

Top 5 Audio Analysis Library for Python : Must for Data Scientist

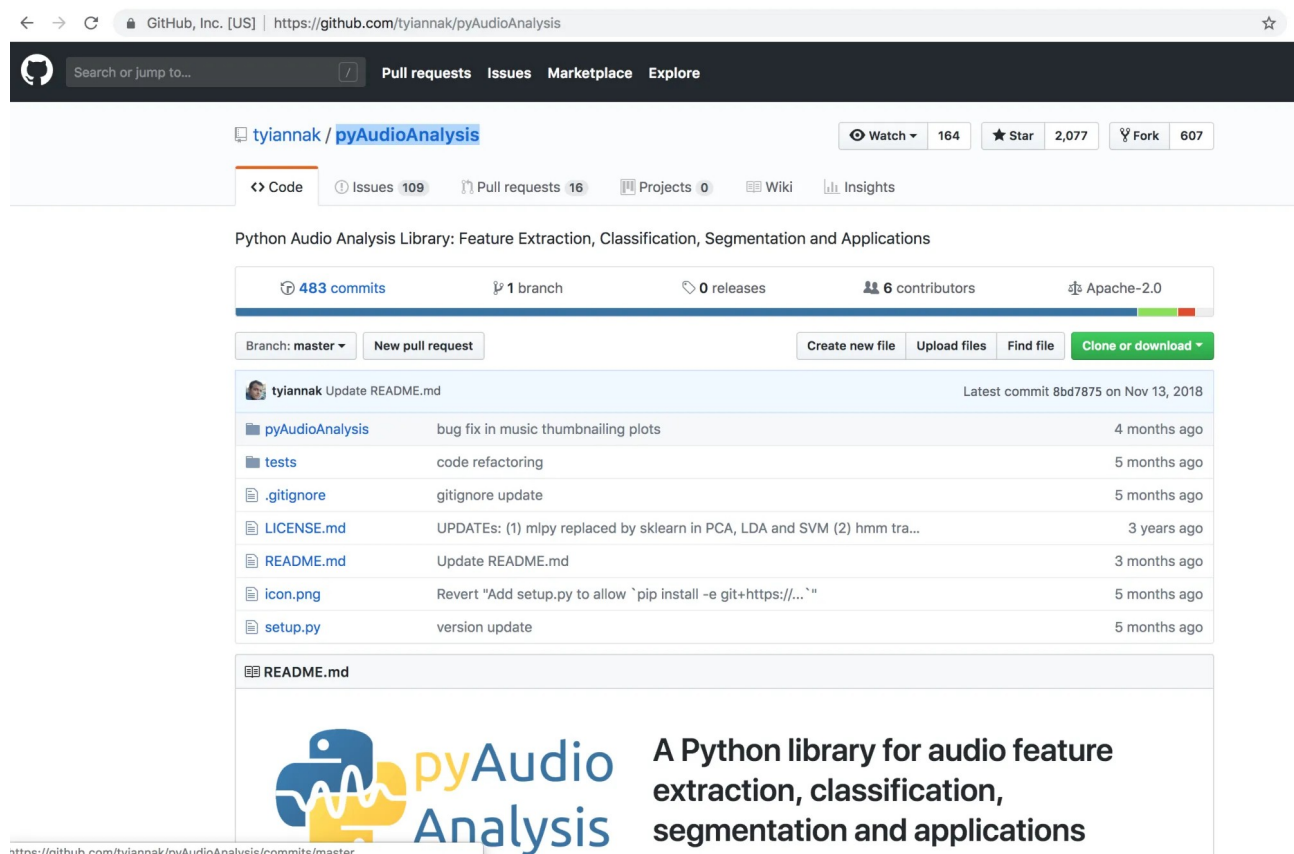
Reading Time: 3 minutes

As a Data Scientist you never know the upcoming stuffs . Right ? The amazing thing of this profession is that you may have to deal with different kind of data formats . Some time it could be text , images or Audio . Yes It could be an audio as well . As a Data Scientist I did not found so many articles on Audio analysis and process library in python . I have documented all my findings this article . This article ” **Top 5 Audio Analysis Library for Python : Must for Data Scientist** ” will brief you on this topic . Lets start –

Audio Analysis Library for Python-

1. PyAudioAnalysis –


This Python module is really good in Audio Processing stuffs like classification . It supports feature engineering operations for supervised and unsupervised learning stuffs .



The screenshot shows the GitHub repository for PyAudioAnalysis by tyiannak. The repository has 164 watches, 2,077 stars, and 607 forks. It includes a table of recent commits and a preview of the README file.

Commit	Message	Time Ago
tyiannak	Update README.md	Latest commit 8bd7875 on Nov 13, 2018
pyAudioAnalysis	bug fix in music thumbnailing plots	4 months ago
tests	code refactoring	5 months ago
.gitignore	gitignore update	5 months ago
LICENSE.md	UPDATES: (1) mlpy replaced by sklearn in PCA, LDA and SVM (2) hmm tra...	3 years ago
README.md	Update README.md	3 months ago
icon.png	Revert "Add setup.py to allow `pip install -e git+https://...`"	5 months ago
setup.py	version update	5 months ago

README.md

 **A Python library for audio feature extraction, classification, segmentation and applications**

2. Pydub –

It helps to perform various common task in sound processing with python . For example -slicing the sound , concatenating the sound etc .I think you should check it out .

Pydub by jiaaro

[Installing Pydub](#) [API Docs](#) [Dependencies](#) [Questions/Bugs](#)



Manipulate audio with a simple and easy high level interface

build passing Star 3,236

Open a WAV file

```
from pydub import AudioSegment
song = AudioSegment.from_wav("never_gonna_give_you_up.wav")
```

...or an mp3

```
song = AudioSegment.from_mp3("never_gonna_give_you_up.mp3")
```

... or an ogg, or flv, or [anything else ffmpeg supports](#)

```
ogg_version = AudioSegment.from_ogg("never_gonna_give_you_up.ogg")
flv_version = AudioSegment.from_flv("never_gonna_give_you_up.flv")

mp4_version = AudioSegment.from_file("never_gonna_give_you_up.mp4", "mp4")
wma_version = AudioSegment.from_file("never_gonna_give_you_up.wma", "wma")
aac_version = AudioSegment.from_file("never_gonna_give_you_up.aiff", "aac")
```

Slice audio

```
# pydub does things in milliseconds
ten_seconds = 10 * 1000

first 10 seconds = song[:10000]
```

3. TimeSide –

It is a well design python framework for Audio Analysis . Specially for labelling , transcoding, streaming etc .It is more popular for audio processing in python with web .

← → ↻ GitHub, Inc. [US] | https://github.com/Parisson/TimeSide

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Parisson / TimeSide Watch 28 Star 229 Fork 39

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Scalable audio processing framework and server written in Python

2,476 commits 35 branches 38 releases 10 contributors AGPL-3.0

Branch: master New pull request Create new file Upload files Find file Clone or download

yomguy Install bower earlier Latest commit 0618d75 on Aug 19, 2018

app	Fix notebook startup and doc (fix #105), fix DB waiting script, use m...	6 months ago
bin	Change script and data paths to bin and var resp., update doc	a year ago
docs	Correction in the path conf->env	6 months ago
env	Fix notebook startup and doc (fix #105), fix DB waiting script, use m...	6 months ago
etc	add_header "Access-Control-Allow-Origin" "";	2 years ago
lib/plugins	Move plugins directory	6 months ago
tests	Fix fx gain processors and add test for it	a year ago
timeside	Avoid empty tempo data	6 months ago
.coveralls.yml	Add coveralls configuration file	3 years ago
.dockerignore	Fix various docker building params, update python deps	6 months ago
.gitignore	ignore more build	a year ago
.travis.yml	Travis-CI: Fix doc test_target	a year ago
AUTHORS.txt	update README and NEWS	4 years ago


https://github.com/Parisson/TimeSide/commits/master

Mutagen –

This is really one of the great python module for audio processing specially tagging ,and meta data extraction . Mutagen also provide command line interface .

Overview — mutagen

Docs > Overview Edit on GitHub



Python multimedia tagging library

Mutagen is a Python module to handle audio metadata. It supports ASF, FLAC, MP4, Monkey's Audio, MP3, Musepack, Ogg Opus, Ogg FLAC, Ogg Speex, Ogg Theora, Ogg Vorbis, True Audio, WavPack, OptimFROG, and AIFF audio files. All versions of ID3v2 are supported, and all standard ID3v2.4 frames are parsed. It can read Xing headers to accurately calculate the bitrate and length of MP3s. ID3 and APEv2 tags can be edited regardless of audio format. It can also manipulate Ogg streams on an individual packet/page level.

Mutagen works with Python 2.7, 3.5+ (CPython and PyPy) on Linux, Windows and macOS, and has no dependencies outside the Python standard library. Mutagen is licensed under the GPL version 2 or later.

For more information visit <https://mutagen.readthedocs.org>

build passing Azure Pipelines succeeded codecov 94%

There is a [brief tutorial](#) with several [API examples](#).

Installing

```
pip install mutagen
```

or

Read the Docs v: latest

Others –

Truely speaking ! To provide a particular name at this place will be injustice to others Python Audio Processing and Analysis Library . Hence I have decide to create a bucket for this . Here are a list of some more interesting Python Libraries for Audio Processing –

[1.audiolazy](#)

[2. audioread](#)

[3.beats](#)

Audio Processing and Machine Learning –

Audio processing is harder with [Machine Learning](#) .Actually before sending directly to Machine Learning Platform so many hidden tasks. Which are quite time taking but seems small . Like we have to load the sound . The imported or loaded audio sample may be of some different format . We have to first convert them into the required one. Now the above mention Library comes to the role . Few of them are coming with such features of format conversion .

Now once it is converted into the required format , we have to perform the preprocessing like noise removal and all . After it the last and the most important step comes where we have to extract the feature from the audio sample . Finally it becomes c a typical machine learning stuff after the feature engineering .

Conclusion –

In this article we tried to cover the Audio Processing stuffs with Python Library . You may solve most of Audio processing stuffs using this libraries . So friends I hope this article ” **Top 5 Audio Analysis Library for Python : Must for Data Scientist** ” , must clear your doubt .Anyways if you want to discuss some more on it , Please write back to us . Audio Processing and Analysis is little different then text and image processing . If you think you may contribute some more on this topic , Data Science Learner’s Team always appreciate such efforts as guest posting .