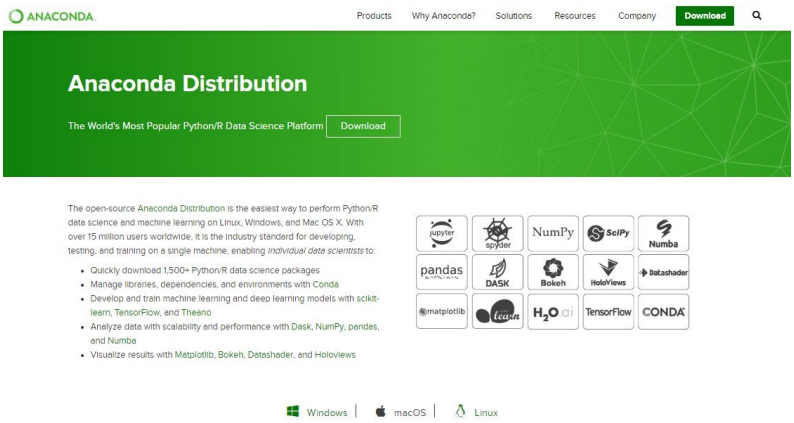
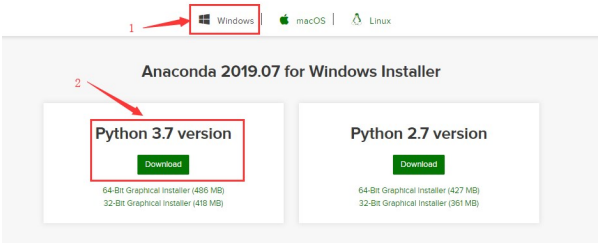
Use the following guidelines to install python and run code for processing images and leaf area estimation

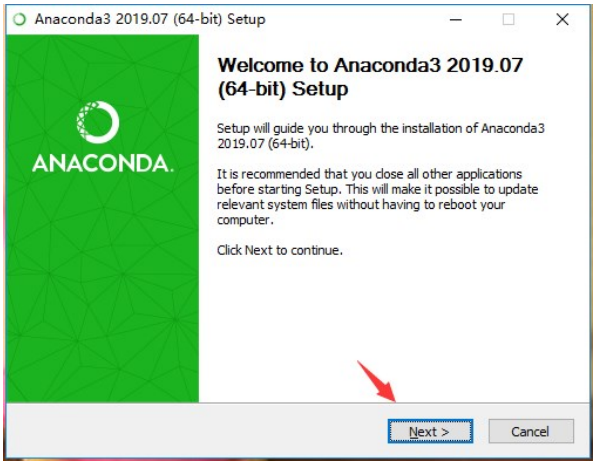
1. Visit Anaconda.com/downloads to install pytho

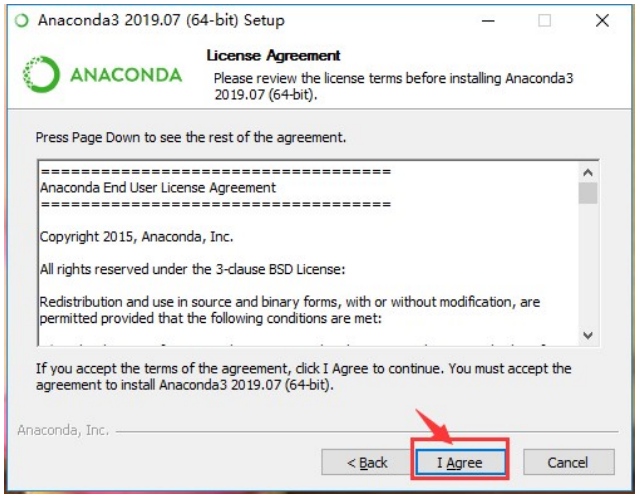


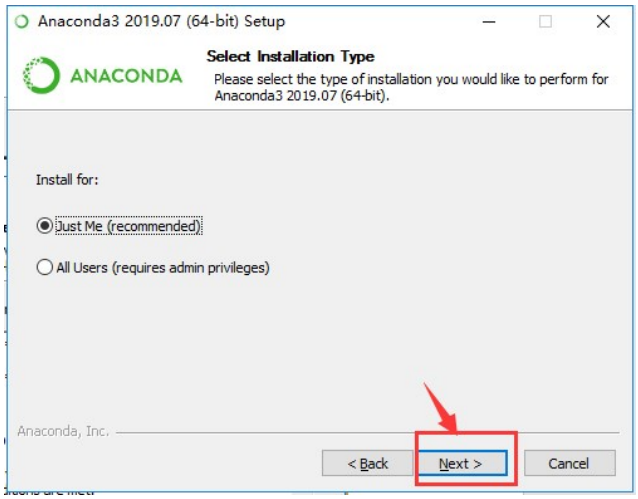
2. Select **Windows/MacOS/Linux** and download **python 3.7 version**
3. Download the ***.exe*** installer

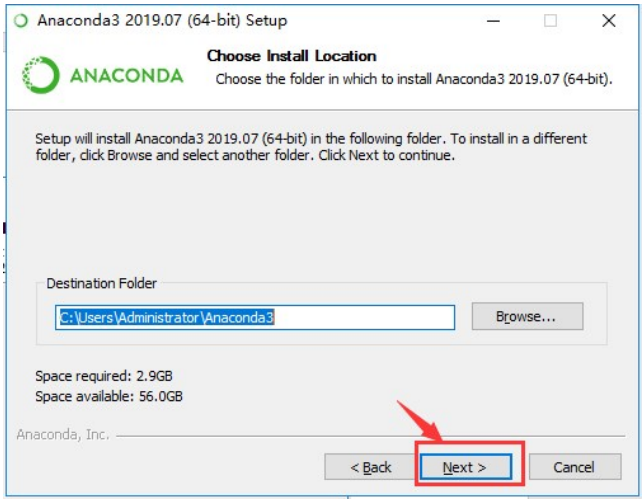


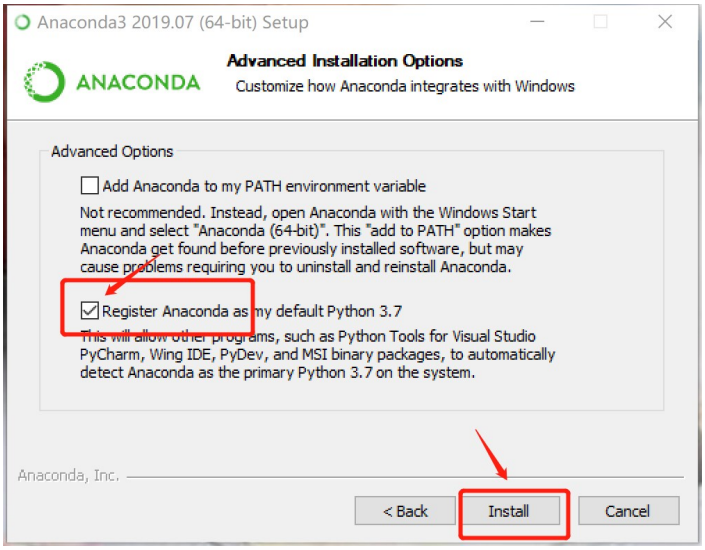
4. Open and run the ***.exe*** installer

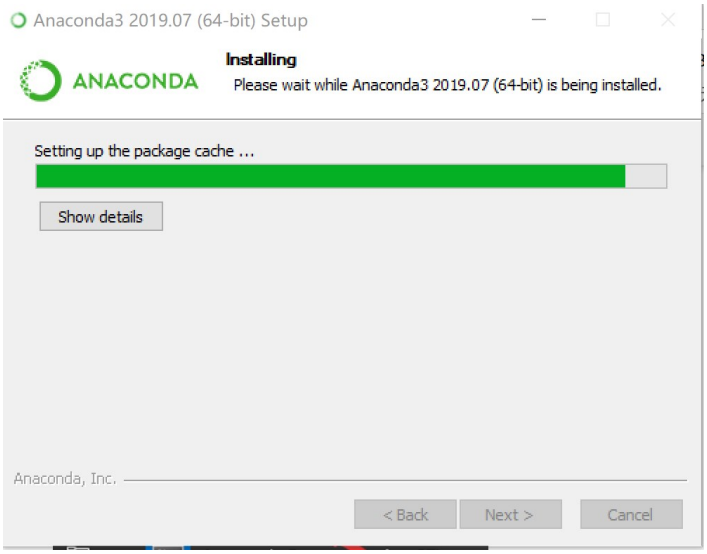



Anaconda3 2019.07 (64-bit) Setup
ANACONDA
License Agreement
Please review the license terms before installing Anaconda3 2019.07 (64-bit).
Press Page Down to see the rest of the agreement.
Anaconda End User License Agreement
Copyright 2015, Anaconda, Inc.
All rights reserved under the 3-clause BSD License:
Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Anaconda3 2019.07 (64-bit).
Anaconda, Inc.
< Back
I Agree
Cancel

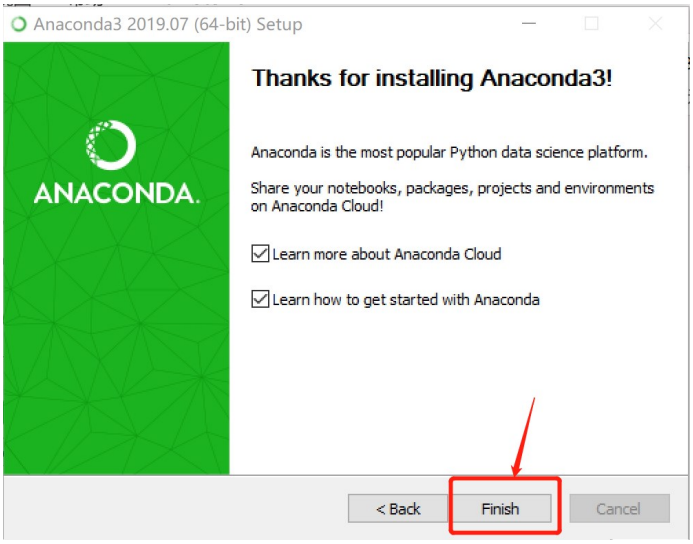

Anaconda3 2019.07 (64-bit) Setup
ANACONDA
Select Installation Type
Please select the type of installation you would like to perform for Anaconda3 2019.07 (64-bit).
Install for:
Just Me (recommended)
All Users (requires admin privileges)
Anaconda, Inc.
< Back
Next >
Cancel


Anaconda3 2019.07 (64-bit) Setup
ANACONDA
Choose Install Location
Choose the folder in which to install Anaconda3 2019.07 (64-bit).
Setup will install Anaconda3 2019.07 (64-bit) in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.
Destination Folder
C:\Users\Administrator\Anaconda3
Browse...
Space required: 2.9GB
Space available: 56.0GB
Anaconda, Inc.
< Back
Next >
Cancel

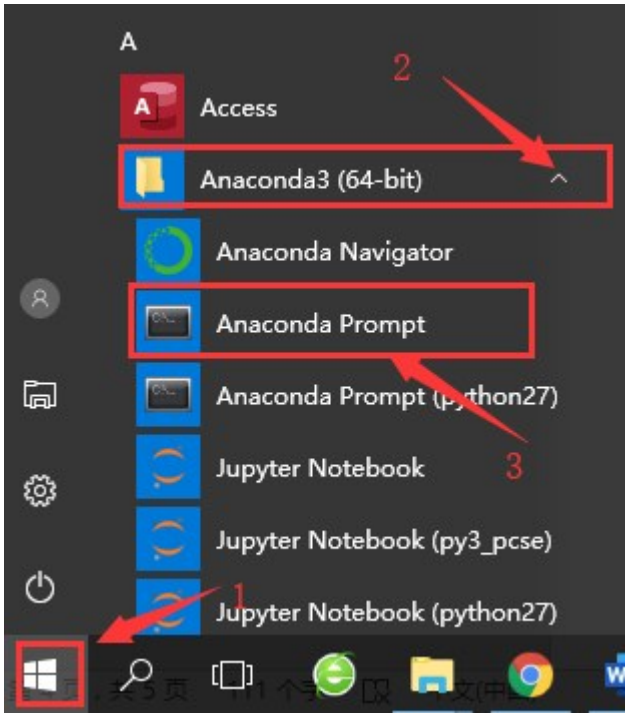




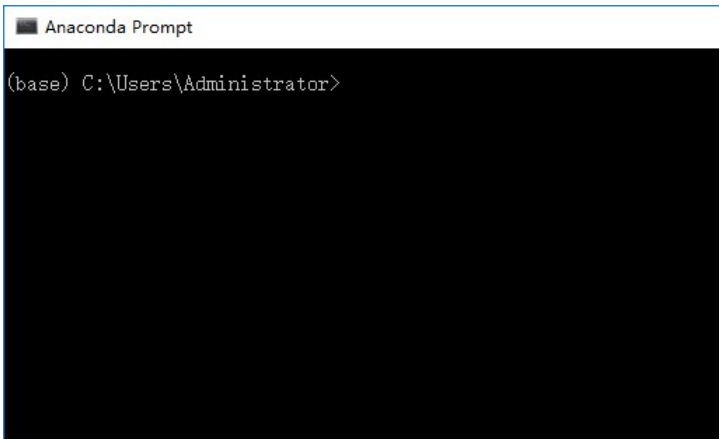
Note that the above step can take longer time to complete



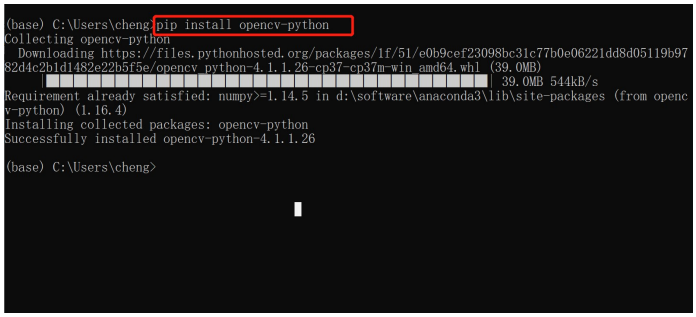
5. Open the **Windows Start menu** in your Desktop first, then click "**Anaconda3 (64-bit)"**, and then click "**Anaconda Prompt**"



Your computer will show a black DOS window as below:



6. Type the command "**pip install opencv-python" to install python lib**



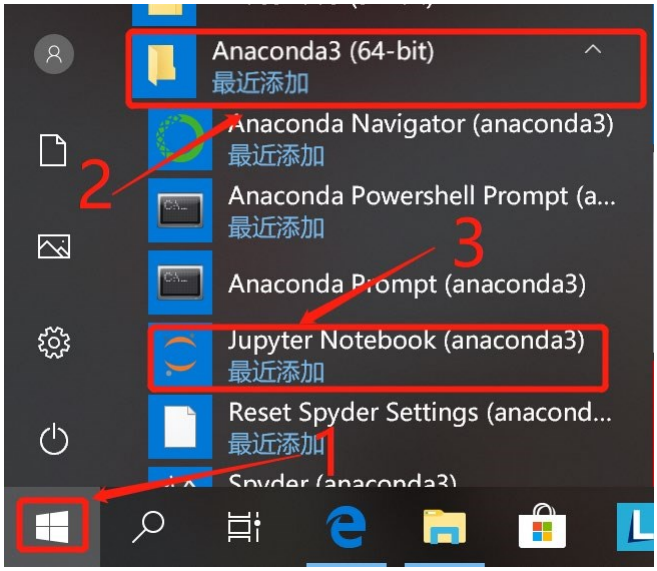
You should see '**Successfully installed' to** finish installing opencv-python.

```
(base) C:\Users\cheng>pip install opencv-python
Collecting opencv-python
  Downloading https://files.pythonhosted.org/packages/1f/51/e0b9cef23098bc31c77b0e06221dd8d05119b97
82d4c2b1d1482e22b5f5e/opencv_python-4.1.1.26-cp37-cp37m-win_amd64.whl (39.0MB)
    |████████████████████████████████| 39.0MB 544kB/s
Requirement already satisfied: numpy>=1.14.5 in d:\software\anaconda3\lib\site-packages (from openc
v-python) (1.16.4)
Installing collected packages: opencv-python
Successfully installed opencv-python-4.1.1.26

(base) C:\Users\cheng>
```

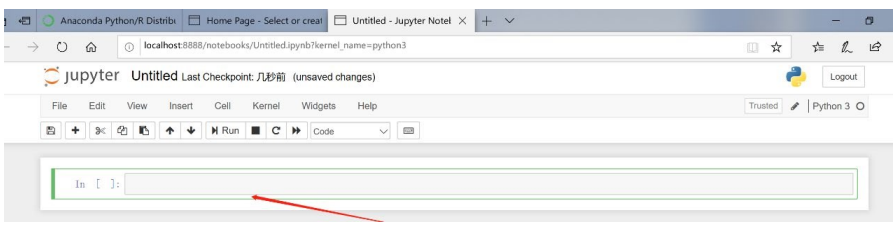
7. Use Jupyter notebook to run python code

Open the **Windows Start menu** in your Desktop, click "**Anaconda3 (64-bit)"**, and then click "**Jupyter Notebook(anaconda3)**".

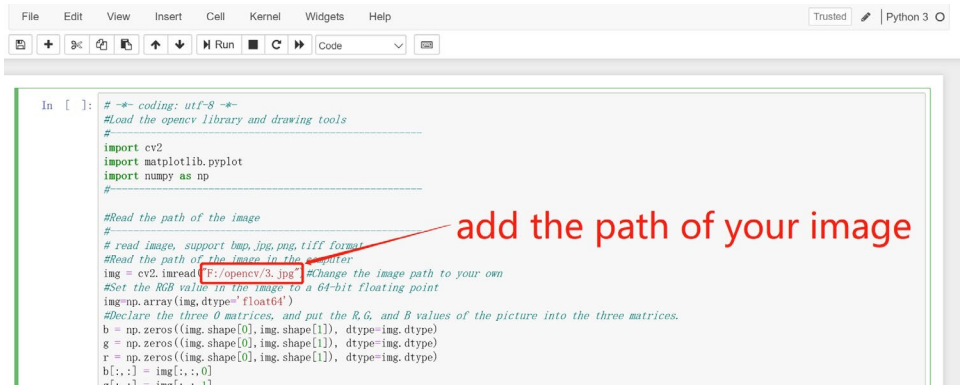


8. You will see a web page in your browser, then click **New** and click **Python 3**.

9. Open the file new_Python.pdf. Copy and paste the code into Jupyter notebook next to " In [ ]:".



10. Change the path where your image is store on this line in the code.



11. Original image

12. Click **Run**, to see the result of image processing.