

フィールドインフォマティクス 講義用資料

その 1： 事前環境インストール

画像解析（機械学習により画像から植被率を計算）を理解するための Python 環境構築 2018 年度
東京大学農学生命科学研究科附属生態調和農学機構
フィールドフェノミクス研究拠点
郭威

NOTE：こちらの文書は 2017 年フィールドフェノミクス研究拠点に滞在した時、フランス、
“Montpellier SupAgro” 校の Laure Fourquet さんの仕事より作成したもの。

This tutorial has been written using Windows 10 with a 64-bit Operating System, x64-based processor

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1. Anaconda Installation and Configuration

1.1 Install Anaconda

Go to the address : <https://www.anaconda.com/download/>

Click on 'Download' for python 3.6 version

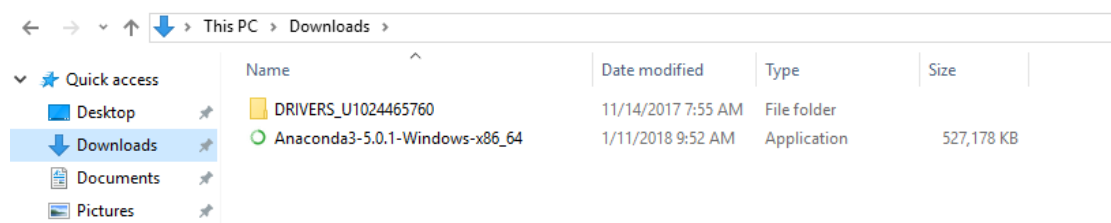
Python 3.6 version *

↓ Download

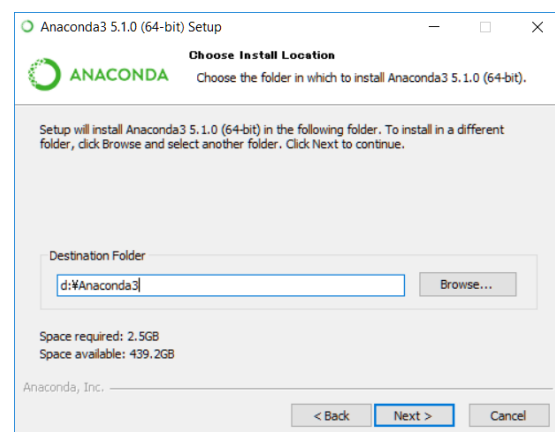
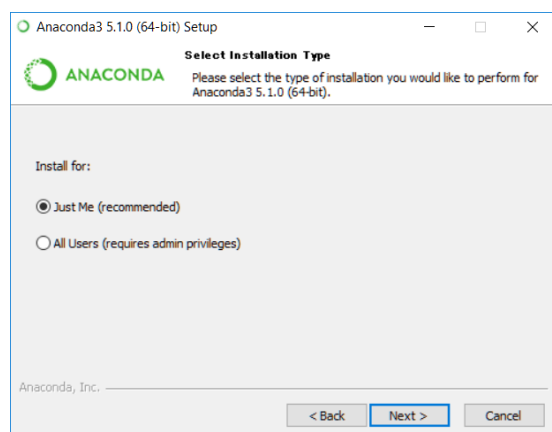
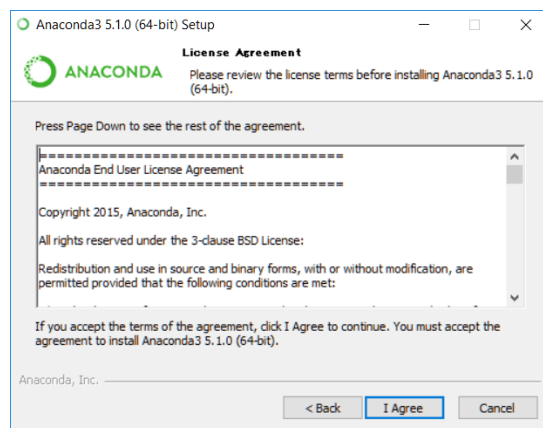
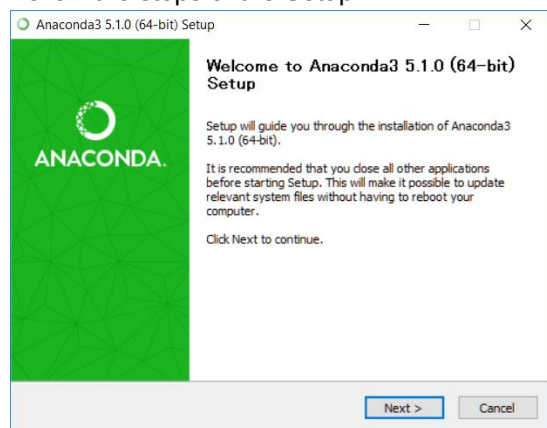
[64-Bit Graphical Installer \(569 MB\)](#) ?

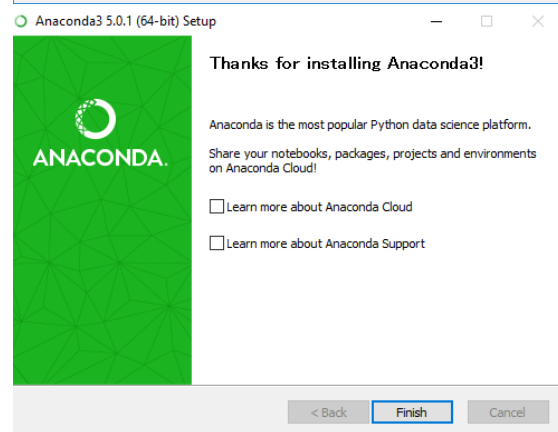
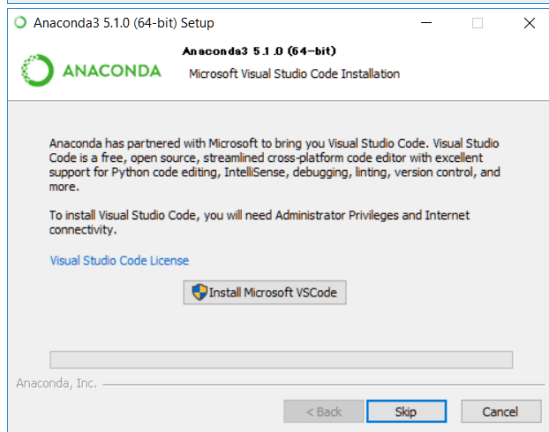
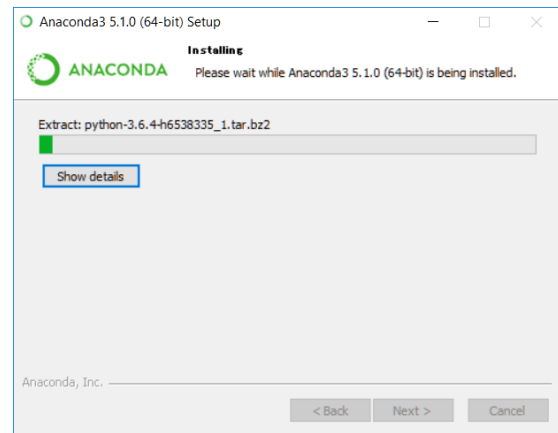
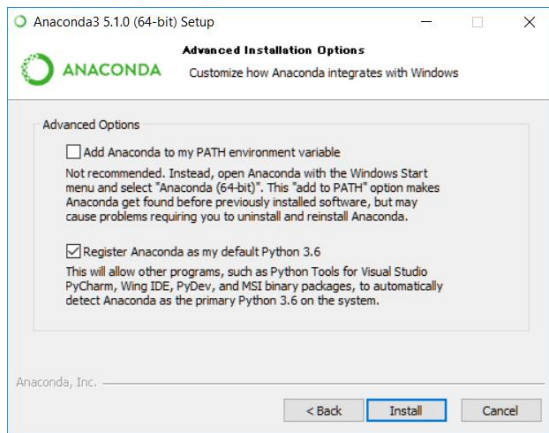
[64-Bit Command-Line Installer \(491 MB\)](#) ?

Go to the 'Downloads' directory and open the installer: Anaconda3-5.1.0-Windows-x86_64
Anaconda3-5.01-Windows-x86_64

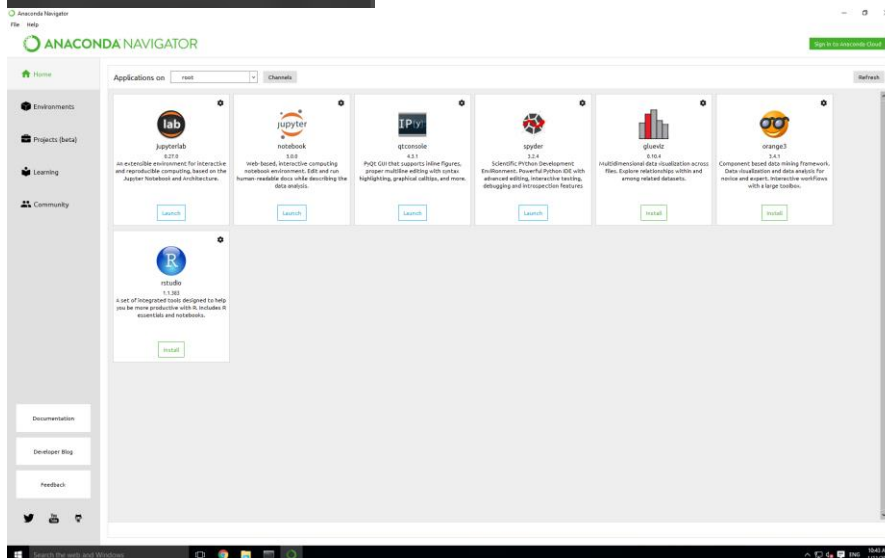
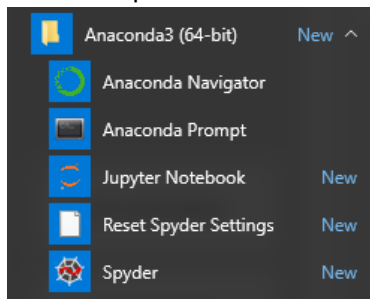


Follow the steps of the Setup





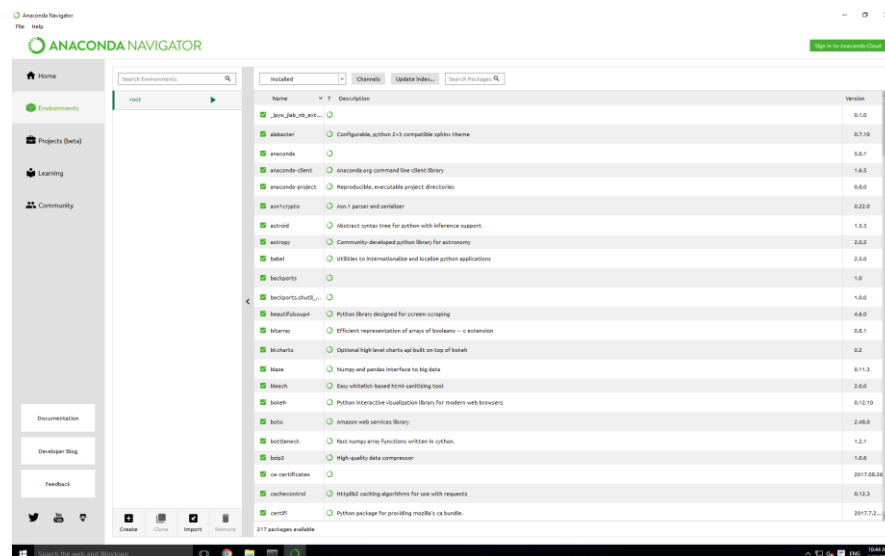
Find and open the Anaconda Navigator in your Application directory



1.2 Set up the environment with python 3.5

The default environment in Anaconda called 'root' uses python 3.6 but we need python 3.5 to be able to use openCV. The easiest way is to create a new environment in which python 3.5 will be installed.

Go to 'Environment' (Left grey column, under 'Home')



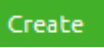
Click on . This window appears :

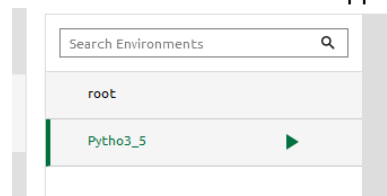
Create new environment

Name:

Location:

Packages: ☒ Python ☐ R

Choose a name for the new environment, select python 3.5 and click on . The new environment now appear under 'root'.



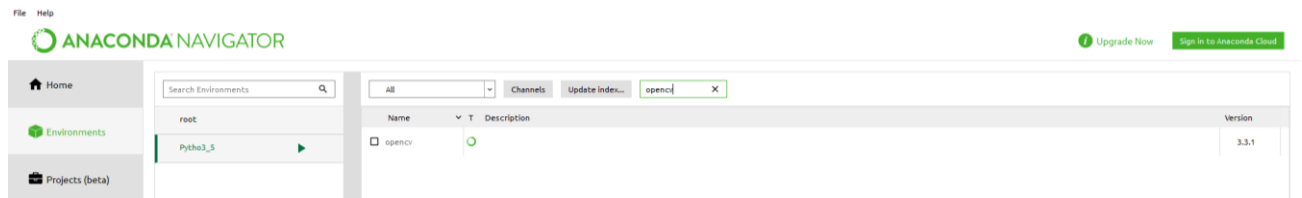
1.3 Install the packages necessary to run the scripts

The scripts require the user to install several packages :

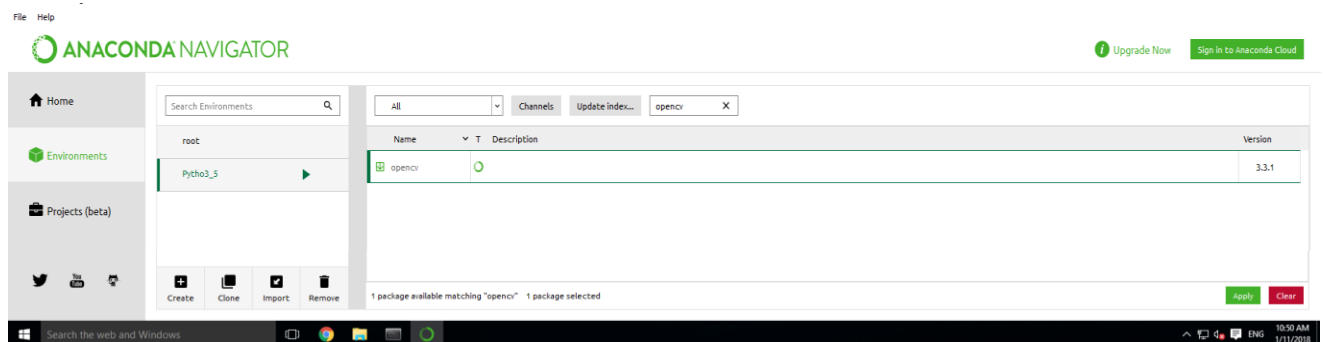
- openCV 3
- scikit-image
- scikit-learn

1.3.1 OpenCV3

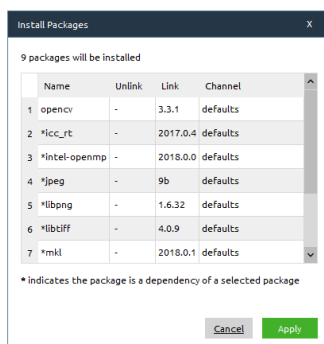
Look for the name of the package in the search bar and select 'All' in the menu.
search "opencv"



Select opencv and click on **Apply** at the bottom right corner

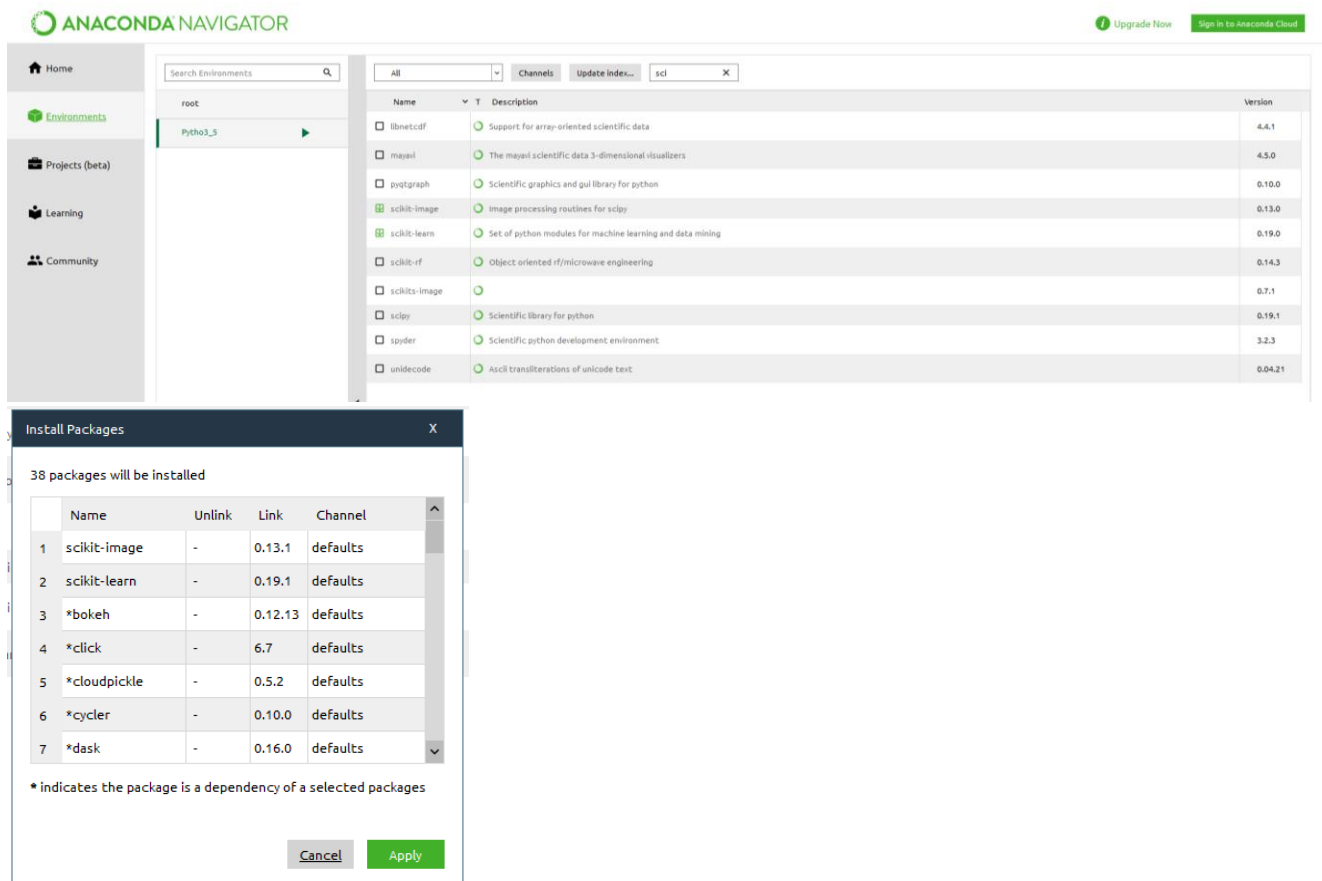


Click on **Apply** again.



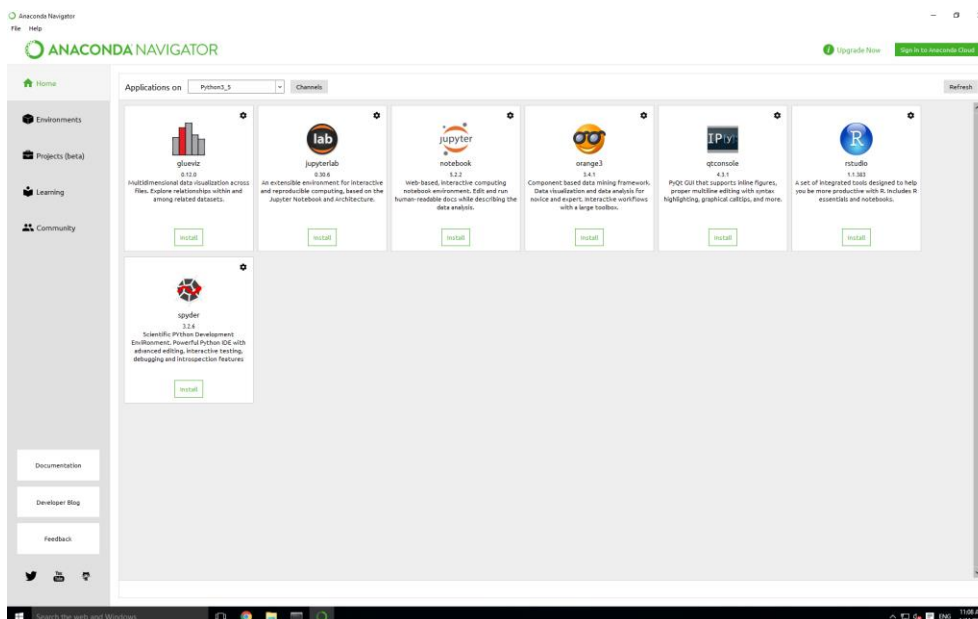
1.3.2 scikit

Repeat for scikit-image and scikit-learn. You can download the two at the same time.

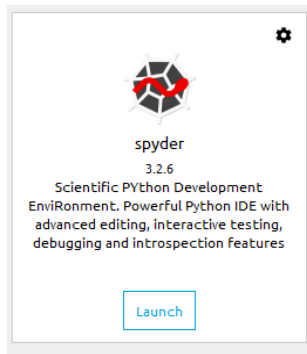


1.4 Install Spyder

Go back to the Home page  and select the new environment in the menu 'Applications on ...'



Click on  under Spyder  .

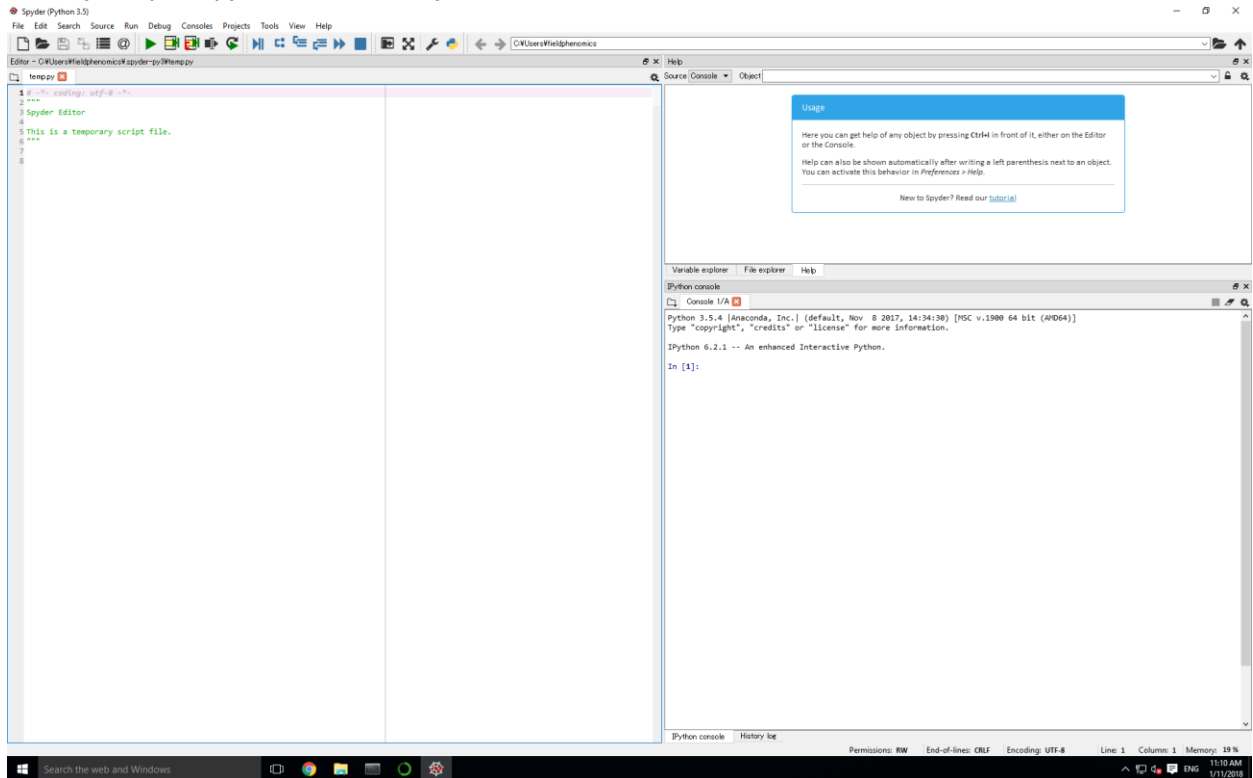


Launch Spyder by clicking on 

2 Test on Spyder

2.1 Set the source directory

When you open spyder, this is what you can see :



Input commands in “Console” and check if the library are well installed.

```
import cv2
from skimage import morphology
from sklearn import svm
```

