Input-speech

About

Input-speech is an instrument that uses its microphone for recognizing voice commands, to train a neural network built with the Google TensorFlow library. This allows you to control different multimedia outputs.

The instrument can be programmed with a computer and then run as a standalone instrument, or you can use its serial port to communicate with your computer for debugging or interfacing with other software.

Installation

Follow the instructions on installation.md.

Wiring

Follow the instructions on wiring.md.

Code examples

hello_tiny_world: this is an example that cycles through all the LEDs and their colors.

Data collection

Record .wav files with this format:

- 1 audio channel (mono)
- 16 kHZ sample rate
- 16 bits per sample: 16 bits

Training

Open your terminal and go to the instruments folder.

```
cd instruments
```

Activate the virtual environment

```
source env/bin/activate
```

Run Jupyter lab

```
jupyter-lab
```

Open the window on your web browser, and navigate to the notebook (TODO change name) Instrument2.ipynb

Deploying

Open the Arduino sketch