Introduction

Technology is evolving rapidly, and artificial intelligence has become a vital part of daily life. Intelligent virtual assistants like Amazon Alexa, Apple Siri, and Google Assistant have revolutionized how people interact with technology. However, these systems are proprietary and cloud-dependent.

JARVIS Virtual Assistant is a custom-built, offline-capable assistant inspired by Marvel's fictional AI system, Jarvis. This project demonstrates how speech recognition, machine learning, and automation can be integrated to build a personalized AI that listens, processes commands, and executes tasks locally.

JARVIS is developed to act as a voice-controlled personal assistant, responding in a human-like manner. The system uses SpeechRecognition for speech-to-text, pyttsx3 for text-to-speech, and Flask as a web framework for handling frontend–backend communication. It is capable of understanding basic instructions, opening websites, fetching time, telling jokes, and performing other interactive tasks.

The system demonstrates how Artificial Intelligence (AI) can be combined with user-friendly web technologies to enhance daily computing experience.