**A (not so smart) Chat-Bot:**

Built a speech enabled chat bot using a raspberry pi which is capable of processing both speech and visual commands. It features automatic activation on face detection and also remote activation with either speech command or using a wireless transceiver in the form of a wrist-band. Trained Convolutional Neural Networks (CNNs) have been deployed in the system to provide real-time object recognition.

This system is built in a very modular fashion enabling the user to add custom python scripts to be used as predefined applications (or 'apps') thus extending the system's capabilities. Some of the default predefined functions (or “apps”) include Voice-enabled dictionary, Web searching/ scraping, Voice message logging, Data acquisition and analysis using a remote BOLT IoT module, Text Log of hand-written messages using basic character recognition, Recipe Listing based on detected food items.

In order to minimize the load on this embedded system, all the speech conversion is leveraged by cloud services, so the bot is always connected. For functions involving visual input data, pre-trained CNNs have been deployed on the system. For the data acquisition function, a remote BOLT IoT module sends data in definite intervals to the bot over the internet for visualization and analysis.

Though the bot currently doesn’t perform like our good ol’ Jarvis (not even its 0.1%) as it is still in development and optimization stages, it is going to work like a charm once it passes.