

Install opencv-contrib-python

22 November 2018 10:07

<https://pypi.org/project/opencv-contrib-python/>

Terdapat 4 jenis pustaka opencv dalam python:

1. Opencv-python : berisi libraries opencv bagian module utama (Main Modules) saja.
2. **Opencv-contrib-python**: module utama (Main modules) + modul ekstra (extras modules)
3. Opencv-python-headless:
4. Opencv-contrib-python-headless:

Uninstall opencv-python: > pip uninstall opencv-python

Install opencv-python: > pip install opencv-contrib-python

Note: sebaiknya tidak menginstall lebih dari dua tipe

Daftar modul (**Main modules** dan **Extras modules**) library dalam opencv dapat dilihat pada link berikut:

<https://docs.opencv.org/master/>

```
Python: C:\bana\cvtmp
(cvenv) C:\Users\bana\cvtmp>pip uninstall opencv-python
Skipping opencv-python as it is not installed.
You are using pip version 18.0, however version 18.1 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.

(cvenv) C:\Users\bana\cvtmp>pip install opencv-contrib-python
Requirement already satisfied: opencv-contrib-python in c:\users\bana\cvtmp\cvenv\lib\site-packages (3.4.3.18)
Requirement already satisfied: numpy>=1.11.3 in c:\users\bana\cvtmp\cvenv\lib\site-packages (from opencv-contrib-python) (1.15.1)
You are using pip version 18.0, however version 18.1 is available.
You should consider upgrading via the 'python -m pip install --upgrade pip' command.

(cvenv) C:\Users\bana\cvtmp>ipython
Python 3.6.0 |Continuum Analytics, Inc.| (default, Dec 23 2016, 11:57:41) [MSC v.1900 64 bit (AMD64)]
Type 'copyright', 'credits' or 'license' for more information
IPython 6.5.0 -- An enhanced Interactive Python. Type '?' for help.

In [1]: import cv2

In [2]: cv2.face
cv2.face.BIF_create          cv2.face.MACE_create
cv2.face.EigenFaceRecognizer_create cv2.face.MACE_load
cv2.face.FisherFaceRecognizer_create cv2.face.StandardCollector_create
cv2.face.LBPHFaceRecognizer_create cv2.face.createFacemarkAAM
```

Face detection menggunakan LBP:

```
lbp_face_cascade = cv2.CascadeClassifier('lbpcascade_frontalface.xml')
```

Note: perbedaan dengan haar face detection terletak pada xml file, LBP Face Detection menggunakan file "lbpcascade_frontalface.xml", dapat didownload dari opencv source-code di github.com

<https://github.com/opencv/opencv/tree/master/data/lbpcascades>

- Download file tersebut dan simpan dalam direktori kerja (C:\users\bana\cvtmp\lbpcascade_frontalface.xml)

```
Command Prompt
Volume Serial Number is 4632-8B1F

Directory of C:\Users\bana\cvtmp

10/10/2018  13:55          341.406 haarcascade_eye.xml
10/10/2018  13:55          930.127 haarcascade_frontalface_default.xml
10/10/2018  13:55          51.856 lbpcascade_frontalface.xml
10/10/2018  13:55          54.039 lbpcascade_frontalface_improved.xml
               4 File(s)      1.377.428 bytes
               0 Dir(s)      491.321.393.152 bytes free

(c:\env) C:\Users\bana\cvtmp>
```

```
import numpy as np
import cv2
```

```
lbp_face_cascade = cv2.CascadeClassifier('lbpcascade_frontalface.xml')
```

```
eye_cascade = cv2.CascadeClassifier('haarcascade_eye.xml')
img = cv2.imread('sachin.jpg')
gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)
faces = lbp_face_cascade.detectMultiScale(gray, 1.3, 5)
for (x,y,w,h) in faces:
    img = cv2.rectangle(img,(x,y),(x+w,y+h),(255,0,0),2)
    roi_gray = gray[y:y+h, x:x+w]
    roi_color = img[y:y+h, x:x+w]
    eyes = eye_cascade.detectMultiScale(roi_gray)
    for (ex,ey,ew,eh) in eyes:
        cv2.rectangle(roi_color,(ex,ey),(ex+ew,ey+eh),(0,255,0),2)
cv2.imshow('img',img)
cv2.waitKey(0)
cv2.destroyAllWindows()
```

Contoh kode dan gambar untuk membandingkan Haar dan LBP face detection:

<https://github.com/informramiz/Face-Detection-OpenCV>

Link contoh perbandingan algoritma menganali wajah (Face Recognizer)

- EigenFace
- FisherFace
- LBPH

<https://github.com/informramiz/opencv-face-recognition-python>