AI Bot For Interview Preparation

Kiran Waghmare, Girish Patil, Prem Bhalerao, Shruti Shelke
1Student, 2Student, 3Student, 4Student
1S. R. Bhujbal,
BE (Department of Computer Engineering)
PK Technical Campus, Pune, India

Abstract: This project presents an AI-driven interview preparation bot, merging Python with Fast API for backend functionality and React with Vite for frontend interaction. Leveraging OpenAI API for natural language processing and Azure Speech Service for voice communication, users engage in interview simulations with real-time feedback. Firebase authentication ensures secure access, while Firestore manages chat history for review. Through an intuitive dashboard, users can record responses, manage chat history, and seamlessly navigate the interview process. This innovative tool aims to empower users with enhanced interview skills, bolstering confidence and success in professional endeavors.

Index Terms - NLP, Interactive Chatbot, Job Interview.

I. INTRODUCTION

In today's competitive job market, effective interview preparation is crucial for securing employment opportunities. To address this need, we introduce an innovative AI-powered interview preparation bot. This bot leverages cutting-edge technologies, including Python with Fast API for backend processing and React with Vite for frontend interaction. By integrating advanced features such as OpenAI API for natural language processing and Azure Speech Service for voice communication, users can engage in realistic interview simulations with real-time feedback. Firebase authentication ensures secure access, while Firestore manages chat history for review and analysis. Through an intuitive dashboard interface, users can record responses, manage chat history, and navigate the interview process seamlessly. This project aims to empower users with enhanced interview skills, fostering confidence and success in their professional endeavors.

II. LITERATURE SURVEY

The intersection of artificial intelligence (AI) and interview preparation has garnered significant attention in recent years. Researchers have explored various approaches to enhance the effectiveness of interview training tools. One prominent area of study involves the integration of natural language processing (NLP) techniques to analyze interview responses and provide personalized feedback. For instance, Liu et al. (2019) developed an AI-based interview preparation system that employs NLP algorithms to assess candidate responses and offer tailored suggestions for improvement. Such systems not only streamline the interview preparation process but also enable users to identify and address weaknesses in their communication skills. Moreover, the emergence of voice-enabled technologies has revolutionized the landscape of interview training tools. Researchers have recognized the potential of speech recognition and synthesis technologies to create immersive and interactive learning experiences. For instance, Wang et al. (2020) proposed a voice-enabled interview preparation platform that utilizes speech recognition to transcribe user responses and provide instant feedback. By incorporating voice interaction capabilities, these systems offer a more natural and engaging user experience, facilitating effective communication skill development.
IV. The in a blockchain-based document verification system, several vital components work in unison. The user interface (UI) acts as the user's point of entry, accessible through web and mobile applications, allowing document submission and interaction with the verification platform. Submitted documents are securely stored, hashed for data integrity, and timestamped to establish their origin. Security is paramount, with data encryption techniques protecting document content, while legal compliance, backup, and disaster recovery measures ensure data safety and business continuity. System maintenance and upgrades guarantee security, while monitoring tools track performance and user behavior. Scalability and performance optimization techniques and APIs for third-party integration enhance the system's efficiency and utility.

![System Architecture Diagram](image-url)
V. IMPLEMENTATION

- **Backend**: Developed with Python using FastAPI.
- **Frontend**: Implemented using React with Vite for a responsive user interface.
- **Authentication**: Firebase authentication ensures secure user access.
- **Advanced Features**: Integration of OpenAI API for natural language processing and Azure Speech Service for voice interaction.
- **Data Storage**: Firestore is utilized for storing chat history and user data securely.
- **User Interface**: Includes a dashboard for managing interview sessions, recording responses, and accessing feedback.
- **Goal**: Provide users with a seamless and effective interview preparation tool leveraging advanced technologies for personalized feedback and skill enhancement.
VI. Screenshot

Landing Page

Registration Page
Welcome to the Dashboard, waghmarek749@gmail.com!

Select Your Preferred Language

- Python

START REACTING

Dashboard Page

Interview Call

Conversation:
assistant: That's great! Can you tell me what motivated you to start learning Python and what projects have you worked on so far?
user: My name is Mike and I have a beginner level of experience in Python.
assistant: Hello, let's start the interview.
assistant: Great! Can you please introduce yourself and tell me about your experience with Python?

Interview Screen
In conclusion, the AI-powered interview preparation bot offers a comprehensive solution for users to enhance their interview skills effectively. By leveraging advanced technologies such as natural language processing and voice interaction, coupled with a user-friendly interface, the project provides a seamless and personalized experience. With features like real-time feedback, secure authentication, and data management, the bot empowers users to improve their interview performance with confidence. Overall, this project serves as a valuable tool for individuals seeking to succeed in the competitive job market by honing their communication skills and interview techniques.
I. REFERENCE


