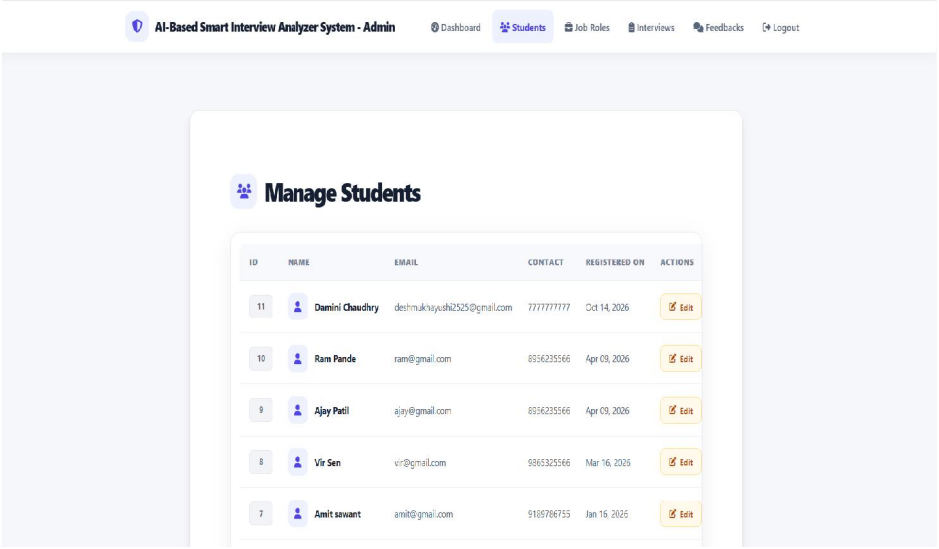
Screenshot 5.7 Manage Profile Page



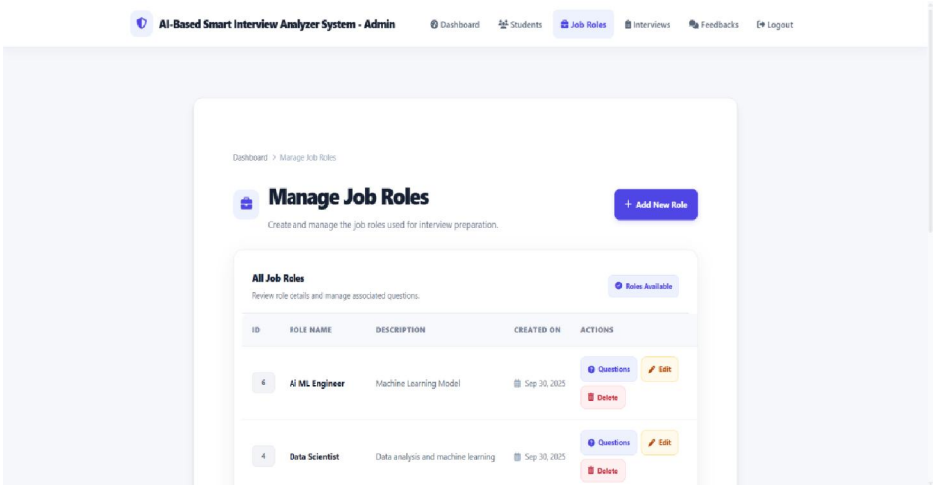
Screenshot 5.8 Admin Dashboard

Copyright to IJARSCT
www.ijarsct.co.in
DOI: 10.48175/IJARSCT-38860

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 2, October 2026
Impact Factor: 8.2



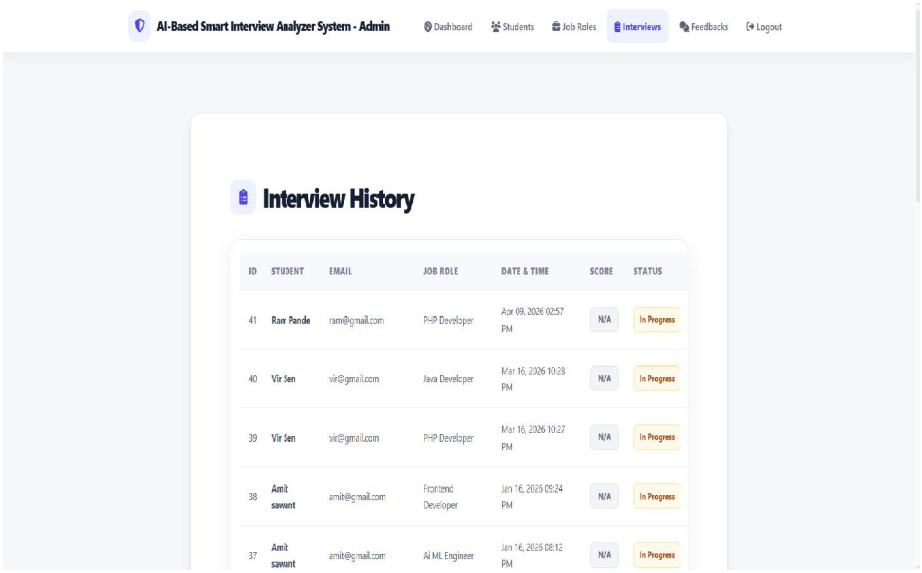
Screenshot 5.9 Admin Manage Student



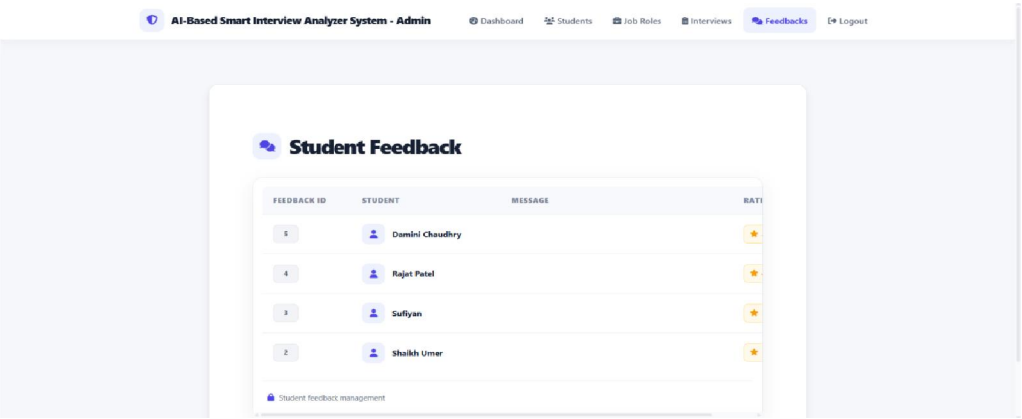
Screenshot 5.9 Admin Manage Job Roles

Copyright to IJARSCT
www.ijarsct.co.in
DOI: 10.48175/IJARSCT-38860

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 2, October 2026
Impact Factor: 8.2



Screenshot 5.9 Admin Job History



Screenshot 5.9 Admin Feedbacks

VI. CONCLUSION

The AI-Based Smart Interview Analyzer System is an AI-based web application designed to help students and job seekers improve their interview preparation through mock interviews, automated performance evaluation, and personalized feedback. The system provides separate Admin and Student Modules to manage student information, job roles, interviews, feedback, interview history, and profile details. By integrating web technologies with Artificial Intelligence (AI), Machine Learning (ML), and Natural Language Processing (NLP), the application aims to provide a structured and accessible environment for practicing interview questions and identifying areas for improvement. The interview history and feedback features support continuous learning by helping candidates review their previous performance and work on their weaknesses. The administrative dashboard also simplifies the management of platform activities through a centralized interface. Overall, the AI-Based Smart Interview Analyzer System offers a promising approach to improving interview preparation, communication skills, and candidate confidence. In the future, the system can be enhanced by incorporating advanced speech recognition, facial expression analysis, body-language assessment,

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 2, October 2026
Impact Factor: 8.2

multilingual support, and more accurate AI-based evaluation techniques. These improvements could make the platform more interactive, personalized, and effective in preparing candidates for real-world employment opportunities.

REFERENCES

[1] A. R. Mune, P. Deshmukh, K. Bhakare, A. Kale, and S. Dhole, "AI-Based Smart Interview Analyzer System: Crafted Mastery Tactics for Interview Success," International Research Journal of Modernization in Engineering Technology and Science, vol. 6, no. 4, Apr. 2024. DOI: https://doi.org/10.56726/IRJMETS52842.
[2] P. Kumar, N. Kumar, P. Dutta, T. Ansary, and G. S. Reddy, "Artificial Intelligence Powered Mock Interview Generator: Revolutionizing Interview Preparation with Real-Time Feedback," International Research Journal of Engineering and Technology (IRJET), vol. 12, no. 3, Mar. 2025.
[3] F. S. Ghodichor, P. Dandage, A. Jadhav, A. Shahane, and P. Mohite, "AI-Powered Mock Interview Evaluator." Publication details and year not provided.
[4] K. Waghmare, G. Patil, P. Bhalerao, S. Shelke, and S. R. Bhujbal, "AI Bot for Interview Preparation." Publication details and year not provided.
[5] B. Anitha, G. Bhavani, B. Divya, and M. Jyoshna, "AI Based Mock Interview Evaluator." Publication details and year not provided.
[6] A. Sivasangari, V. Shivani, Y. Bindhu, D. Deepa and R. Vignesh, "Prediction Probability of Getting an Admission into a University using Machine Learning", 2021 5th International Conference on Computing Methodologies and Communication (ICCMC), pp. 1706-1709, 2021.
[7] Surendar B, Chakravarthy SS, Thangavel PR Facial feature analysis using deep convolutional neural networks and HAAR classifier for real-time emotion detection. Int J Eng Tech Res, 2021
[8] S. Sridhar, S. Mootha and S. Kolagati, "A University Admission Prediction System using Stacked Ensemble Learning", 2020 Advanced Computing and Communication Technologies for High Performance Applications (ACCTHPA), pp. 162-167, 2020.
[9] Valstar M., Schuller B., Smith K., Eyben F., Jiang B., Bilakhia S., Sneddon I., Cowie R. "Speech Analysis for Depression Assessment Using Deep Convolutional Neural Networks" 2014.
[10] Khan, R. A., Meyer A., Konik H., Bouakaz S. "Framework for reliable, real-time facial expression recognition for low resolution images" 2013.

Author Information

Miss. Sarvadnya Abruk, Department of Information Technology, Prof. Ram Meghe Institute of Technology & Research (Autonomous), Badnera, Amravati, Maharashtra, India.
Miss. Aayushi Deshmukh, Department of Information Technology, Prof. Ram Meghe Institute of Technology & Research (Autonomous), Badnera, Amravati, Maharashtra, India.
Mr. Aditya Chandure, Department of Information Technology, Prof. Ram Meghe Institute of Technology & Research (Autonomous), Badnera, Amravati, Maharashtra, India.
Mr. Abhishek Padole, Department of Information Technology, Prof. Ram Meghe Institute of Technology & Research (Autonomous), Badnera, Amravati, Maharashtra, India.
Guide Dr. Abrar S. Alvi, Department of Information Technology, Prof. Ram Meghe Institute of Technology & Research (Autonomous), Badnera, Amravati, Maharashtra, India.