

Instrument2

About

Instrument2 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

Open the Arduino sketch

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 `Instrument2.ipynb`

Deploying

Open the Arduino sketch