**M A N U A L**

**OutC4se**

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**최진영**

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**손진혁**

**2014. 12. 14.**

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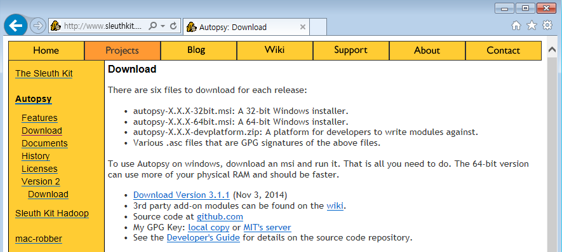
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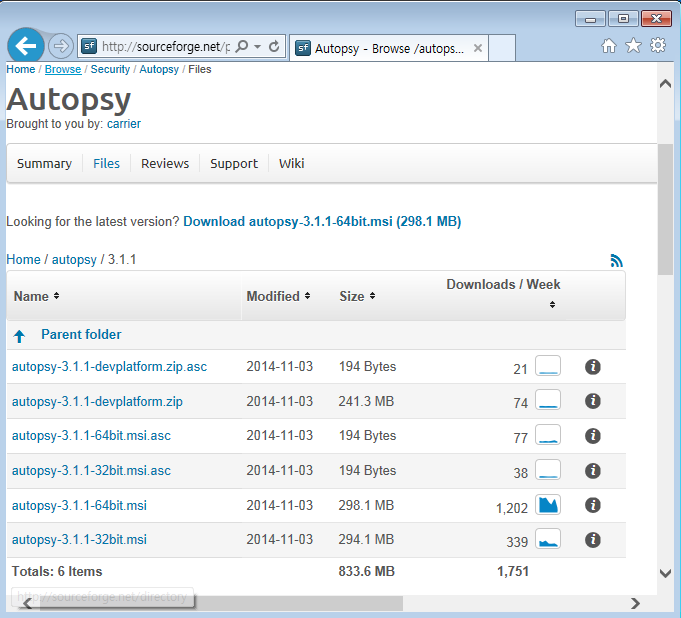
1. Windows
   1. Install
      1. Autopsy

- Download Version 3.1.1

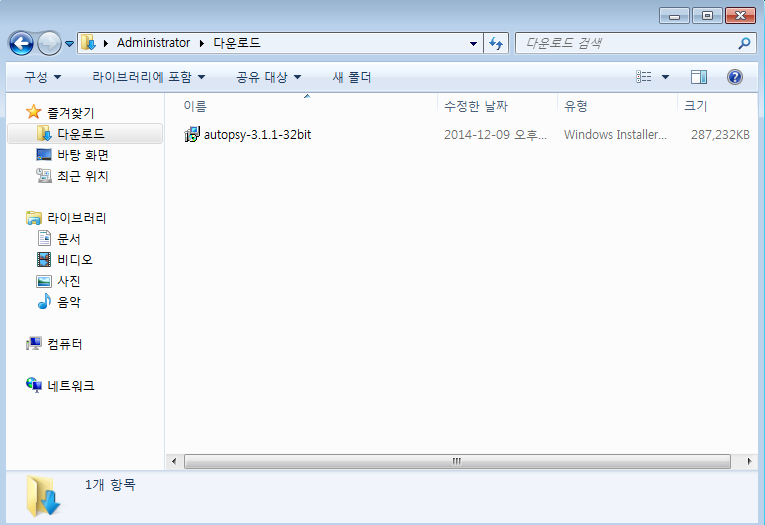


<http://www.sleuthkit.org/autopsy/download.php>

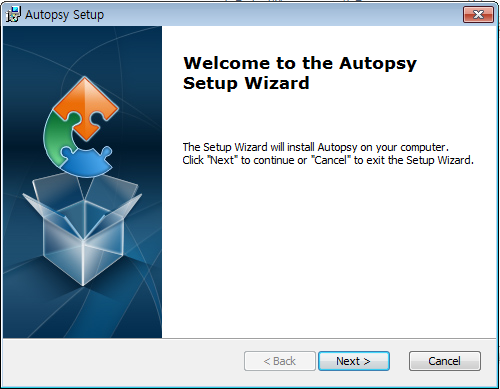
-Install



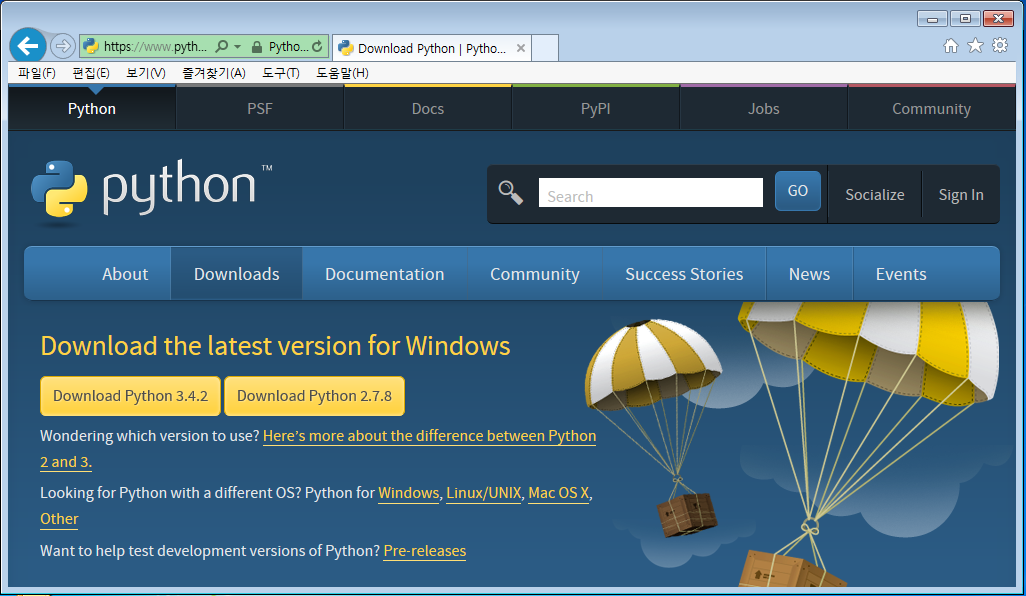
<http://sourceforge.net/projects/autopsy/files/autopsy/3.1.1/>



Next -> Next -> Install -> Finish

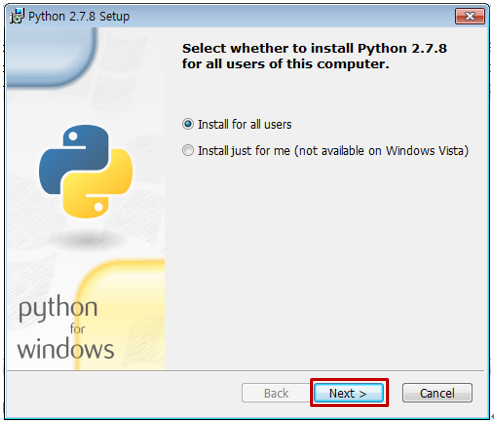


* + 1. Python



<https://www.python.org/downloads/>

Next → Next → Finish



* + 1. Python Module

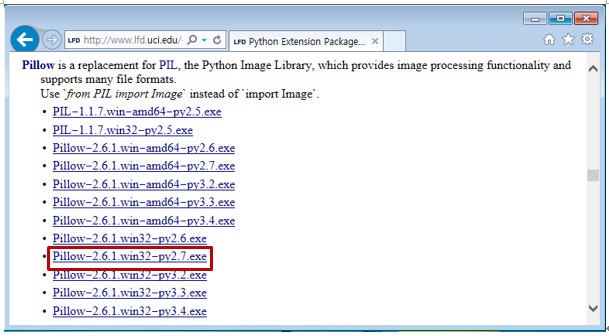
본 프로그램의 알고리즘은 Python으로 구현하였기 때문에 Python과 함께 몇 가지의 Module을 설치해야 한다. 다음은 Python Module들을 모아놓은 유용한 사이트이다. Ctrl + F를 이용해 필요한 모듈을 찾아 설치하고, 해당 사이트에 없는 일부 모듈은 다른 사이트에서 별도로 다운받을 수 있다.



<http://www.lfd.uci.edu/~gohlke/pythonlibs/>

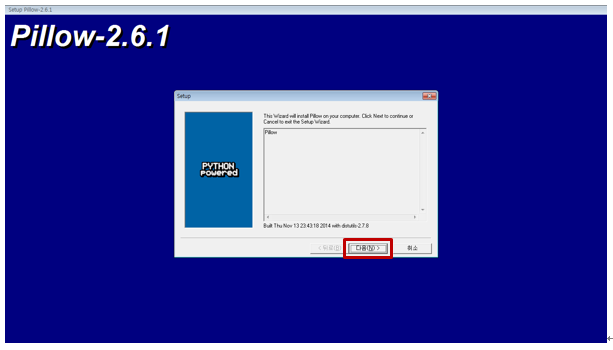
다음은 본 프로그램을 사용하기 위해 설치되어야 할 모듈들이다.

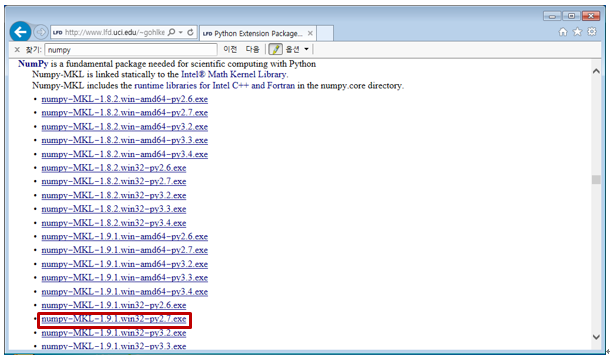
|  |
| --- |
| pillow / numpy / scipy / scikit-learn / matplotlib / six / python-dateutil / pyparsing |



<http://www.lfd.uci.edu/~gohlke/pythonlibs/#pillow>

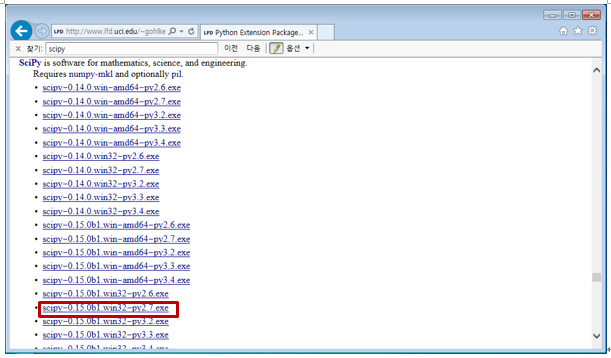
Next -> Next -> Next -> Finish

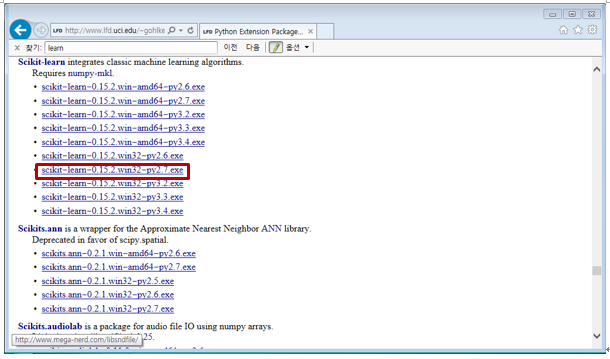




<http://www.lfd.uci.edu/~gohlke/pythonlibs/#numpy>

이 후 설치 과정은 앞서 설치한 모듈의 설치 과정과 유사하다.

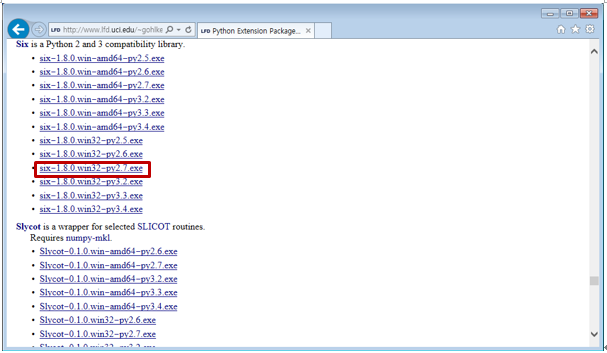
[](http://www.lfd.uci.edu/~gohlke/pythonlibs/#scipy) http://www.lfd.uci.edu/~gohlke/pythonlibs/#scipy

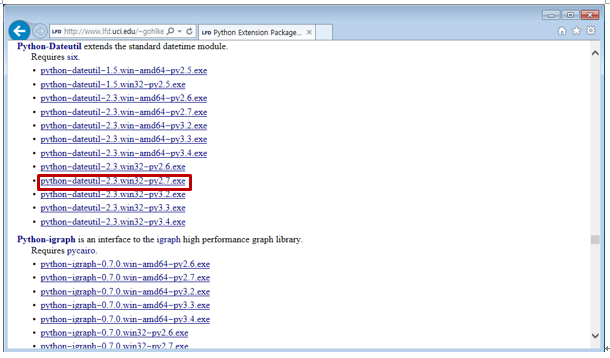


<http://www.lfd.uci.edu/~gohlke/pythonlibs/#scikit-learn>

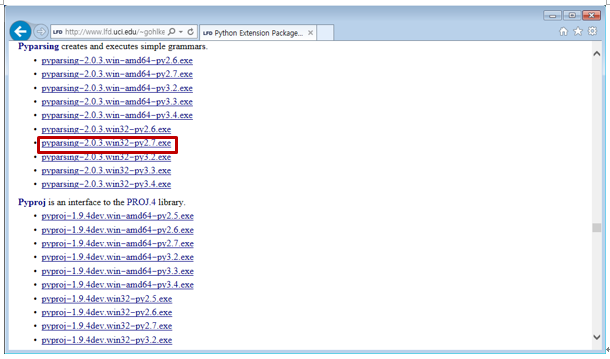


<http://www.lfd.uci.edu/~gohlke/pythonlibs/#matplotlib>

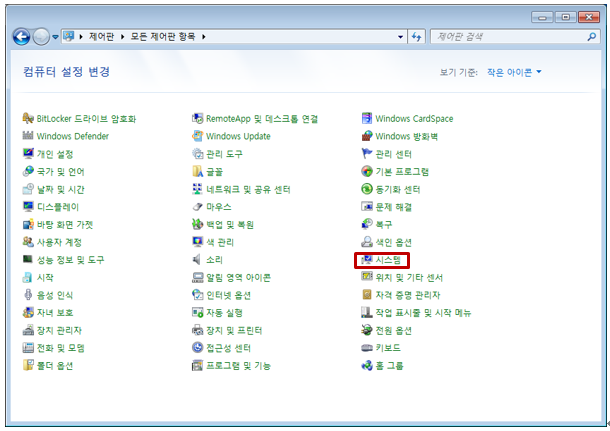
[](http://www.lfd.uci.edu/~gohlke/pythonlibs/#six) http://www.lfd.uci.edu/~gohlke/pythonlibs/#six



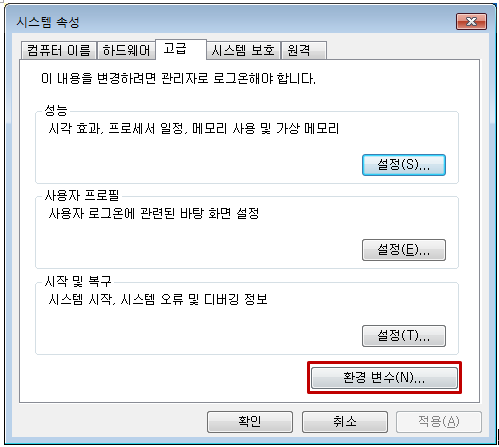
<http://www.lfd.uci.edu/~gohlke/pythonlibs/#python-dateutil>

[](http://www.lfd.uci.edu/~gohlke/pythonlibs/#pyparsing) http://www.lfd.uci.edu/~gohlke/pythonlibs/#pyparsing

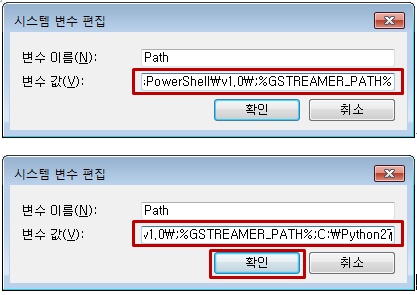
* + 1. Set Environment Variable

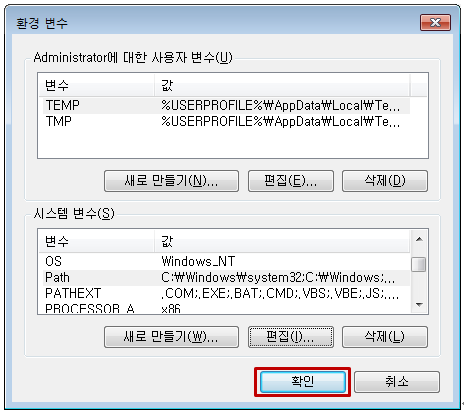




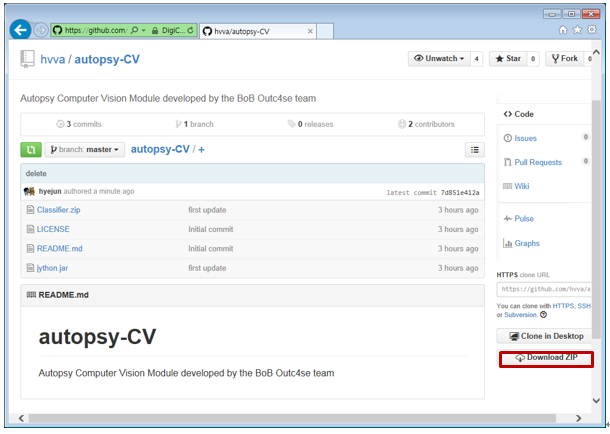






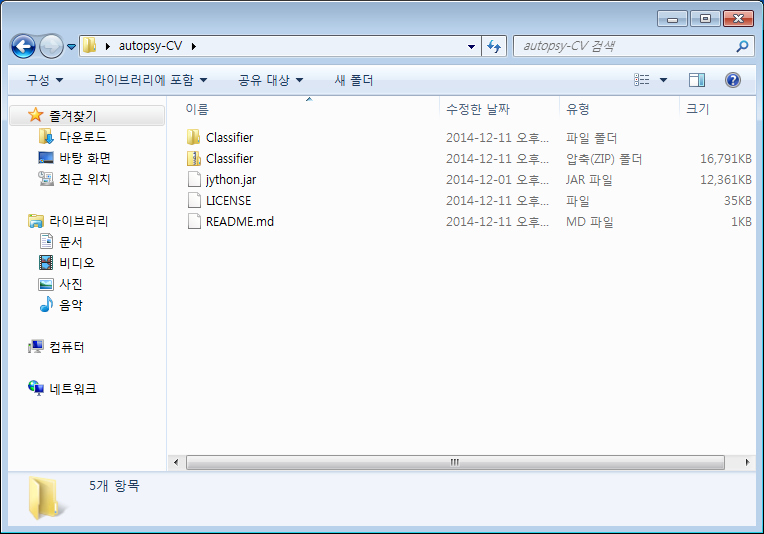


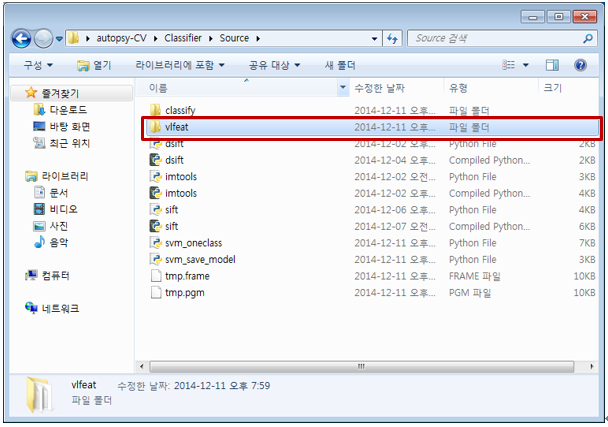
* + 1. Plug-in Module



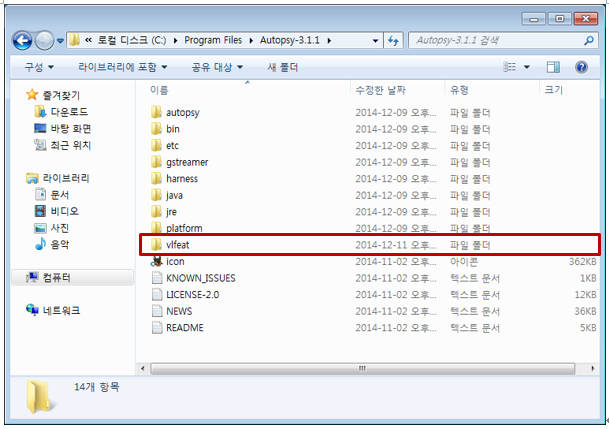
<https://github.com/hvva/autopsy-CV>

설치된 autopsy-CV 폴더에서 Classifier – Source 아래 Vlfeat 폴더를 복사한 후

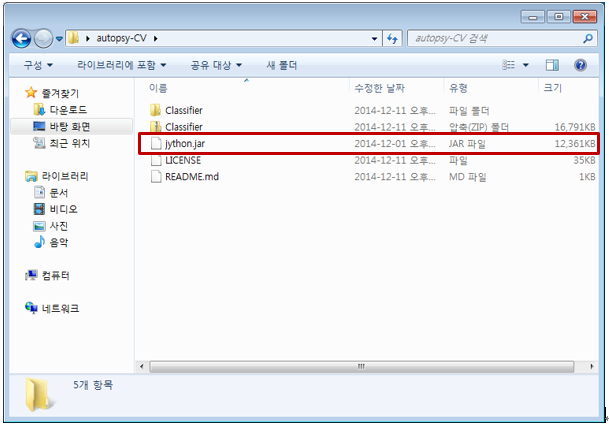




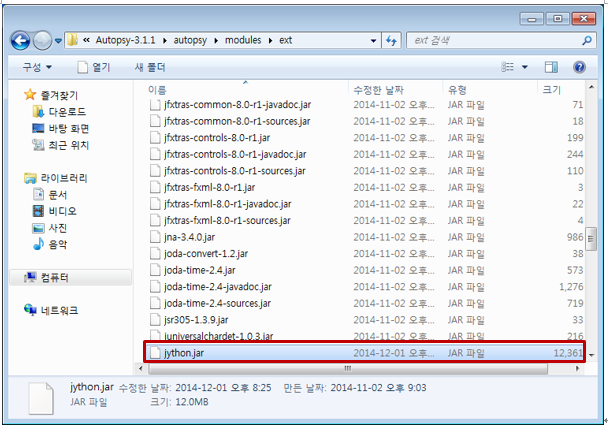
Program Files – Autopsy-3.1.1 아래 붙여넣기 한다.



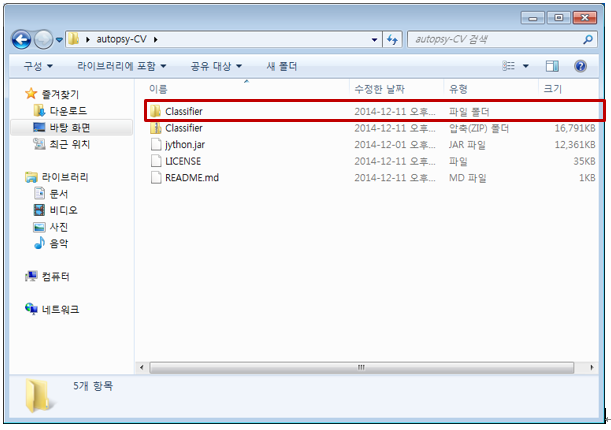
그리고 autopsy-CV 폴더에서 jython.jar 파일을 복사해서



Program Files – Autopsy-3.1.1 – autopsy – modules – ext 아래 덮어씌우기 한다.



마지막으로 autopsy-CV 폴더에서 Classifier 폴더를 복사해서



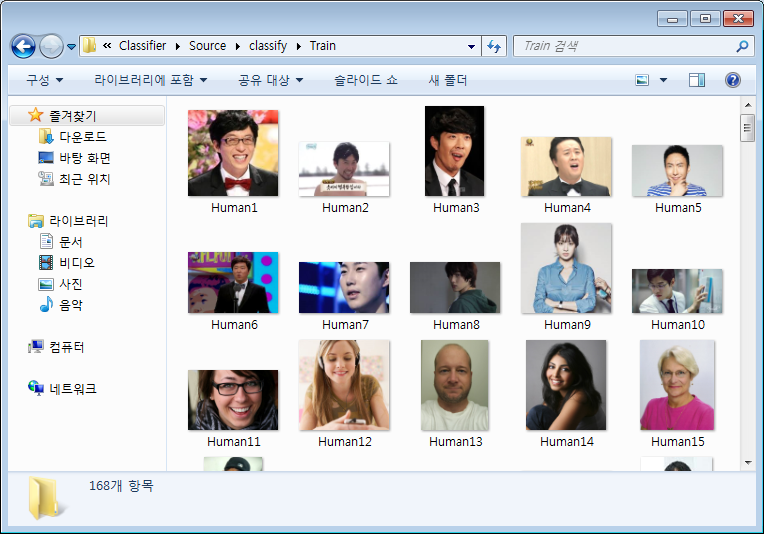
로컬디스크(:C) – 사용자 – (사용자이름) – AppData – Roaming – autopsy – python\_modules

아래 붙여넣기 한다.

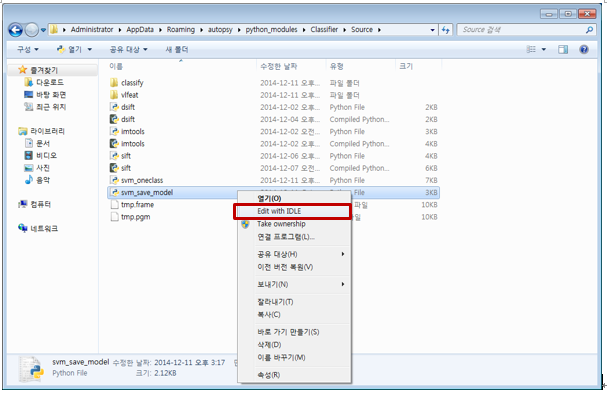


* 1. Operation
     1. Train the Model

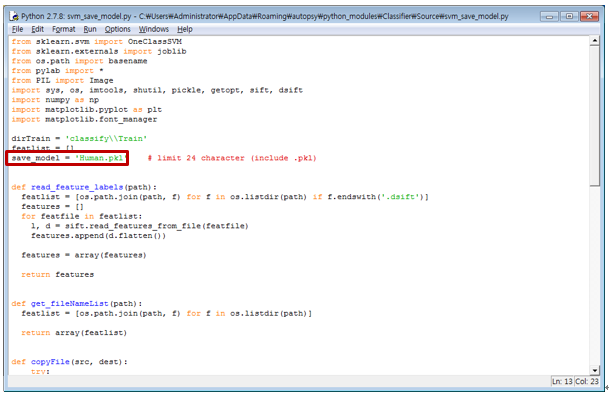
Classifier 폴더 아래 Source – classify – Train 폴더에 모델을 학습시킬 이미지를 넣는다.



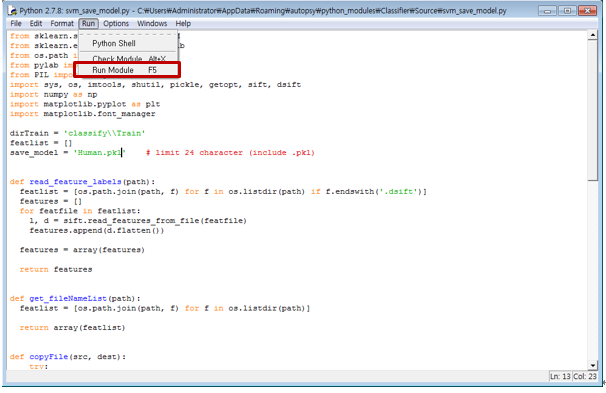
Classifier – Source 폴더 아래 svm\_save\_model.py 파일을 IDLE로 실행한다



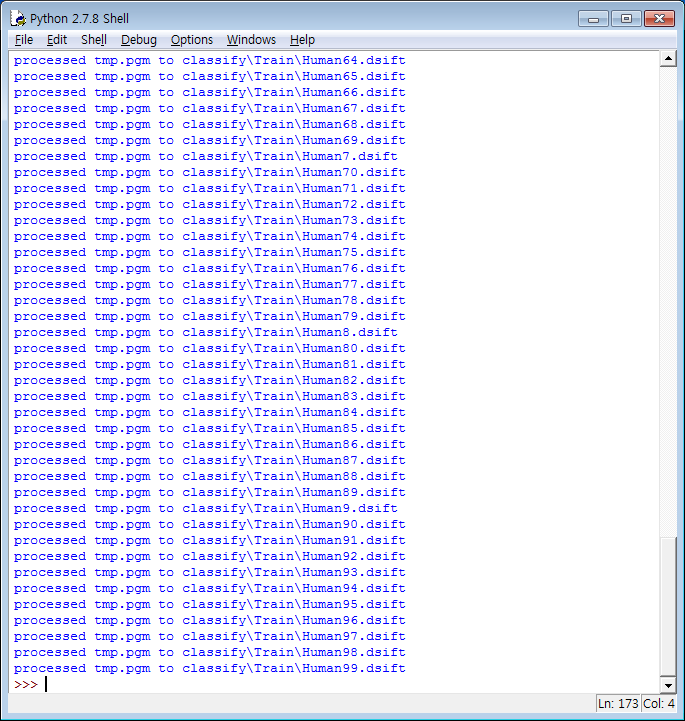
Save\_moel 변수에 새롭게 만들 모델 이름을 .pkl 형식으로 지정해준다.



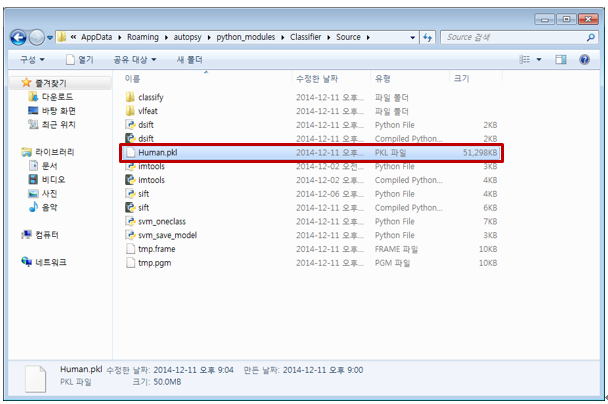
Run – Run Module (F5) 로 실행한다.



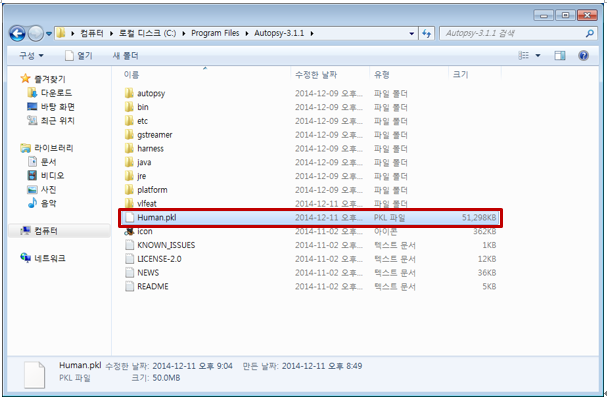
Train 폴더 내 이미지의 dsift 파일을 생성, 모델을 학습시킨다.



svm\_save\_model.py 실행이 완료되면 Source 폴더 아래 Human.pkl 이라는 모델 파일이 생성된 것을 확인할 수 있다.

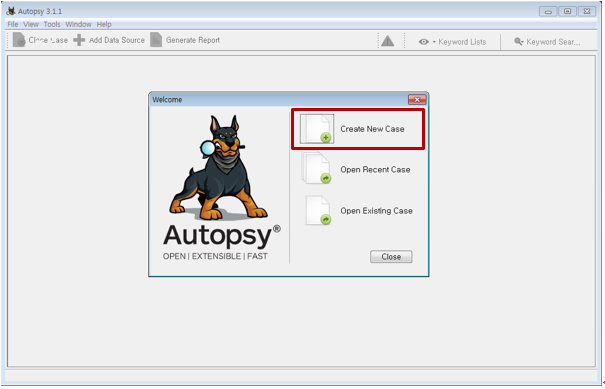


생성된 Human.pkl 파일을 로컬 디스크(C:) – Program Files – Autopsy-3.1.1 폴더로 옮긴다.

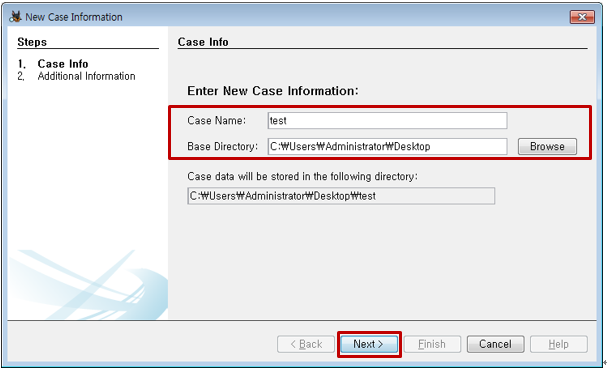


* + 1. Classfy

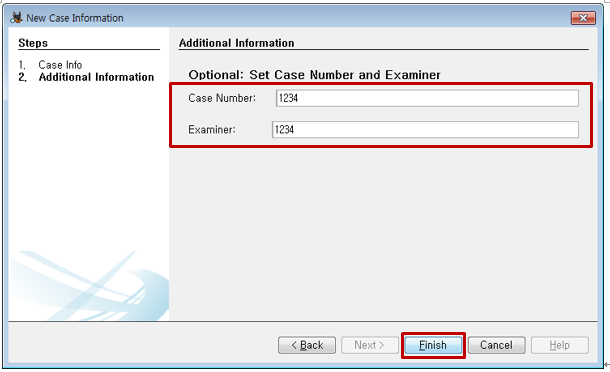
모델 학습을 마치면 본격적인 이미지 분류작업을 위해 Autopsy를 실행한다.



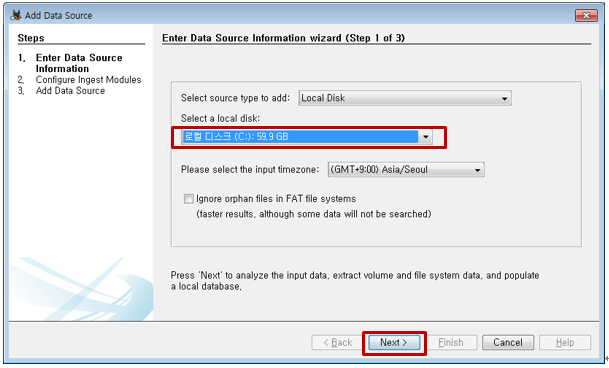
Case Name을 설정한다.



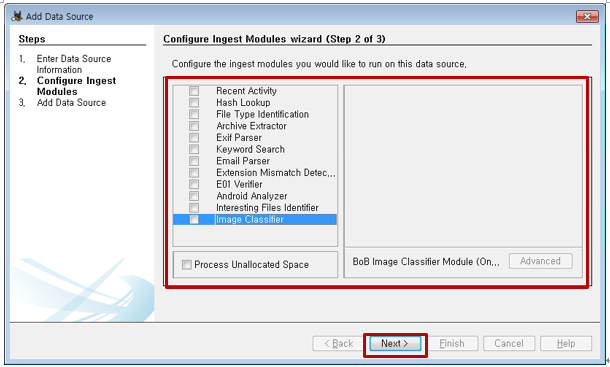
Case Number와 Examiner를 작성한다.

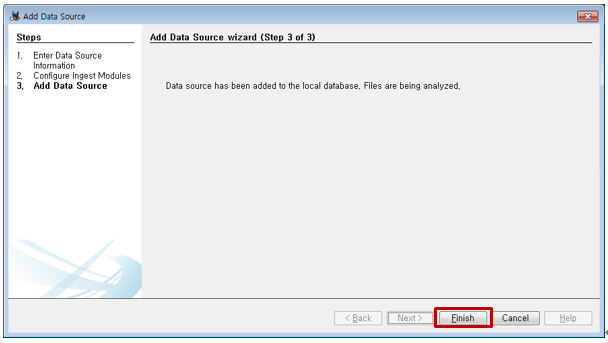


Source type 을 선택한다. (분류할 이미지가 담겨있는 이미지 파일(.E01) 이나 하드디스크 선택)



Next - Finish





좌측 목록에서 (C:) 에서 마우스 오른쪽 클릭 후 Run Ingest Module을 선택

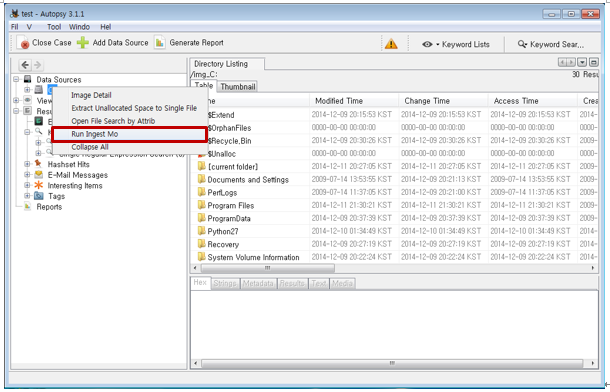
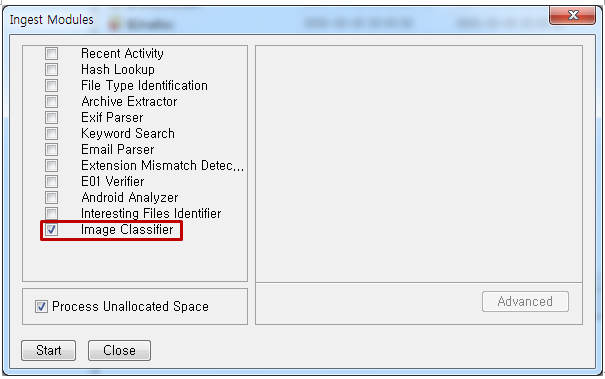
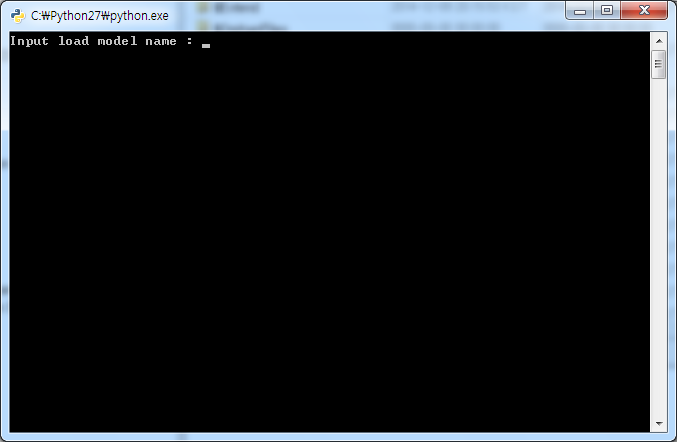
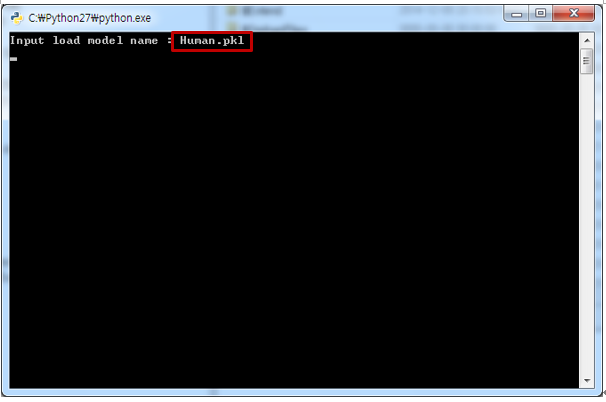


Image Classifier를 체크한다.

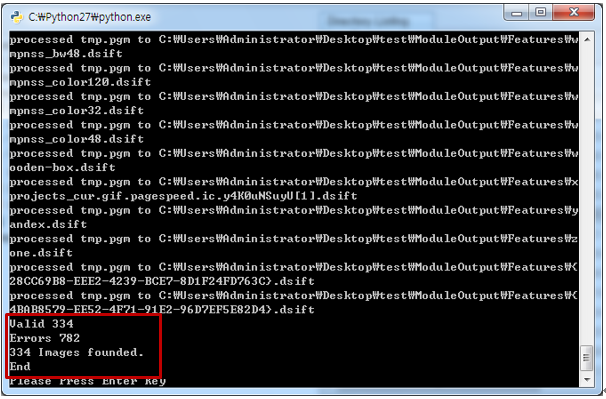


Cmd 창이 뜨면 해당 디스크에서 찾고 싶은 이미지에 해당하는 학습 모델 이름을 입력한다.

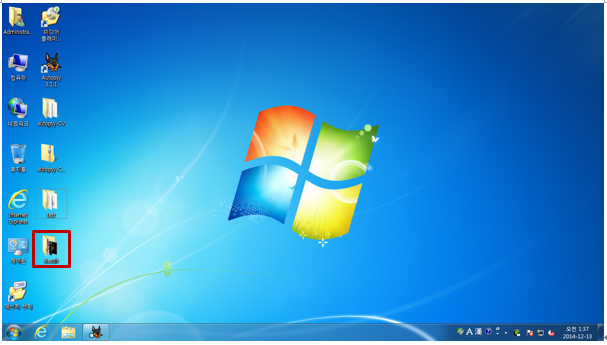


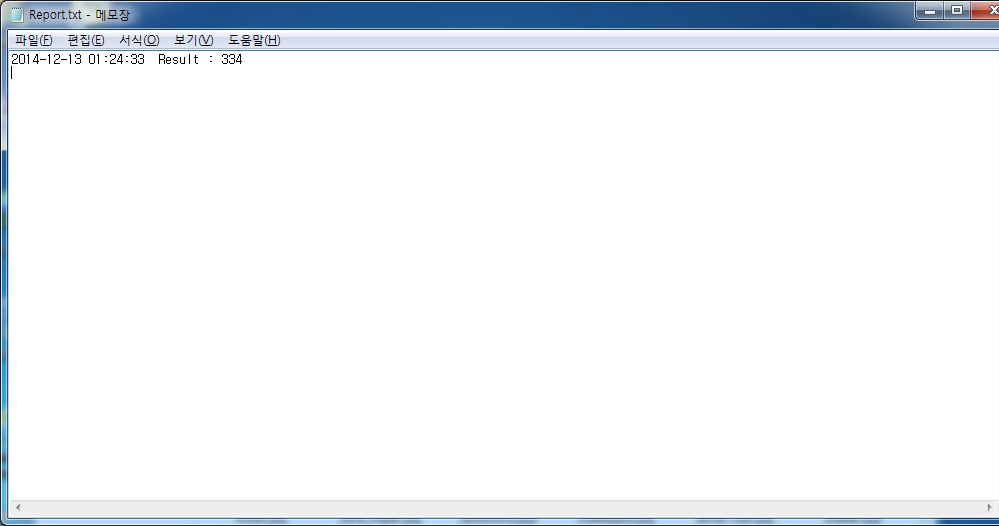


Human.pkl 모델로 Classifier 실행 후 Human으로 분류된 파일 개수가 Valid로 출력된다.



바탕화면에 Valid로 분류된 사진들이 저장된 Result 폴더가 생성된다.

Result 폴더 내 Report.txt에 결과 값이 기록되어 저장된다.

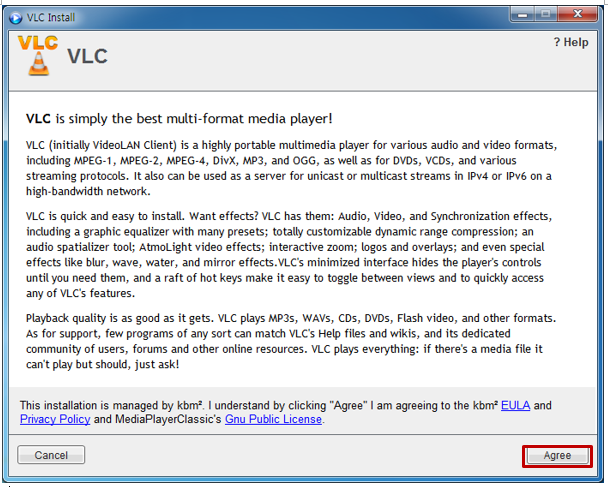


1. Windows Video Classifier
   1. Install
      1. VLC

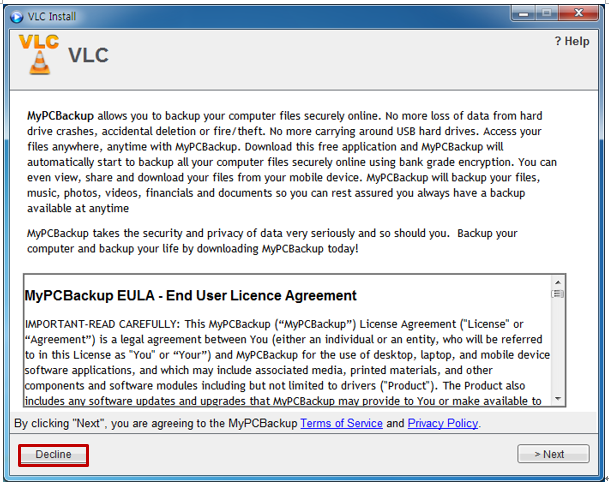
Download VLC media player.



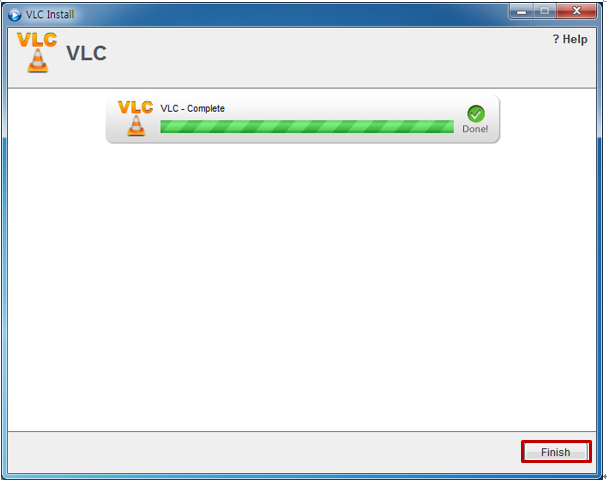
<http://www.vlcmediaplayer.org/>



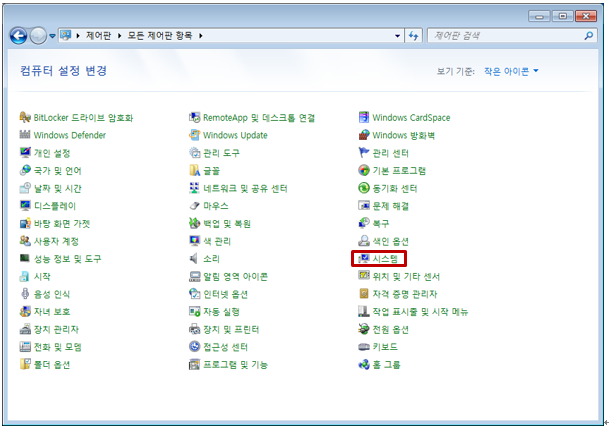
Decline MyPCBackup.



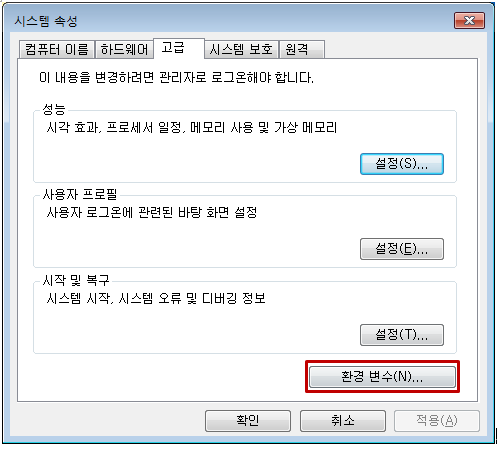
Install finished.

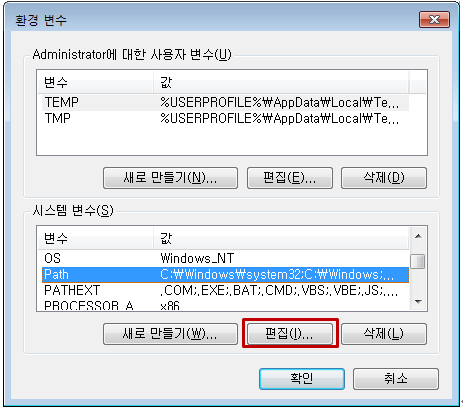


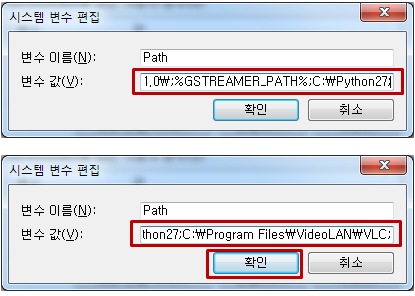
* + 1. Set Environment Variable

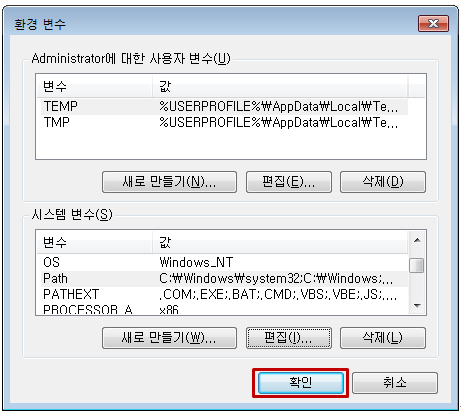






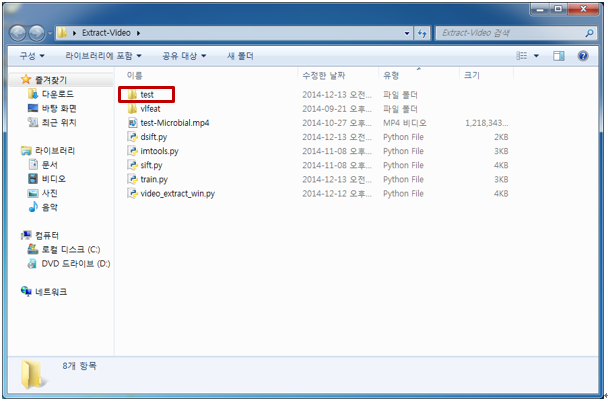


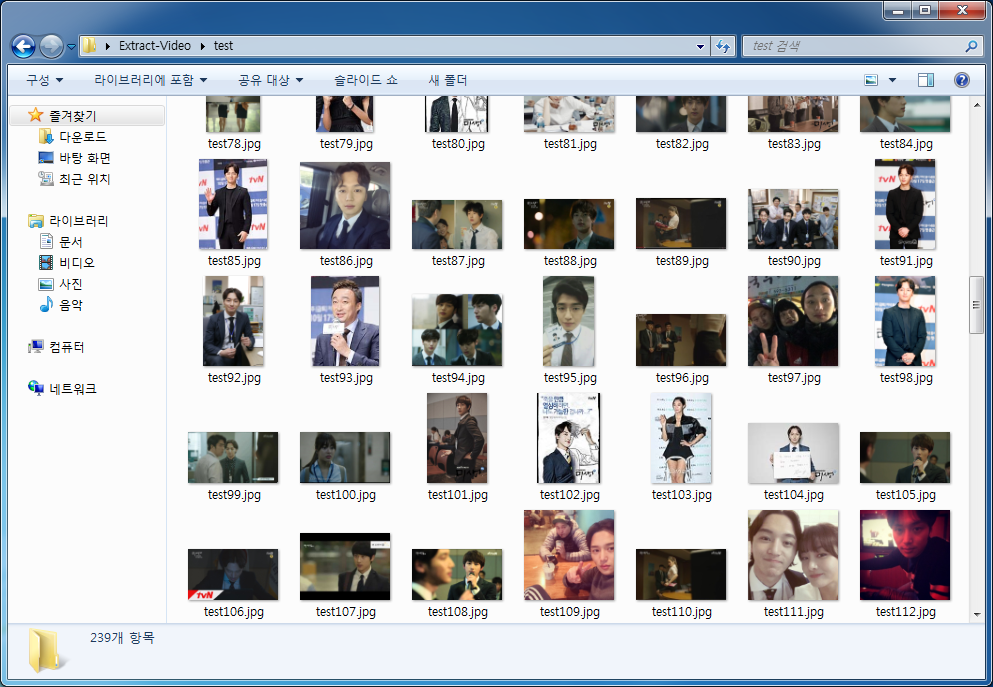




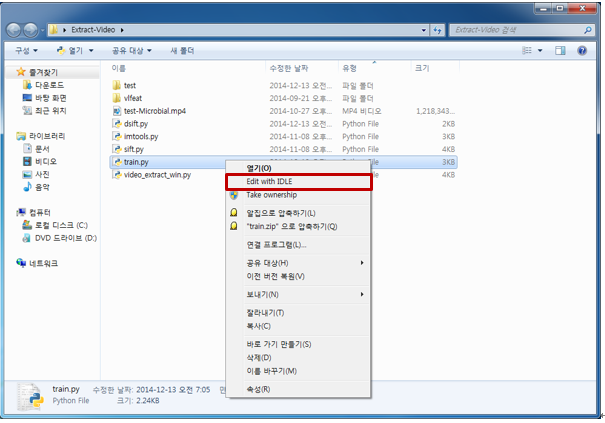
* 1. Operation
     1. Save the Model

Extract-Video 폴더 아래 test 폴더에 모델을 학습시킬 사진들을 넣는다.

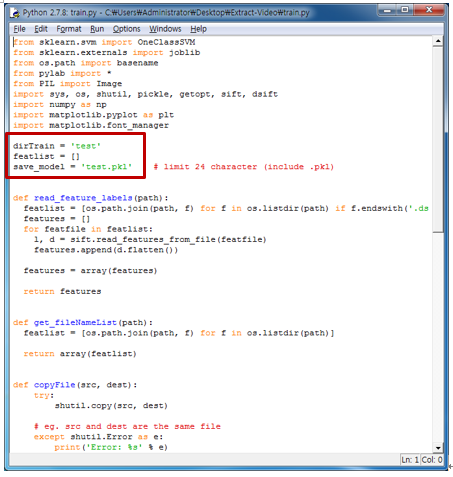




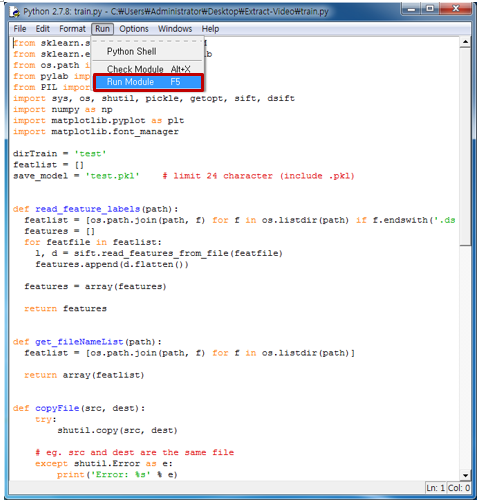
Extract-Video 폴더 아래 train.py 파일을 IDLE로 실행한다.

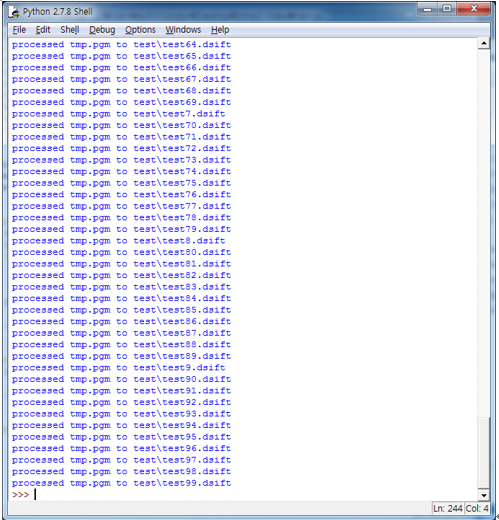


dirTrain 변수에 학습시킬 사진이 담긴 폴더명을, save\_model 변수에 만들어낼 모델명을 넣는다.



train.py를 실행하면 test 폴더 내 이미지에 대한 dsift 파일이 생성되고, 모델이 만들어진다.

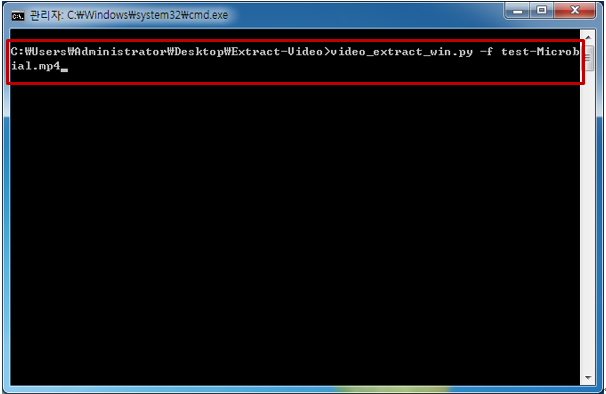


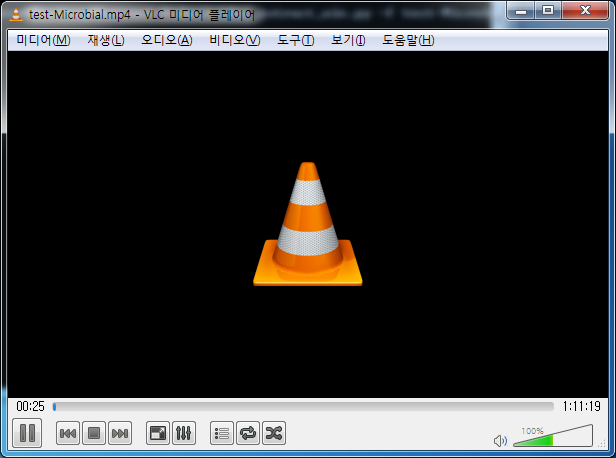


* + 1. Classify

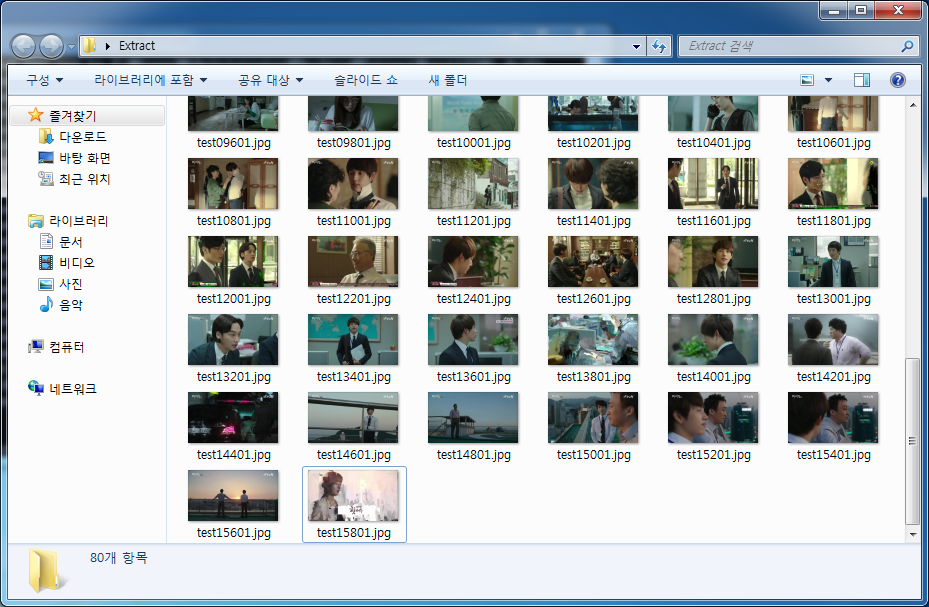
Extract-Video 폴더에서 Shift+마우스오른쪽클릭 후 ‘여기서 명령창 열기’를 선택하고,

video\_extract\_win.py –f test-(비디오파일이름) 명령어를 실행한다.



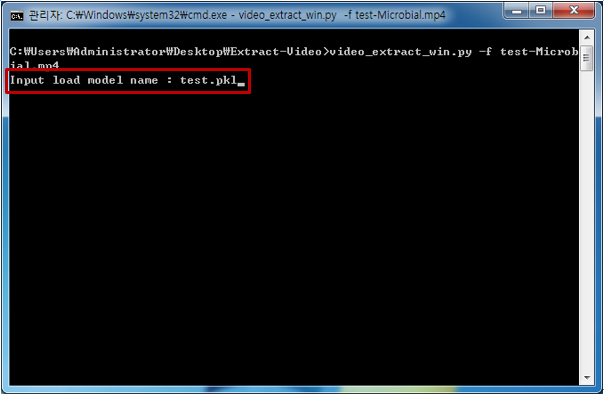


바탕화면에 Extract 폴더가 생성되고, 명령어에서 지정한 비디오파일을 일정 간격으로 분할하여 캡처한 이미지 파일이 여기에 저장된다.

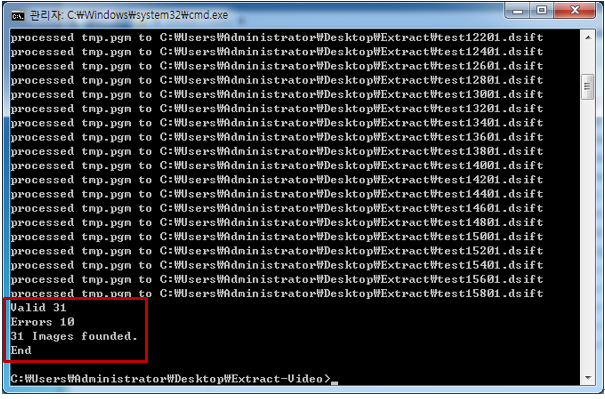


이미지 추출 후 video\_extract\_win.py –f test-(비디오파일이름) 명령어를 같은 방법으로 실행하면,

Classify 할 대상 모델명을 입력받는다.



실행이 완료되면 학습시킨 모델과 유사한 이미지로 판별된 파일 개수를 vaild로 나타내준다.



바탕화면에 Result-Video 라는 폴더가 생성되고 valid로 판별된 이미지와 결과값을 담은 Resul.txt파일이 저장된다.

