**Speech Recognition Reading from a File**

First, install the library using pip:

pip3 install SpeechRecognition pydub

Open up a new Python file and import it:

import speech\_recognition as sr

The nice thing about this library is it supports several recognition engines:

* [CMU Sphinx](http://cmusphinx.sourceforge.net/wiki/) (offline)
* Google Speech Recognition
* [Google Cloud Speech API](https://cloud.google.com/speech/)
* [Wit.ai](https://wit.ai/)
* [Microsoft Bing Voice Recognition](https://azure.microsoft.com/en-us/services/cognitive-services/speech-services/)
* [Houndify API](https://www.houndify.com/)
* [IBM Speech To Text](https://www.ibm.com/watson)
* [Snowboy Hotword Detection](https://snowboy.kitt.ai/) (offline)

We gonna use Google Speech Recognition here, as it is straightforward and doesn't require any API key.

Make sure you have an audio file in the current directory that contains english speech (if you want to follow along with me, get the audio file [here](https://github.com/x4nth055/pythoncode-tutorials/blob/master/machine-learning/speech-recognition/16-122828-0002.wav)):

filename = "16-122828-0002.wav"

This file was grabbed from [LibriSpeech](https://www.openslr.org/12" \o "LibriSpeech dataset" \t "_blank) dataset, but you can use any audio WAV file you want, just change the name of the file, let's initialize our speech recognizer:

# initialize the recognizer

r = sr.Recognizer()

The below code is responsible for loading the audio file, and converting the speech into text using Google Speech Recognition:

# open the file

with sr.AudioFile(filename) as source:

# listen for the data (load audio to memory)

audio\_data = r.record(source)

# recognize (convert from speech to text)

text = r.recognize\_google(audio\_data)

print(text)

This will take few seconds to finish, as it uploads the file to Google and grabs the output, here is my result:

I believe you're just talking nonsense

The above code works well for small or medium size audio files. In the next section, we going to write code for large files.