

Adaptive AI-Based Interaction Framework for Smart Assessment and Response Analysis

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Abstract: The “Adaptive AI-Based Interaction Framework for Smart Assessment and Response Analysis”, developed under the platform name Career Mock, is an advanced artificial intelligence-driven system designed to automate and enhance the recruitment and evaluation process through speech-based interactions. This project introduces an innovative approach to conducting interviews by integrating AI voice technology, speech recognition, and automated performance evaluation within a unified web-based platform. The system allows candidates to participate in mock or real interviews conducted by an AI interviewer that communicates naturally using voice. By utilizing Groq AI for intelligent question generation and feedback analysis, and VAPI AI for real-time voice interaction, the platform replicates the dynamics of human interviews. It evaluates a candidate’s communication skills, confidence, technical knowledge, and behavioural traits based on speech input. Built using Next.js for the user interface and Supabase for secure data management and authentication, the platform ensures a seamless and reliable user experience. Deployment through Vercel provides scalability and accessibility for both recruiters and candidates. The system supports multiple user roles — including candidates, recruiters, and administrators — each provided with personalized dashboards, interview analytics, and automated scoring reports. The Career Mock platform effectively reduces human bias, eliminates repetitive manual assessment, and saves valuable recruitment time. By merging conversational AI with modern web technologies, the Adaptive AI-Based Interaction Framework for Smart Assessment and Response Analysis establishes a fair, consistent, and data-driven framework for evaluating interview performance. This innovation represents a significant step forward in transforming conventional interview methods into intelligent, voice-interactive experiences suitable for modern hiring and professional skill development.

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