**Aubio**

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Phase\_1 : WLED Audio Reactive LED Strip

Link : <https://github.com/Aircoookie/audio-reactive-led-strip>

Fork git

* Python visualization code, which includes code for:
  + Recording audio with a microphone ([microphone.py](https://github.com/Aircoookie/audio-reactive-led-strip/blob/master/python/microphone.py))
  + Digital signal processing ([dsp.py](https://github.com/Aircoookie/audio-reactive-led-strip/blob/master/python/dsp.py))
  + Constructing 1D visualizations ([visualization.py](https://github.com/Aircoookie/audio-reactive-led-strip/blob/master/python/visualization.py))
  + Sending pixel information to the ESP8266 over WiFi ([led.py](https://github.com/Aircoookie/audio-reactive-led-strip/blob/master/python/led.py))
  + Configuration and settings ([config.py](https://github.com/Aircoookie/audio-reactive-led-strip/blob/master/python/config.py))
* Arduino firmware for the ESP8266 ([ws2812\_controller.ino](https://github.com/Aircoookie/audio-reactive-led-strip/blob/master/arduino/ws2812_controller/ws2812_controller.ino))

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To build a visualizer using a computer and ESP8266, you will need:

* Computer with Python 2.7 or 3.5 ([Anaconda](https://www.continuum.io/downloads) is recommended on Windows)
* ESP8266 module with RX1 pin exposed. These modules can be purchased for as little as $5 USD. These modules are known to be compatible, but many others will work too:
  + NodeMCU v3
  + Adafruit HUZZAH
  + Adafruit Feather HUZZAH
* WS2812B LED strip (such as Adafruit Neopixels). These can be purchased for as little as $5-15 USD per meter.
* 5V power supply
* 3.3V-5V level shifter (optional, must be non-inverting)

Limitations when using a computer + ESP8266:

* The communication protocol between the computer and ESP8266 currently supports a maximum of 256 LEDs.

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Installation

First install Acadonda

Make sure its 64 bit

Add it to path

(do not install a separate python as anaconda has ist own python and the too will crash)

Also install (important windows compiler)

<https://wiki.python.org/moin/WindowsCompilers>

**Installing dependencies with Anaconda**

Create a [conda virtual environment](http://conda.pydata.org/docs/using/envs.html) (this step is optional but recommended)

conda create --name visualization-env python=3.5

activate visualization-env

Install dependencies using pip and the conda package manager

conda install numpy scipy pyqtgraph

pip install pyaudio

**Installing dependencies without Anaconda**

The pip package manager can also be u sed to install the python dependencies.

pip install numpy

pip install scipy

pip install pyqtgraph

pip install pyaudio

If pip is not found try using python -m pip install instead.

The last part if installing pyaudio has errors try this

pip install pipwin

pipwin install pyaudio

LEDFX

**Conda environment required**

conda create -n ledfx

conda activate ledfx

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conda config --add channels conda-forge

conda install aubio portaudio pywin32

pip install ledfx

ledfx --open-ui

LEDFX aubio bug

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conda config --add channels conda-forge

$ conda install -c conda-forge aubio

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Hey @ulyssesp , I imagine I'm a bit late, but I just ran into this issue as well. If you have conda installed, you can try conda install -c conda-forge aubio as described here

https://anaconda.org/conda-forge/aubio

This allowed me to install successfully.

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hi **[@Rybak5611](https://github.com/Rybak5611)**

as mentioned above, you *must* have [a compiler](https://wiki.python.org/moin/WindowsCompilers) installed to build aubio's python module.

if you do not want to install a compiler, you can use [conda packages](https://anaconda.org/conda-forge/aubio).

let us know how it goes,  
best, piem

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Hi **[@Rybak5611](https://github.com/Rybak5611)**

Thanks for the feedback.

The [python wiki](https://wiki.python.org/moin/WindowsCompilers" \l "Which_Microsoft_Visual_C.2B-.2B-_compiler_to_use_with_a_specific_Python_version_.3F) mentions *you need to install the compiler version that corresponds to your Python version*. This is also specified in the official documentation on [building extensions C and C++ on windows](https://docs.python.org/3.7/extending/windows.html): *You will still need the C compiler that was used to build Python; typically Microsoft Visual C++*.

So we need to figure out:

* what version of python is being used?
* what compiler corresponds to that version of python?
* if/once installed, why is that compiler not found by distutils?

For the last step, the [windows build logs](https://ci.appveyor.com/project/piem/aubio) might give you some hints. Note installing wheel and upgrading pip and setuptools was required there. Something like this should do:

python.exe -m pip install --upgrade pip setuptools wheel

If that doesn't help, you could try building a simple C extension (aubio is not the simplest because the pre-processor is used in a first step to generate some of the C files).

Let us know how it goes!

thanks, piem

Aircookie LEDfx Config

devices:

sample\_device\_1:

type: e131

name: Sample Device

host: 192.168.1.100

universe: 1

channel\_offset: 0

channel\_count: 300

max\_brightness: 1.0

devices:

sample\_device\_1:

type: e131

name: Sample Device

host: 192.168.1.100

pixel\_count: 100

type: udp\_rgbport: 21324