

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
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フィールドフェノミクス研究拠点
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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

Table of content :

1. Anaconda Installation and Configuration	2
1.1 Install Anaconda	2
1.2 Set up the environment with python 3.5	4
1.3 Install the packages necessary to run the scripts	5
1.3.1 OpenCV3	5
1.3.2 scikit	5
1.4 Install Spyder	6
2 Test on Spyder	8
2.1 Set the source directory	8

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

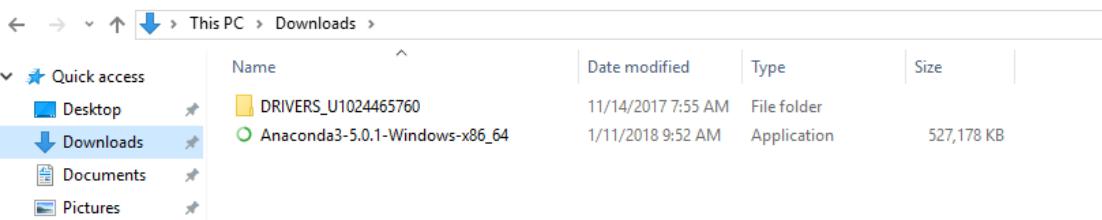
Python 3.6 version *

 Download

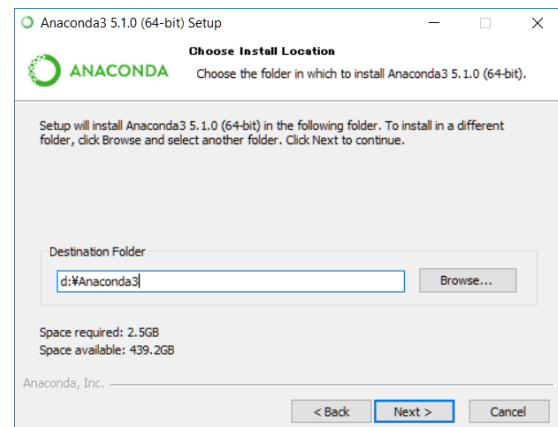
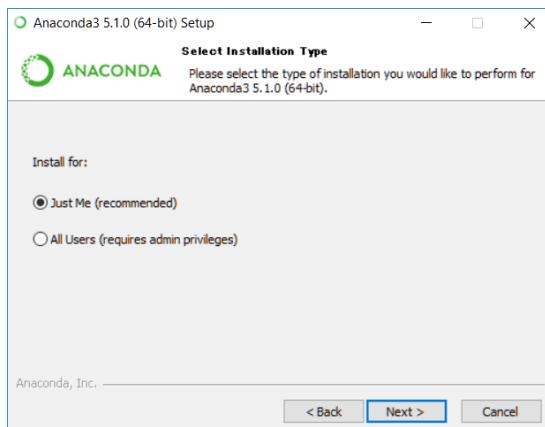
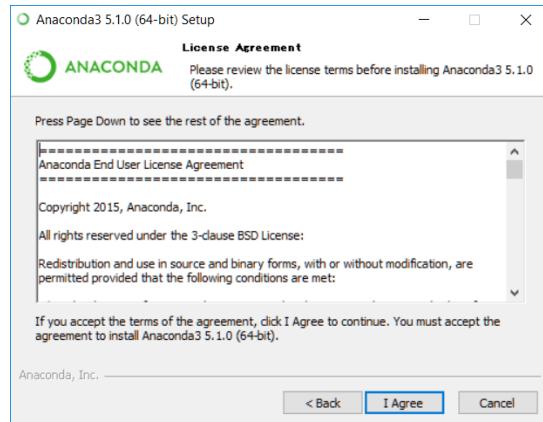
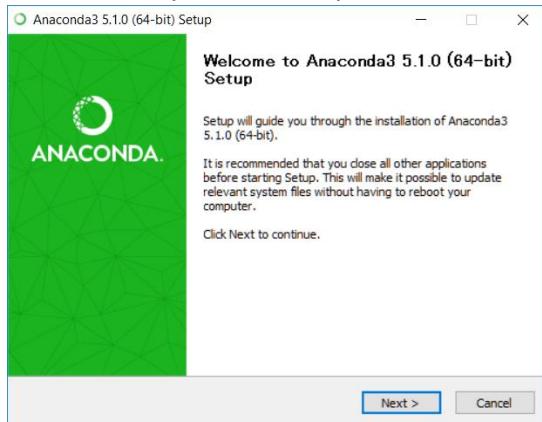
[64-Bit Graphical Installer \(569 MB\)](#) 

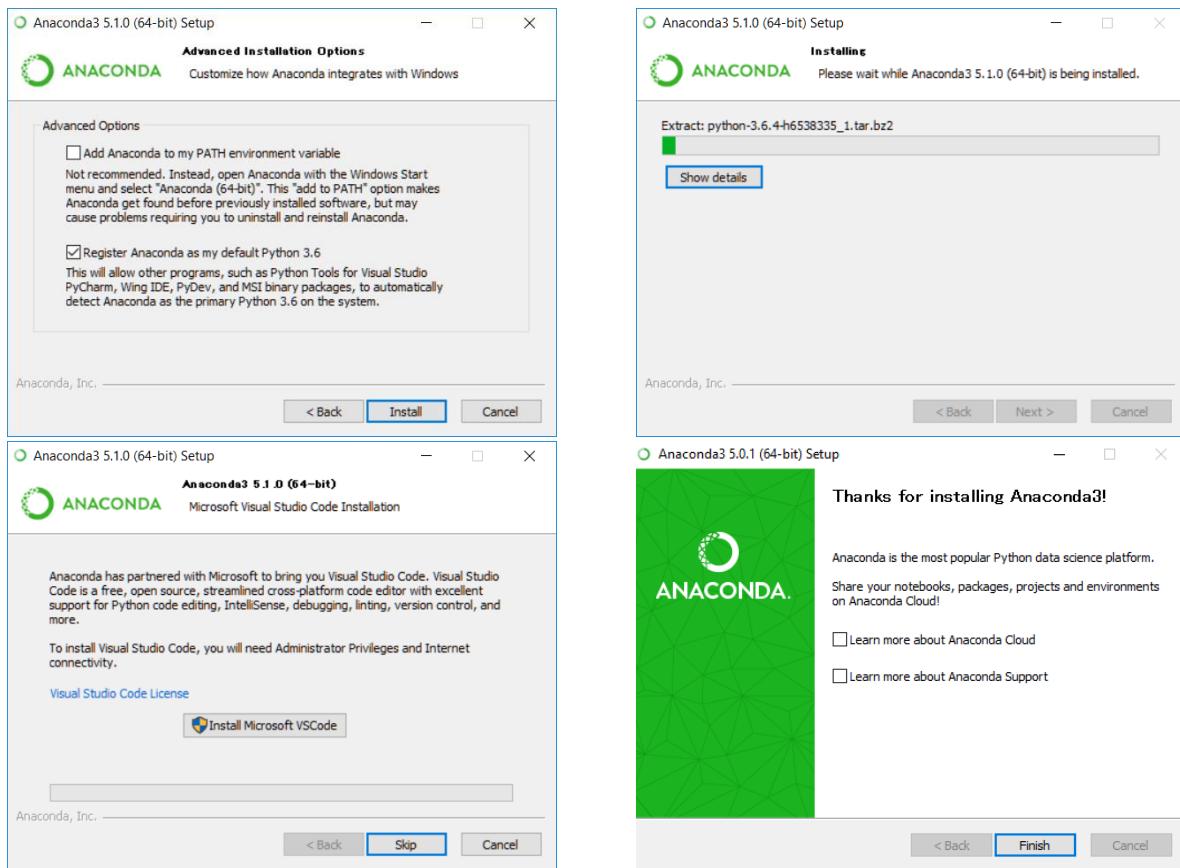
[64-Bit Command-Line Installer \(491 MB\)](#) 

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

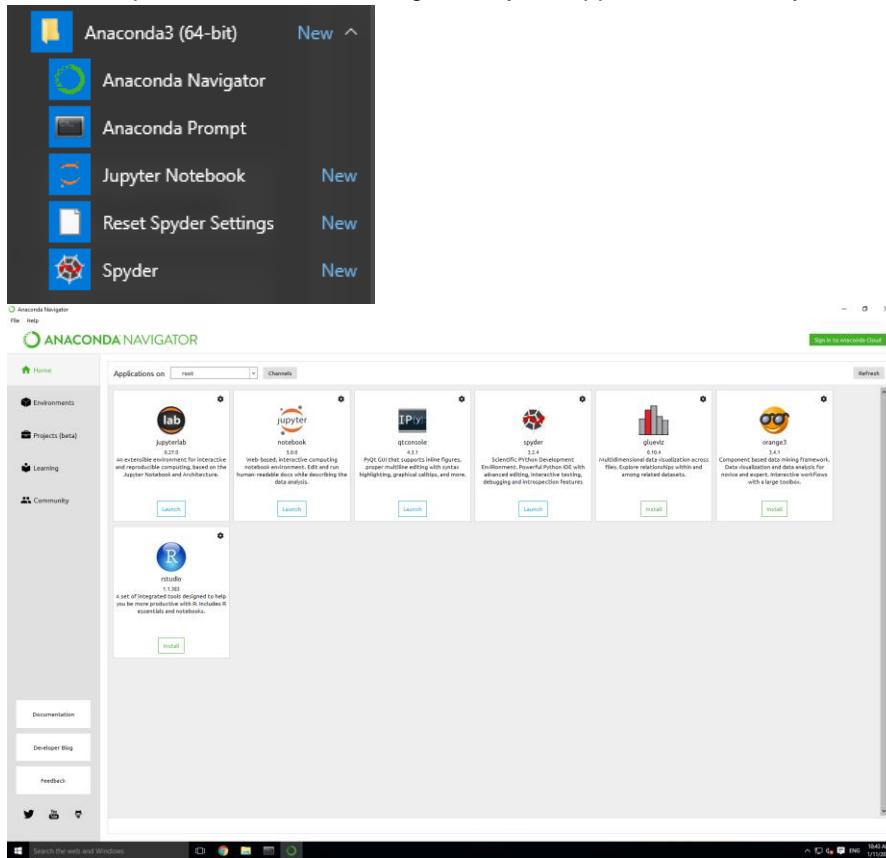


Follow the steps of the Setup





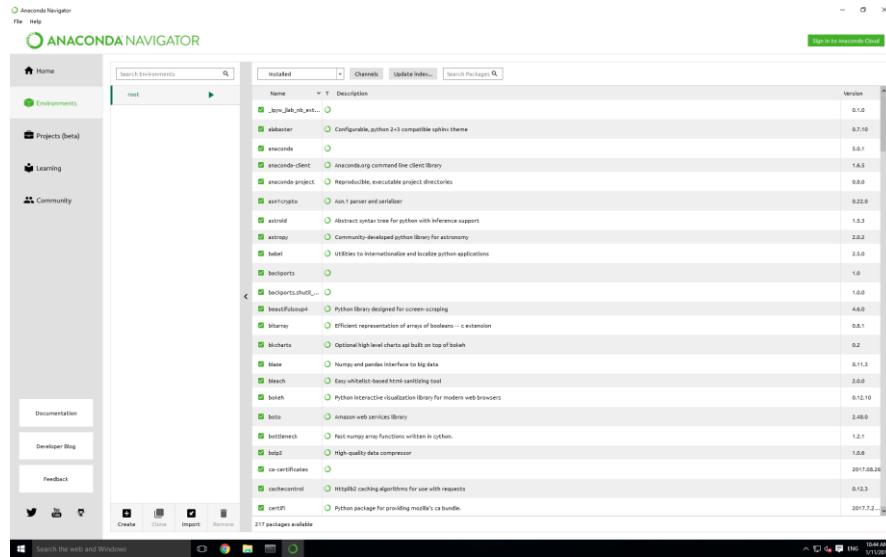
Find and open the Anaconda Navigator in your Application directory



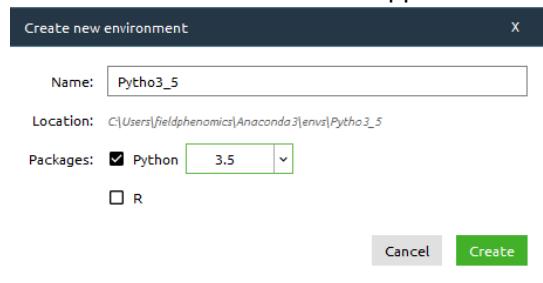
1.2 Set up the environment with python 3.5

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.

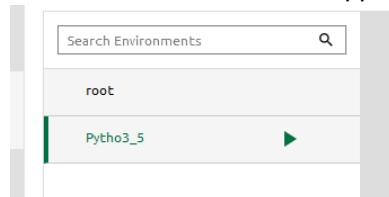
Go to ‘Environment’ (Left grey column, under ‘Home’)



Click on This window appears :



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



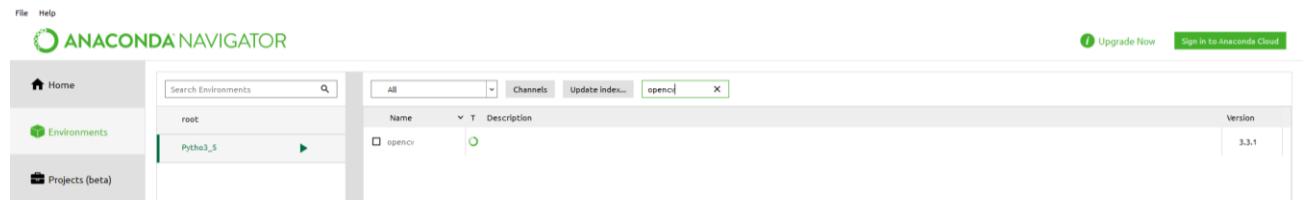
1.3 Install the packages necessary to run the scripts

The scripts require the user to install several packages :

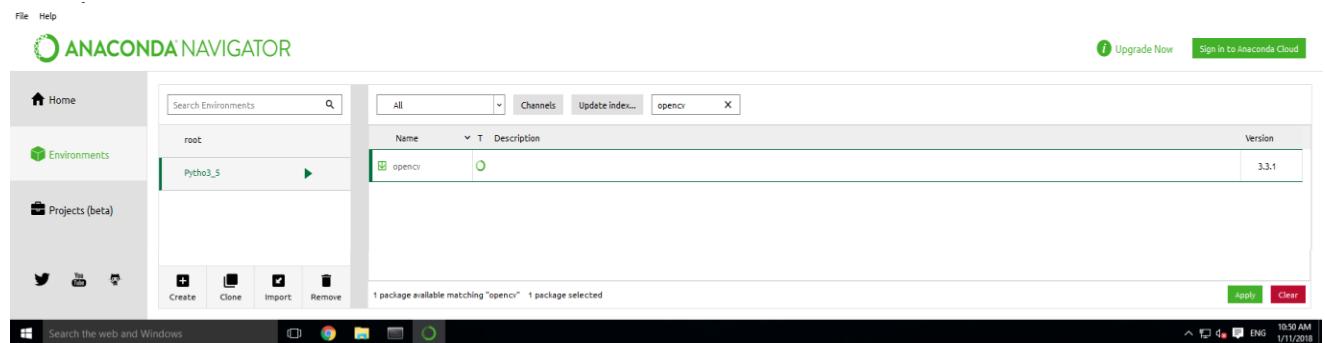
- openCV 3
- scikit-image
- scikit-learn

1.3.1 OpenCV3

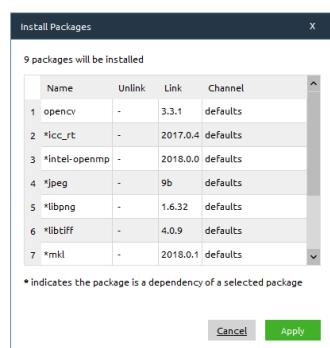
Look for the name of the package in the search bar and select ‘All’ in the menu.
search “opencv”



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



Click on **Apply** again.



1.3.2 scikit

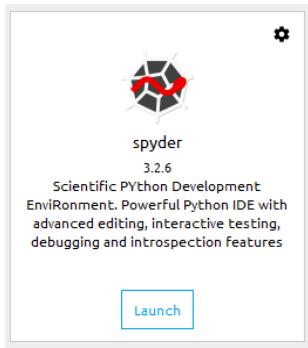
Repeat for scikit-image and scikit-learn. You can download the two at the same time.

The screenshot shows the Anaconda Navigator interface. On the left, there's a sidebar with links for Home, Environments, Projects (beta), Learning, and Community. The main area displays a list of packages in the 'sci' channel. A modal window titled 'Install Packages' is open, showing a table of 38 packages to be installed. The packages listed include scikit-image, scikit-learn, *bokeh, *click, *cloudpickle, *cycler, and *dask. The 'Apply' button at the bottom of the modal is highlighted.

1.4 Install Spyder

The screenshot shows the Anaconda Navigator interface with the 'Applications' tab selected. It lists several data analysis tools: glueviz, lab, jupyter notebook, orange3, IPython, R studio, and spyder. The 'spyder' application is highlighted with a green border around its icon and description. Below the spyder entry, there is an 'Install' button.

Click on  under Spyder .

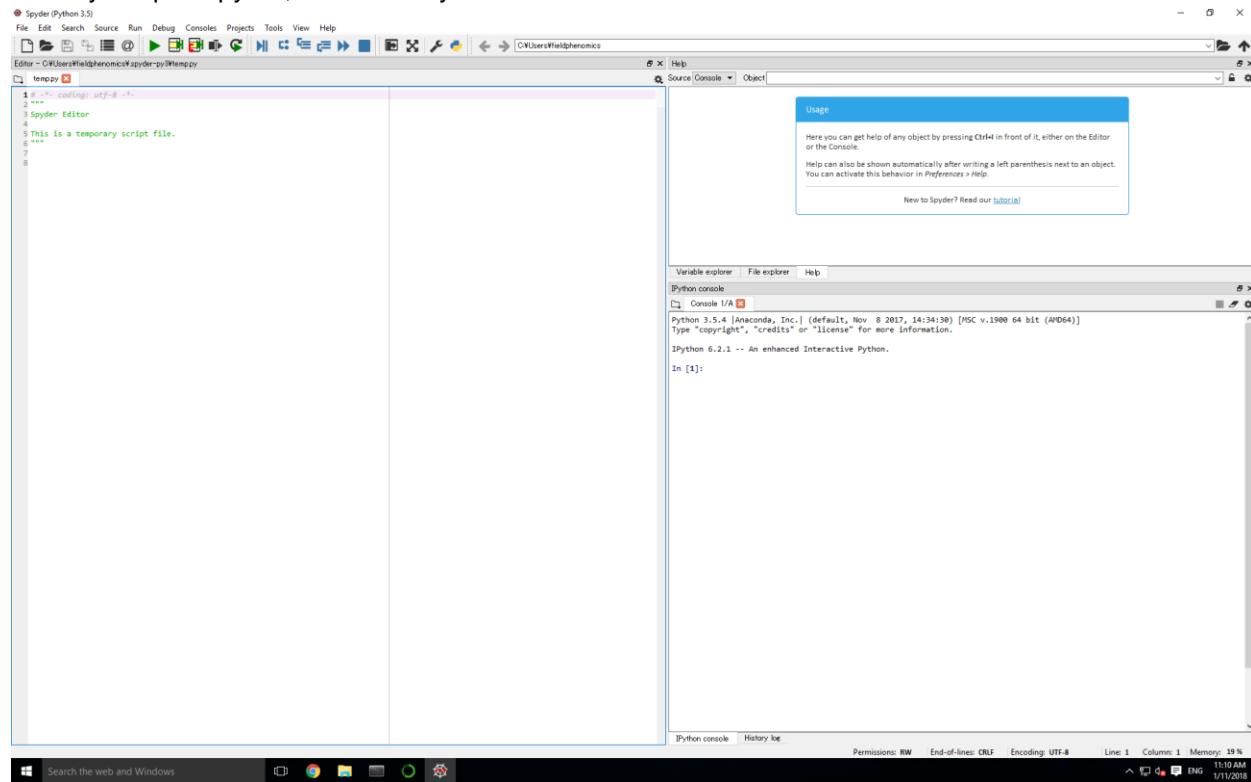


Launch Spyder by clicking on .

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
```

A screenshot of the IPython console window. It shows the following command history:
In [4]: import cv2
In [5]: from skimage import morphology
In [6]: from sklearn import svm
In [7]:
The console is running on Python 3.5.4 and displays the standard IPython welcome message.