Voice-Based Virtual Assistant Integrated

with Artificial Intelligence

# ABSTRACT:

virtual assistant capable of performing various tasks based on voice commands. The assistant utilizes several libraries such as pyttsx3 for text-to-speech conversion, speech\_recognition for voice recognition, pyjokes for fetching jokes, pywhatkit for playing songs or videos, Wikipedia for fetching information, web scraping for fetching news, and more.

The assistant can perform tasks such as telling jokes, playing songs or videos from YouTube, fetching current time, opening or closing applications, taking photos, retrieving information from Wikipedia, remembering user input, providing weather information, shutting down or restarting the system, fetching news, changing its name, and more.

Additionally, the assistant incorporates artificial intelligence capabilities using the Gemini AI API for generating responses to user queries. It interacts with the user through voice commands and responses, providing a conversational interface.

The script also includes functionality for authenticating the user based on a predefined voiceprint, ensuring security and personalized interaction. Once authenticated, the assistant awaits user commands and executes them accordingly.

Overall, the virtual assistant project demonstrates the integration of various Python libraries and APIs to create a functional and interactive voice-controlled assistant capable of performing a wide range of tasks.