PixelCut

(CLI mode)

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1. **System requirement**
   1) **OS: Ubuntu 24.04.2 LTS**
      Kernel: Linux 6.8.0-53-generic
   2) **CPU: 12 threads (Hyper threading: 6core, 12 threads)**
      model name: Intel(R) Xeon(R) E-2336 CPU @ 2.90GHz
   3) **HDD: 1.8 TB (Logical)**
   4) **Memory: 32GB**

2. **Installation**
   1) **openssl (1.1.1)**
      $ curl -O https://www.openssl.org/source/openssl-1.1.1s.tar.gz
      $ tar xf openssl-1.1.1s.tar.gz
      $ cd openssl-1.1.1s
      $ ./config --prefix=/usr/local/openssl -openssldir=/usr/local/openssl shared
      $ make && sudo make install

   2) **python (3.10.6) and packages(opencv)**
      $ wget https://www.python.org/ftp/python/3.10.6/Python-3.10.6.tgz
      $ tar xf Python-3.10.6.tgz
      $ cd Python-3.10.6
      $ ./configure --prefix= ~/PixelCut/web/v0.01/python/3.10.6 ₩
            --with-openssl=/usr/local/openssl ₩
            --enable-optimizations
      $ make && sudo make altinstall
      $ ~/PixelCut/web/v0.01/python/3.10.6/bin
      $ ln -s pip3 pip
      $ pip install opencv-python
      $ pip install beautifulsoup4
      $ pip install Pillow
      $ pip install imutils
      $ pip install pandas
      $ pip install pytesseract

- Installation Tesseract 4.x

$ sudo apt install tesseract-ocr

$ sudo apt install libtesseract-dev

$ sudo apt-get install liblzma-dev

3. Operating (CLI Mode)

1) set environment

$ export PATH=~/PixelCut/web/v0.01/python/3.10.6/bin:$PATH

2) Operating

$ cd ~/PixelCut/src/cli_version/01_PixelCut/ver_0.01

$ python PixelCut.py ERR3668533_1_fastqc.html   ERR3668533_2_fastqc.html

Read1 Length: 283

Read2 Length: 279

[Read1] truncation position: 274

[Read2] truncation position: 257

Total time: 0:00:07.499878

```
(base) dongin@robotics:~/PixelCut/src/cli_version/01_PixelCut/ver_0.01$
(base) dongin@robotics:~/PixelCut/src/cli_version/01_PixelCut/ver_0.01$
(base) dongin@robotics:~/PixelCut/src/cli_version/01_PixelCut/ver_0.01$ ls -al
total 1952
drwxr-xr-x 3 dongin dongin   4096 Oct 28 22:05 .
drwxr-xr-x 6 dongin dongin   4096 Oct 28 21:51 ..
-rw-r--r-- 1 dongin dongin  39283 Oct 28 21:51 colors.csv
-rw-rw-r-- 1 dongin dongin 930209 Oct 28 21:57 ERR3668533_1_fastqc.html
-rw-rw-r-- 1 dongin dongin 975951 Oct 28 21:57 ERR3668533_2_fastqc.html
-rw-r--r-- 1 dongin dongin   3195 Oct 28 21:52 extract_quality_plot_fastqc.py
drwxrwxr-x 2 dongin dongin   4096 Oct 28 21:56 fastqc_result
-rw-r--r-- 1 dongin dongin   1806 Oct 28 21:52 ToGether_multi.py
-rw-r--r-- 1 dongin dongin   4431 Oct 28 21:51 ToGether.py
-rw-r--r-- 1 dongin dongin  14439 Oct 28 22:05 tracking_low_quality_area.py
(base) dongin@robotics:~/PixelCut/src/cli_version/01_PixelCut/ver_0.01$
(base) dongin@robotics:~/PixelCut/src/cli_version/01_PixelCut/ver_0.01$
(base) dongin@robotics:~/PixelCut/src/cli_version/01_PixelCut/ver_0.01$ python ToGether.py  ERR3668533_1_fastqc.html  ERR3668533_2_fastqc.html
Read1 Length: 283
Read2 Length: 279
[Read1] truncation position:  274
[Read2] truncation position:  257
Total time: 0:00:07.499878
(base) dongin@robotics:~/PixelCut/src/cli_version/01_PixelCut/ver_0.01$
(base) dongin@robotics:~/PixelCut/src/cli_version/01_PixelCut/ver_0.01$
(base) dongin@robotics:~/PixelCut/src/cli_version/01_PixelCut/ver_0.01$
```

[image1. PixelCut CLI mode]