

AI Voice Assistant: A Python and Flask Based Implementation

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Abstract: *The use of artificial intelligence (AI) in voice assistants has transformed how we interact with computers, providing powerful and intuitive tools to automate their daily tasks. This project addresses creating a voice assistant using the Python programming language. The system aims to operate on desktops and laptops, for example, those using the Windows operating system. The voice assistant takes advantage of speech recognition and natural language processing, allowing it to take verbal commands and complete associated tasks. The use of a voice assistant enhances productivity, saves time, and simplifies digital interactions between the computer and user by removing the need for manual action. The project showed the voice assistant could understand a daily routine from digital automation and provide like an important partner in life as we live hurried lives today. After extensive testing, the system was extremely capable of speech recognition, task execution, and responsiveness to user needs. The study also highlighted the possibilities for the voice assistant to be integrated with IoT (Internet of Things) technology, making the system more flexible and accurate in performing various tasks. Through this project, we have identified the transformative power of AI-based voice assistants and how they can help narrow the chasm between humans and technologies, while also allowing us to envision the future of voice-enabled automated systems in ways that emphasize their accessibility, adaptability, and productivity.*

Keywords: AI, digital automation, IoT, natural language processing, Python, voice assistant

