Image processing in the Python

First of all we have to select a python version.

Here, I install python 2.7 on my laptop(win7\_64bit, but I install the win32 version of the py), which is the most stable version ever.

To install python2.7, we can go to the offical website <https://www.python.org/downloads/> to download the installing source. Attention: After installing the python, we need to add in the environment variable for our system, so that our DOS prompt can directly run the python.

We should add

;c:/python27 (the path we installed the python)

in the ‘path’ environment variable.

Then, we need a friendly IDE, which can highlight the keywords and respect the syntax for us. PyCharm is a very useful IDE for python, and its education version is totally for free.

Then ,we have install some some relative packages for our work.

Here are the packages we are going to use:

pip: this is a very powerful tool to help us manage our package, in fact it is a software instead of a py package. To use it directl in our DOS prompt, we need to add

;c:/python27/Scripts

in the ‘path’ environment variable.

(if we use the python35, we have to add ;c:/python35/bin).

After installing the pip we can install the packages and manage them easily.

Pillow, this is a package that help process the images. And it is a necessary package for the pytesseract, to install pillow, we use the command below in the DOS prompt:

Pip install pillow

Pytesseract, this is a package help us use tesseract in the python directly instead of

pip install pytesseract

The usage of the pytesseract is in this website <https://github.com/madmaze/pytesseract>

To process the image we have to use some science calculating tool like scipy, numpy, matplotlib etc.

Scipy, this package helps us do some scientific calculating, to install it ,

<https://sourceforge.net/projects/scipy/files/scipy/0.16.1/>

Download the exe file and then install it.

Pyparsing, this package is necessary for the numpy

<https://pypi.python.org/pypi/pyparsing/2.1.0>

Dateutil, this package is also for numpy, download the whl file form <https://pypi.python.org/pypi/python-dateutil>

And then coper it to the my\_package, this step is not necessary, but I strongly recommand that we put all this package in one folder to manage them.

At last, we use pip to install it( we suppose that Dateutil.whl is in the path c:/python27/my\_package)

Pip install c:/python27/my\_package/dateutil.whl

Numpy, this package can help us process the matrix. As the pixels of the imag can be regarded as a n\*n matrix this package is really indispensable.

Download the relative whl file from <https://sourceforge.net/projects/numpy/files/NumPy/>

And install it with pip as the same as the last package.

Matplotlib this package is not actually so important, but it can help us plot the figure. <https://sourceforge.net/projects/matplotlib/files/matplotlib/>

Dowload the whl file and install it.