

Jarvis — Voice-Based AI Assistant

Advanced voice-based AI assistant that understands and speaks naturally in Hinglish



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What is Jarvis?

Jarvis is a sophisticated **voice-based AI assistant** designed specifically for Indian users. Unlike traditional assistants that struggle with code-switching, Jarvis naturally understands and responds in **Hinglish** – the perfect blend of Hindi and English that millions of Indians use daily.

Built using cutting-edge technologies like **Python**, **LangChain**, and **LiveKit**, Jarvis doesn't just follow commands. It reasons through queries, fetches real-time information from multiple sources, and engages in genuinely natural conversations that feel like talking to a knowledgeable friend.

Whether you need the current weather, want to know the time, or simply wish to have an intelligent conversation, Jarvis delivers with personality and precision.



Why Jarvis Stands Out

In a world filled with voice assistants, Jarvis brings something refreshingly different to the table. It's designed from the ground up to understand how Indians actually communicate.



Authentic Hinglish

Understands natural code-switching between Hindi and English, just like you speak with friends



Personality & Humour

Responds with wit, warmth, and conversational flair that makes interactions enjoyable



Real-Time Intelligence

Dynamically fetches current date, location, weather data, and more on demand



Advanced Reasoning

Uses LangChain Agents to understand context, make decisions, and provide intelligent responses

Tech Stack

Jarvis is powered by a carefully selected stack of modern technologies that work in perfect harmony to deliver a seamless, intelligent voice experience. Each component plays a crucial role in bringing the assistant to life.

Python

The foundational programming language providing flexibility and extensive library support

LangChain

Enables sophisticated LLM reasoning, tool integration, and intelligent agent behaviour

LiveKit

Powers real-time voice communication with low latency and high-quality audio processing

AsyncIO

Handles concurrent operations smoothly, ensuring responsive performance

APIs & Requests

Fetches real-time data including geolocation, weather information, and temporal data

Key Features

Jarvis comes packed with powerful capabilities that make it more than just another voice assistant. Each feature is thoughtfully designed to enhance your interaction experience and provide genuine value.



Voice Interaction

Seamless voice communication powered by LiveKit's real-time audio processing technology



Hinglish Conversation

Natural Indian-style responses that feel authentic and culturally relevant to your context



Dynamic Context

Automatically fetches current date, your city location, and local weather conditions



Reasoning Mode

LangChain Agent Mode enables complex decision-making and multi-step problem solving



Personality

Witty, respectful, and polished conversational tone that adapts to your needs



Asynchronous Performance

Smooth, lag-free execution handling multiple tasks simultaneously with ease

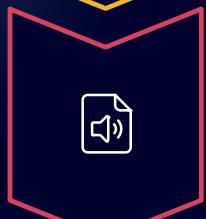
How Jarvis Works

Understanding the workflow behind Jarvis reveals the elegant architecture that powers its intelligent responses. Here's the complete journey from your voice to Jarvis's answer.



User Speaks

You initiate conversation in natural Hinglish, mixing Hindi and English as you normally would



Audio Capture

LiveKit captures the audio stream and converts your speech into accurate text transcription



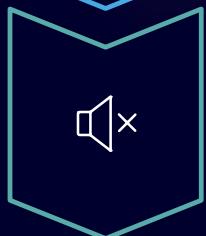
Agent Processing

LangChain Agent analyses the query, understands intent, and determines the best response strategy



Data Retrieval

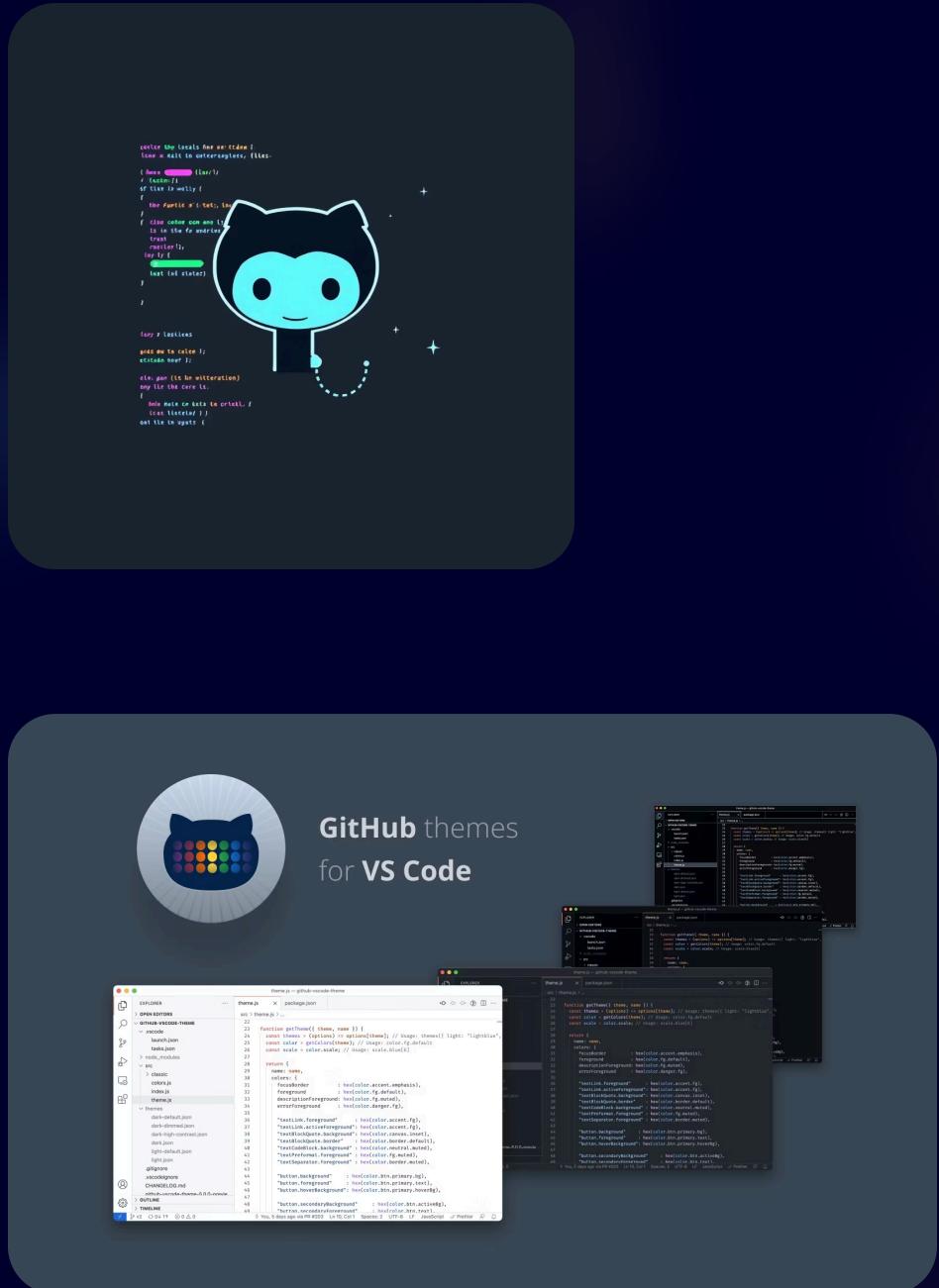
Fetches relevant information from various APIs including weather services, time servers, and location data



Voice Response

Generates a natural, conversational voice response and delivers it back to you seamlessly

Access the Code



Jarvis is built with transparency and collaboration in mind. The complete source code is openly available on GitHub, allowing you to explore every aspect of how it works, learn from the implementation, and even contribute improvements.

The repository includes comprehensive documentation, detailed comments throughout the codebase, and all the necessary configuration files to get you started quickly. Whether you're interested in understanding the architecture, adapting it for your own projects, or contributing enhancements, everything you need is just a click away.

[View on GitHub](#)

Running Jarvis

Getting Jarvis up and running on your local machine is straightforward. Follow these simple steps to have your own instance of the assistant running in minutes. Make sure you have Python 3.8 or higher installed before beginning.

01

Create Virtual Environment

Isolate your project dependencies

```
python -m venv venv
```

02

Activate Environment

Switch to the virtual environment

```
venv\Scripts\activate
```

03

Install Dependencies

Get all required packages

```
pip install -r requirements.txt
```

04

Launch Jarvis

Start the assistant in console mode

```
python agent.py console
```



Pro Tip: Ensure you have a stable internet connection as Jarvis needs to access various APIs for real-time information retrieval and LLM processing.

Demo & Next Steps

Jarvis represents just the beginning of what's possible with voice-based AI assistants tailored for Indian users. The current implementation showcases robust Hinglish understanding, real-time information retrieval, and natural conversation flow.

Experience the Live Demo

Watch Jarvis in action as it seamlessly handles Hinglish queries, fetches weather updates, tells the time, and engages in witty conversation – all while maintaining context and personality throughout the interaction.



Future Enhancements

- **Expanded API Integration**

Adding news aggregation, calendar management, and smart reminders

- **Multi-Language Support**

Extending beyond Hinglish to include regional Indian languages like Tamil, Bengali, and Telugu

- **Cross-Platform GUI**

Developing intuitive desktop and mobile interfaces for easier accessibility

Thank You!

Questions?

I'd love to discuss Jarvis, the technology behind it, or answer any queries you might have about the implementation.

Connect

Feel free to explore the code on GitHub, fork the repository, or reach out for collaboration opportunities.

Feedback Welcome

Your thoughts and suggestions for improving Jarvis are highly appreciated and will shape future development.

