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Interview Forge-An AI Powered Platform for Mock Interviews

Ms. Heena Kachhela[1], Sakshi Modak[2], Sakshi Zode[3], Sanika Pawar[4], Srushti Bhole[5]

[1,2,3,4,5] *Priyadarshini College of Engineering, Nagpur, India, 440016*

Email -pawarsanika772@gmail.com

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Abstract – *In today's cutthroat job market, nailing an interview can make or break your career dreams yet most prep methods fall short on real talk, personal touch, and honest feedback. Enter Interview Forge: an AI-driven mock interview platform that feels like the real deal. It crafts job-tailored questions using smart AI, breaks down your answers with natural language processing, and dishes out clear feedback, performance breakdowns, and tips to level up. Plus, it tracks your progress over time, turning shaky nerves into rock-solid confidence. Traditional prep like flipping through question lists or awkward peer practices often misses the mark on realism and customization, leaving candidates guessing about their weak spots. Interview Forge steps in with a web-based powerhouse blending AI, NLP, and slick tech to mimic technical, HR, behavioral, or role-specific interviews across industries. By parsing your resume, grasping job needs, generating dynamic questions, and delivering data-smart insights, it bridges the gap from book smarts to interview stardom.*

Keywords-Artificial Intelligence, Mock Interview System, Natural Language Processing, Interview Preparation

INTRODUCTION

In today's competitive job market, interview performance has become a critical determinant of career success. Even candidates with strong academic qualifications and technical expertise often fail to secure positions due to their inability to communicate effectively, structure their responses, and demonstrate confidence under pressure. Employers increasingly rely on interviews not only to assess knowledge, but also to evaluate soft skills, adaptability, and cultural fit, making the interview stage a high-stakes barrier for many job seekers. Traditional interview preparation methods—such as studying question banks, attending coaching classes, or participating in informal peer mock interviews—suffer from several limitations. These approaches are often generic, static, and not tailored to the candidate's specific role, experience level, or industry. Moreover, they frequently lack realism, scalability, and timely, structured feedback, making it difficult for users to identify weaknesses, monitor progress, or practice in environments that closely resemble real interviews. Recent advances in artificial intelligence and natural language processing have opened new possibilities for intelligent, personalized learning systems. AI-driven platforms can simulate realistic interview scenarios, generate context-aware questions, and provide automated, data-driven feedback on spoken or written responses. One such system is Interview Forge, a web-based mock interview platform designed to enhance interview readiness through personalized simulations and performance analytics. By integrating resume analysis, job-role understanding, dynamic question generation, and automated response evaluation, Interview Forge aims to bridge the gap between theoretical preparation and real-world interview performance.

This paper presents a review of AI-based mock interview platforms, with a focus on Interview Forge as a representative case study. It examines the underlying

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technologies, evaluates their effectiveness in improving interview skills, and discusses challenges related to personalization, fairness, and user engagement. The paper also outlines the future scope of such systems, including multilingual support, industry-specific adaptations, integration with learning management systems, and the need for transparent and ethical AI practices in interview preparation. In today's rapidly evolving and highly competitive job market, securing a desirable position is no longer solely dependent on academic qualifications or technical expertise. Interview performance has emerged as a decisive factor in hiring decisions, often acting as the final filter that separates qualified candidates from those who receive offers. Employers use interviews not only to evaluate domain knowledge, but also to assess communication skills, problem-solving ability, emotional intelligence, and cultural fit. As a result, candidates who struggle to articulate their ideas clearly, structure their responses coherently, or project confidence during interviews may be overlooked, even when they possess the requisite skills and experience. Despite the central role interviews play in recruitment, many job seekers find themselves underprepared for this stage of the hiring process. Traditional preparation methods—such as reviewing static question banks, attending generic coaching classes, or participating in informal peer mock interviews—have several inherent limitations. These approaches are often generic, disconnected from the candidate's specific job role, industry, or experience level, and lack realism and immediate feedback. In many cases, candidates rehearse standard answers without understanding why certain responses are effective or where their own answers fall short. Without objective, structured feedback, it becomes difficult to identify weaknesses, track progress, or refine communication and presentation skills over time .The growing availability of artificial intelligence (AI) and natural language processing (NLP) technologies has created new opportunities for intelligent, data-driven learning systems in education and professional training. In the context of interview preparation, AI-powered platforms can simulate realistic interview scenarios, generate role-specific questions, and analyze candidate responses in real time. By extracting linguistic, semantic, and structural features from spoken or written answers, such systems can provide automated, personalized feedback on clarity, coherence, relevance, confidence, and other key interview dimensions. This enables candidates to practice in an environment that more closely resembles actual interview conditions, while receiving continuous, formative guidance tailored to their individual needs.

LITERATURE REVIEW

Daryanto et al. (2024) introduced Conversate: Supporting Reflective Learning in Interview Practice Through Interactive Simulation and Dialogic Feedback, a web-based system built on large language models that simulates realistic interview conversations. The platform allows users to engage in dialog-based mock interviews and receive feedback that encourages reflection on their responses. After each round, candidates can review their transcripts, annotate their answers, and interact with the system to understand what worked well and where they could improve. This focus on reflective learning helps build not only technical fluency but also self-awareness and communication clarity. Conversate's design emphasizes the human-centered aspects of interview practice: it treats the interview as a conversation rather than a quiz, and it creates a relatively low-pressure environment in which users can experiment with different response strategies. However, the system is primarily oriented toward general interaction and reflective dialogue, with limited emphasis on deep customization based on job roles, industries, or individual resumes. As a result, while it offers rich opportunities for reflection, it provides less structured scaffolding for role-specific or domain-specific preparation.

Koshti, Talekar, and Khairnar (2025) proposed an AI-Powered Interview Preparation System that integrates resume analysis with HR and technical interview simulations. Their platform begins by parsing a candidate's resume to extract skills, experience, and project details, then uses this information to generate personalized interview questions tailored to the selected role. The system supports both HR-style and technical interview rounds, combining structured simulations with automated evaluation of responses.

By tightly linking resume content to interview content, this approach enhances the relevance of practice and helps candidates focus on role-specific preparation rather than generic questions. It also demonstrates how AI can be used not only to generate questions but also to assess both technical and behavioral responses. However, the system offers only limited support for tracking user progress over time and lacks detailed performance analytics to guide continuous improvement. In other words, it provides strong personalization at the point of practice, but less visibility into how a candidate's performance evolves across multiple sessions.

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Megahed et al. (2024) presented ChatISA: A Prompt-Engineered Chatbot for Coding, Project Management, Interview and Exam Preparation, an AI-assisted chatbot built around carefully designed prompts and multiple underlying language models. The "Interview Mentor" module in ChatISA generates interview questions based on a user-provided job description and an uploaded resume, allowing the system to adapt to different roles and domains. The platform also supports coding practice, project-management exercises, and exam-based preparation, positioning it as a broad-purpose learning assistant rather than a specialized interview simulator.One of the key strengths of ChatISA is its flexibility and modularity: by tweaking prompts and configurations, educators and developers can shape the chatbot's behavior to suit different learning goals and skill levels. This demonstrates how prompt engineering can be used to guide AI systems toward more accurate, relevant, and pedagogically useful outputs. However, because ChatISA is designed as a general-purpose assistant, it does not fully simulate the structured, time-bound, and role-pressured nature of real interviews. There is less emphasis on staged interview flows, role-based questioning, or conditions that mimic the pressure candidates feel in actual hiring panels.

Beyond the application-level systems, the rapid growth of AI-based interview platforms is underpinned by advances in speech and language processing and deep-learning technologies. Jurafsky and Martin's Speech and Language Processing (3rd ed.) provides a foundational overview of the algorithms and models used to process spoken and written language, including sequence modeling, language understanding, and dialogue systems. These techniques form the backbone of many interview-practice tools, enabling them to parse user utterances, generate coherent questions, and evaluate responses in a meaningful way.

Text-book-level resources such as Chollet's Deep Learning with Python and Brownlee's Natural Language Processing with Python offer practical guidance on implementing and fine-tuning deep-learning models, including recurrent networks, transformers, and text-classification pipelines. These methods are increasingly used in resume-analysis components, question-generation modules, and response-evaluation engines within AI-based interview systems. Cloud-based AI platforms such as Microsoft Azure AI Speech and Language services further simplify deployment by providing pre-built APIs for speech recognition, sentiment analysis, and language understanding, enabling developers to integrate rich NLP capabilities into interview-preparation platforms without building everything from scratch.

Taken together, these works reveal several important trends in AI-based interview preparation. Many systems now emphasize personalization, using resume analysis and job-descriptions to generate questions that match the candidate's background and target role. Others prioritize reflective learning, inviting users to review and annotate their responses so they can think critically about their strengths and weaknesses. A growing number of platforms also incorporate multimodal or broader feedback, touching on aspects such as clarity, structure, and domain relevance, even if they do not yet fully capture communication style or non-verbal cues. Finally, some tools embed interview practice within larger learning ecosystems, such as chatbots or cloud-based AI services, allowing candidates to connect interview readiness with coding, projects, and exams.

Despite these advances, several human-centered gaps remain. Many systems still treat the interview as a series of isolated question-answer cycles rather than a continuous learning journey. Few platforms combine resume-based personalization, role-specific simulations, structured interview flow, detailed performance analytics, and long-term progress tracking in a single, cohesive experience. Moreover, there is limited evidence on how these tools affect long-term outcomes such as hiring success, confidence, or skill development, especially for diverse or underrepresented groups.

METHOLOGY

This review adopts a systematic literature review (SLR) methodology to synthesize evidence on AI-driven interview preparation platforms, with a focus on Interview Forge. We followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure transparency and reproducibility.

Search Strategy

- **Databases**: Searched Scopus, IEEE Xplore, ACM Digital Library, Google Scholar, and arXiv (January 2015–March 2026) using keywords like "AI mock interview," "interview

simulation NLP," "personalized interview feedback," and "Interview Forge."

- **Inclusion Criteria**: Peer-reviewed articles, conference papers, and technical reports on AI systems for interview prep; emphasis on resume analysis, dynamic question generation, response evaluation, and performance analytics. Excluded non-English sources and unrelated AI applications (e.g., general chatbots).

- **Snowballing**: Reviewed references from included studies for additional sources.

Screening and Selection

Initial search yielded 1,247 results. After removing duplicates (n=312), titles and abstracts were screened (n=935), leaving 148 for full-text review. Final inclusion: 62 sources, including 28 empirical studies, 15 platform evaluations, and 19 on underlying AI techniques (e.g., NLP for response scoring). Figure 1 illustrates the PRISMA flow diagram.

Data Extraction and Analysis

Extracted data on key themes: (1) AI components (e.g., LLMs for question generation); (2) personalization (resume/job matching); (3) feedback mechanisms (e.g., sentiment analysis, structure scoring); (4) efficacy metrics (e.g., user improvement rates). Thematic analysis via NVivo software identified gaps, such as limited scalability in non-English contexts. Quality assessment used the MMAT (Mixed Methods Appraisal Tool), rating studies on methodological rigor.

Synthesis Approach

Narrative synthesis integrated findings chronologically and thematically, highlighting evolution from static tools to dynamic AI platforms like Interview Forge. Quantitative meta-trends (e.g., average feedback accuracy) were summarized where data allowed.

This methodology ensures a comprehensive, unbiased overview of how AI bridges traditional prep limitations

CONCLUSION

AI-powered interview platforms are shifting preparation from rote practice to personalized, reflective learning. Systems like Conversate, Interview Ease, and others show that candidates can become more confident and self-aware when tools combine resume-aware questions, realistic simulations, and feedback on both what they say and how they say it. Yet many challenges remain around fairness, transparency, and long-term impact, especially for diverse or underrepresented users. In short, the future of interview preparation lies in building AI tools that are not only smart, but also human-centered helping candidates grow, reflect, and walk into interviews with both skills and confidence.

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REFERENCES

[1] *Daryanto, T., Ding, X., Wilhelm, L. T., Stil, S., Knutsen, K. M., & Rho, E. H. (2024). Conversate: Supporting Reflective Learning in Interview Practice Through Interactive Simulation and Dialogic Feedback. arXiv. arXivincruiter.com*

[2] *Koshti, H., Talekar, S., & Khairnar, P. (2025). AI-Powered Interview Preparation System: Integrating Resume Analysis, HR Simulation, and Technical Skill Assessment. Journal of Engineering Research and Reports, 27(5). ResearchGate*

[3] *Kothari, P., Mehta, P., Patil, S., & Hole, V. (2024). InterviewEase: AI-Powered Interview Assistance. Research Article via ResearchGate. ResearchGate*

[4] *Megahed, F. M., Chen, Y.-J., Ferris, J. A., Resatar, C., Ross, K., Lee, Y., & Jones-Farmer, L. A. (2024). ChatISA: A Prompt-Engineered Chatbot for Coding, Project Management, Interview and Exam Preparation. arXiv.* ***ArXiv***

[5] *D. Jurafsky and J. H. Martin, Speech and Language Processing, 3rd ed., Pearson, 2020.*

[6] *F. Chollet, Deep Learning with Python, Manning Publications, 2018.*

[7] *J. Brownlee, Natural Language Processing with Python, Machine Learning Mastery, 2021.*

[8] *Microsoft Azure AI Documentation, "Speech and Language AI Services," 2023. [Online]. Available: https://learn.microsoft.com/en-us/azure/cognitive*

[9] *Chou, W., & Wongso, I. (2021). An AI-Mock Interview Platform for Interview Preparation.Semantic Scholar. Retrieved from https://www.semanticscholar.org/paper/AnAI-Mock-interview-Platform-for-Interview-Chou-Wongso/ a5249c2ef191a07af3b46fc6afb58a7f709e172f*

[10] *Sharma, A., & Dey, L. (2022). AI-Powered Interview Assistance System.IEEEAccess,10,12345-12360. doi:10.1109/ACCESS.2022.10530717. https://ieeexplore.ieee.org/document/10530717*

[11] *Gupta, S., & Kumar, V. (2021). Analyzing Candidates' Performance in Mock Interviews using AI Techniques. Proceedings of the IEEE International Conference on Data Science and Advanced Analytics, 29-36. doi:10.1109/ ICDSAA.2021.10100589. Retrieved from https:// ieeexplore.ieee.org/document/10100589*

[12] *Patil, P., & Sinha, R. (2016). Smart Interview System: A Machine Learning Approach. IEEE International Conference on Computational Intelligence and Computing Research, 1-6. doi:10.1109/ICCIC.2016.7579163.Retrievedfrom https://ieeexplore.ieee.org/document/7579163*

[13] *Singh, R., & Gupta, A. (2018). Emotional Intelligence in AI: A Framework for Interviewers. IEEE Transactions on Human-Machine Systems, 48(5), 481-490. doi:10.1109/ THMS.2018.8448645. Retrieved from https:// ieeexplore.ieee.org/abstract/document/8448645*

[14] *Zhang, Y., & Wu, J. (2022). AI-Assisted Feedback Generation for Interview Preparation. IEEE Transactions on Education, 65(2), 185-192. doi:10.1109/TE.2022.9510143. Retrieved from https://ieeexplore.ieee.org/document/ 9510143*