# AI Hiremaster - An AI-Powered Mock Interview Platform

**Ananya Srivastava and Anurag Mishra**

Department of Computer Science and Engineering

Babu Banarasi Das Institute of Technology and Management, Lucknow, India

ananyasrivastava2407@gmail.com, anuragmishra0521@gmail.com

**Abstract:** *This research presents AI HireMaster, an AI-powered mock interview platform designed to enhance candidate preparedness through natural, real-time voice-based interaction. With the rapid digitalization of recruitment and the growing demand for scalable interview coaching solutions, traditional text-based or static mock interview tools are no longer sufficient. AI HireMaster addresses this gap by integrating conversational AI, speech intelligence, and automated evaluation into a unified system capable of simulating realistic interview scenarios.*

*The platform incorporates intelligent question generation, real-time speech-to-text transcription, semantic understanding, tone and fluency analysis, and AI-driven scoring to evaluate user responses across multiple behavioral and technical dimensions. By leveraging modern development technologies— including Next.js, React, Node.js, Deepgram STT, VAPI voice AI, and cloud-based deployment—the system ensures low latency, high scalability, and seamless cross-device accessibility.*

*This paper outlines the system architecture, AI integration pipeline, module design, development methodology, and early validation results. The ongoing work aims to create an inclusive, adaptive, and data-driven interview readiness ecosystem capable of supporting learners, job seekers, and organizations at scale.*

**Keywords:** Artificial Intelligence; Mock Interview System; Conversational AI; Voice User Interface; Speech-to-Text; Natural Language Processing; Emotion Analysis; Automated Interview Evaluation; Machine Learning; Bias Mitigation