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AI Voice Chatbot using Gemini AI and Firebase

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Abstract: *With the rapid advancement of artificial intelligence and cloud computing, intelligent conversational systems have gained significant importance in modern applications. Traditional chat systems are limited in their ability to understand natural language and do not support voice-based interaction. This paper presents the design and development of an AI Voice Chatbot using web technologies such as HTML, CSS, and JavaScript for the frontend, Firebase for backend services, and Google Gemini AI API for intelligent response generation. The proposed system allows users to interact with the chatbot using both text and voice. Speech-to-text and text-to-speech technologies enable natural and user-friendly communication. Firebase provides real-time data handling and secure backend support. Experimental results demonstrate that the chatbot delivers fast, accurate, and context-aware responses, making it suitable for applications such as customer support, education, and smart web assistants.*

Keywords: AI Chatbot, Voice Assistant, Gemini AI, Firebase, Web Application, Natural Language Processing

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