
cutcutcodec

Release 1.0.4

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2024-03-30 21H52

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This **video editing software** has a graphical interface powered by qtpy (run `cutcutcodec-gui`). It has been designed for speed and to implement some effects that are hard to find elsewhere. The kernel is written in python and C, so it's easy to integrate it in your own project (module `cutcutcodec.core`). Although it allows you to fine-tune many parameters, it's smart enough to find the settings that are best suited to your project.

OVERVIEW

1.1 Installation

1.1.1 Python and FFmpeg Support

CutCutCodec supports these versions.

Table 1: Python versions

Python	3.13	3.12	3.11	3.10	3.9
CutCutCodec 1.0.4		Yes	Yes	Yes	Yes
CutCutCodec 1.0.1 - 1.0.3			Yes	Yes	Yes
CutCutCodec 1.0.0rc				Yes	Yes

Table 2: FFmpeg versions

FFmpeg	7	6	5	4
CutCutCodec 1.0.2 - 1.0.4		Yes	Yes	Yes
CutCutCodec 1.0.1			Yes	Yes
CutCutCodec 1.0.0rc				Yes

1.1.2 Dependencies

CutCutCodec has hard dependency on the FFmpeg package. You should install it first, please refer to the [FFmpeg download page](#).

```
sudo apt update
sudo apt install ffmpeg
sudo apt install python-dev pkg-config
sudo apt install libavformat-dev libavcodec-dev libavdevice-dev libavutil-dev libswscale-
➔dev libswresample-dev libavfilter-dev
```

```
sudo yum install ffmpeg
```

```
sudo pacman -S ffmpeg
```

```
sudo zypper install ffmpeg
```

```
sudo pkg install ffmpeg
```

You could install the FFmpeg by using [Homebrew](#).

```
brew update  
brew upgrade  
brew install ffmpeg pkg-config
```

Warning: Windows is crap, so be prepared for a tedious and buggy installation! You should forget Microchiotte-Windaube and go straight to Linux before you pull out all your hair!

It is important to configure your environment variable to hook ffmpeg to CutCutCodec. You can follow [this guide](#) for example.

Although it is installed automatically, it is better to install **av** manually to avoid redundancy with ffmpeg. Please refer to the [PyAv installation guide](#).

```
pip install av --no-binary av
```

```
pip install av --no-binary av
```

On **MacOS** you may have issues with regards to Python expecting gcc but finding clang. Try to export the following before installation:

```
export ARCHFLAGS=-Wno-error=unused-command-line-argument-hard-error-in-future  
pip install av --no-binary av
```

Warning: I see that you insist on using Windows, this step is the most critical, good luck!

On **Windows** you must build from source in order to indicate the location of ffmpeg, please follow the [PyAv windows installation guide](#) and good luck!

If you have a GPU, please install CUDA or ROC then follow the [PyTorch installation guide](#). Without CUDA or ROC, the software is not able to use the GPU (CPU only).

1.1.3 Virtual Environment

It is preferable to install cutcutcodec in a virtual environment. Please refer to the [pyenv installation guide](#). It is possible to use python3-venv as well.

1.1.4 Installation with pip

Basic Installation

Note: The following instructions will install CutCutCodec with simple support for graphical interface. See [Building From Source](#) for a complete installation including the documentation and the tests.

To install cutcutcodec using [PyPI](#), use pip:

```
pip install --user cutcutcodec[gui]
```

Building From Source

To install the latest development version from [Framagit](#) source, clone cutcutcodec using git and install it using pip:

```
git clone https://framagit.org/robinechuca/cutcutcodec.git
cd cutcutcodec/
python -m pip install --upgrade pip setuptools wheel
python -m pip -v install --editable .[all]
$SHELL # load all the new env-vars, equivalent to restart the shell
python -m cutcutcodec test # to test if the installation is ok
```

You can also compile documentation locally (after the previous step).

```
cd doc/ && make clean && make html && cd -
firefox doc/build/html/index.html
```

1.1.5 Verification

To check that everything is in order, you can run the test bench. For running tests, some dependencies are required, you can install it passing the option [all] to pip.

```
python -m cutcutcodec test # or cutcutcodec-test
```

To run a partial test, please refer to the integrated CLI:

```
python -m cutcutcodec test --help
```

1.1.6 Platform Support

The tests were successful for these configurations.

Note: Contributors please test CutCutCodec on your platform then update this document and send a pull request.

Operating system	Tested Python versions	Tested FFmpeg versions	Tested architecture
Linux Mint 21.3	3.9, 3.10, 3.11	4.4.2	x86-64

- `core module api`

This software is **light**, **fast** and **highly configurable** for the following reasons:

1. Based on `ffmpeg`, this software supports an incredible number of formats and codecs.
2. This software allows editing the assembly graph. Compared to a timeline, this representation permits to do everything.
3. This software doesn't export the final video directly from the graphic interface. Instead, it generates a python script. You can edit this script yourself, giving you infinite possibilities!
4. A complete test benchmark guarantees an excellent kernel reliability.
5. Powered by `torch` and written in C, this software efficiently exploits the CPU and GPU in order to make it very fast.
6. Video export is performed without a graphical interface, releasing a large part of computer resources to speed up export.
7. This software is able to optimize the assembly graph in order to limit calculation waste.
8. The code is parallelised to take advantage of all the CPU threads, making it extremely fast.

INDICES AND TABLES

- `genindex`
- `modindex`
- `search`