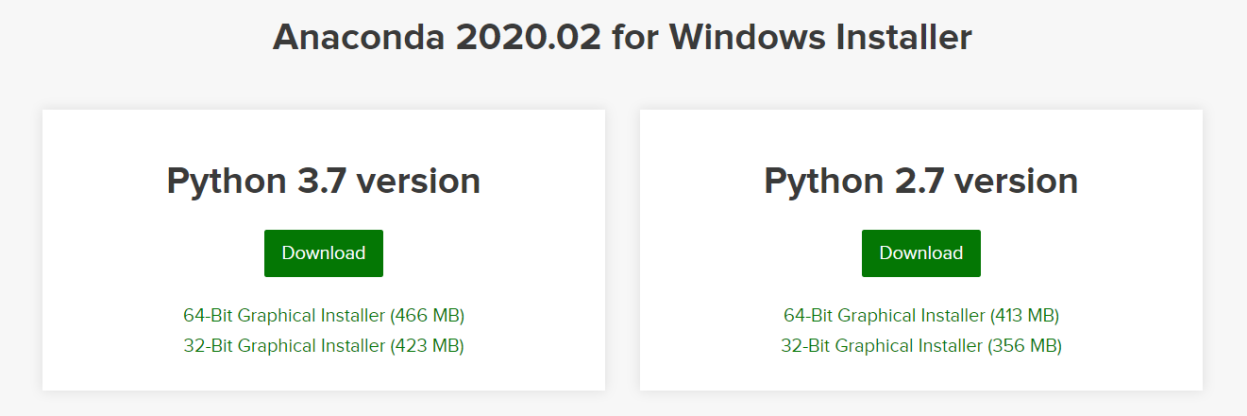
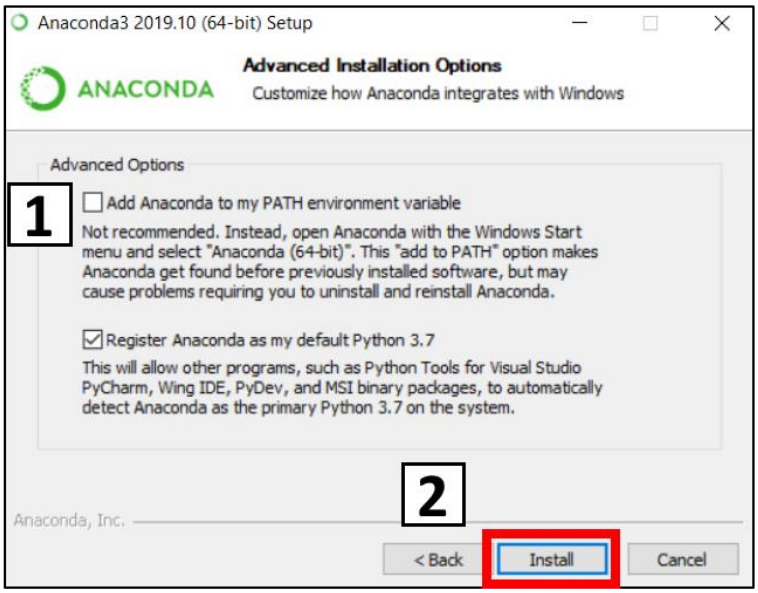
Plength Installation Guide

For any problems, please contact sai.chananchida@gmail.com

1. Install Python through Anaconda

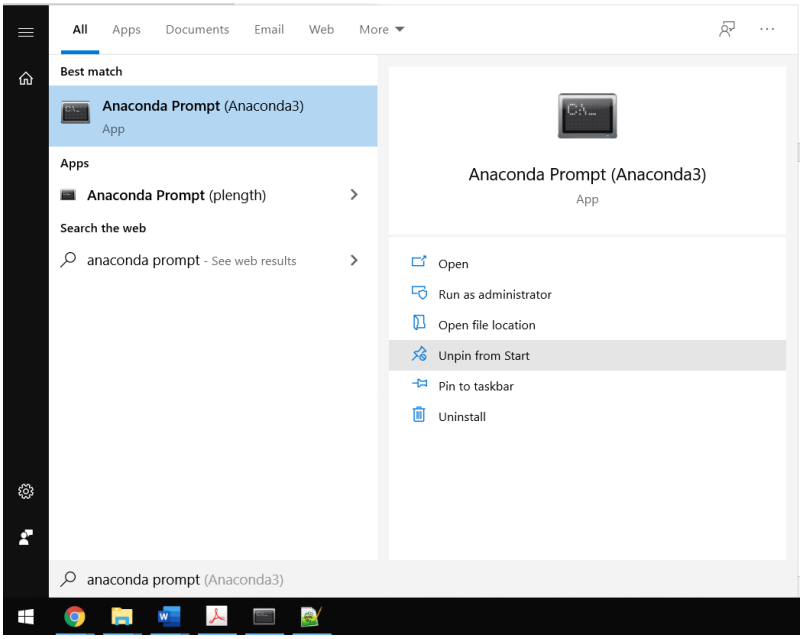


Download the Python 3.7 version. If you click the "Download" button it should automatically detect whether your computer is 32- or 64-Bit. It is recommended that you use Anaconda as your default Python and NOT add Anaconda to your PATH environment variable (see below).



2. Create a virtual environment

- Open “Anaconda prompt” (Using the “Command prompt” will not work!)

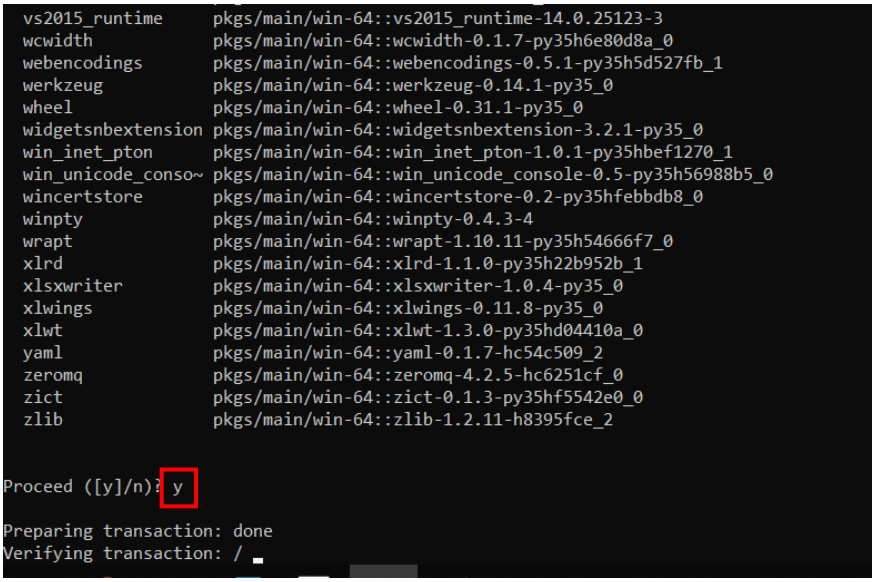


- Type the following command to create a virtual environment

```
conda create -n plength anaconda python=3.5
```

```
(base) C:\Users\Sai>conda create -n plength anaconda python=3.5
Collecting package metadata (current_repodata.json): done
Solving environment: failed with repodata from current_repodata.json, will retry with next repodata source.
Collecting package metadata (repodata.json): done
Solving environment: done


==> WARNING: A newer version of conda exists. <==
  current version: 4.8.2
  latest version: 4.8.3

Please update conda by running

    $ conda update -n base -c defaults conda



## Package Plan ##

  environment location: C:\Users\Sai\Anaconda3\envs\plength

  added / updated specs:
    - anaconda
    - python=3.5


The following NEW packages will be INSTALLED:

  alabaster          pkgs/main/win-64::alabaster-0.7.10-py35h3a808de_0
  anaconda           pkgs/main/win-64::anaconda-5.2.0-py35_3
  anaconda-client    pkgs/main/win-64::anaconda-client-1.6.14-py35_0
  anaconda-project   pkgs/main/win-64::anaconda-project-0.8.2-py35h06aeb26_0
  asn1crypto         pkgs/main/win-64::asn1crypto-0.24.0-py35_0
  astroid            pkgs/main/win-64::astroid-1.6.3-py35_0
  astropy            pkgs/main/win-64::astropy-3.0.2-py35h452e1ab_1
  attrs              pkgs/main/win-64::attrs-18.1.0-py35_0
  babel              pkgs/main/win-64::babel-2.5.3-py35_0
  backcall           pkgs/main/win-64::backcall-0.1.0-py35_0
  backports          pkgs/main/win-64::backports-1.0-py35he88aa47_1
```

You will be asked if you want to install the following packages. Type “y” and press enter.



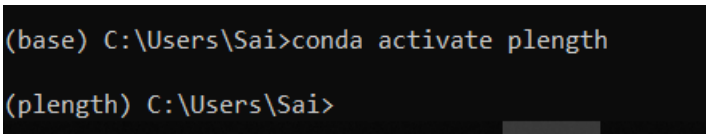
This will take several minutes. Afterwards, your virtual environment will be created, which will allow you to use specific versions of the libraries that were used to write Plength.

3. Activate the virtual environment

- In the Anaconda prompt, type the following command:

```
conda activate plength
```

It is very important to do this every time before running the Plength script. You will be able to tell that you are in a virtual environment based on the start of the line, which changes from `(base)` to `(plength)`



4. Install the required libraries

Download the requirements.txt file (and PLENGTH.py if you haven’t already) from https://github.com/csangara/plength

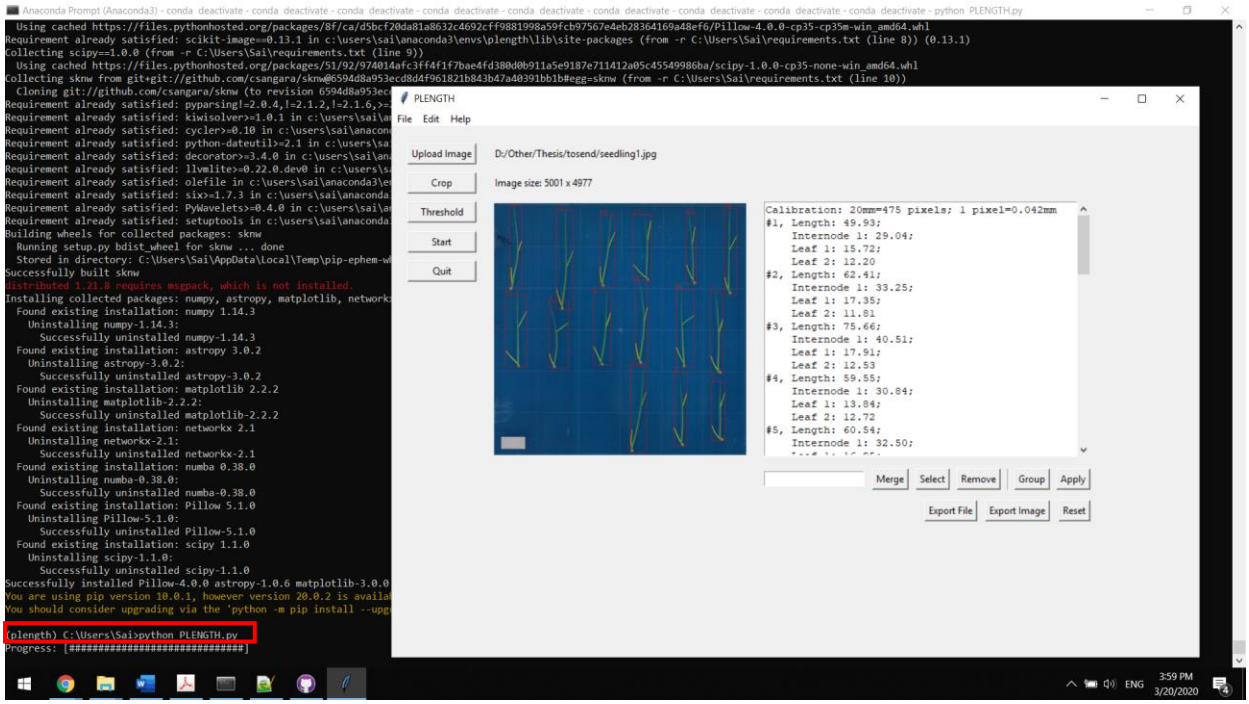
Move the file(s) to your current directory and type the command:

```
pip install -r requirements.txt
```

```
(plength) C:\Users\Sai>pip install -r C:\Users\Sai\requirements.txt
Collecting astropy==1.0.6 (from -r C:\Users\Sai\requirements.txt (line 1))
Collecting matplotlib==3.0.0 (from -r C:\Users\Sai\requirements.txt (line 2))
  Using cached https://files.pythonhosted.org/packages/46/29/6dcd041e3bcff987c4fa6d8ed98e46435ba1bc1eb
Collecting networkx==1.11 (from -r C:\Users\Sai\requirements.txt (line 3))
  Using cached https://files.pythonhosted.org/packages/d3/2c/e473e54afc9fae58dfa97066ef6709a7e35a1dd1c
Collecting numba==0.37.0 (from -r C:\Users\Sai\requirements.txt (line 4))
  Using cached https://files.pythonhosted.org/packages/03/b0/e0aaf4398f5ddf62df7423cff76669545febb4133
Collecting numpy==1.14.1 (from -r C:\Users\Sai\requirements.txt (line 5))
  Using cached https://files.pythonhosted.org/packages/28/bd/f0ae2f29021976c94a56990264b9ce38c2a021da6
Collecting opencv-python==3.4.2.16 (from -r C:\Users\Sai\requirements.txt (line 6))
  Using cached https://files.pythonhosted.org/packages/d9/f5/2a43474643c73e2f9fc459a2fc95cbadb6243c5be
Collecting Pillow==4.0.0 (from -r C:\Users\Sai\requirements.txt (line 7))
  Using cached https://files.pythonhosted.org/packages/8f/ca/d5bcf20da81a8632c4692cff9881998a59fcb9756
Requirement already satisfied: scikit-image==0.13.1 in c:\users\sai\anaconda3\envs\plength\lib\site-pa
Collecting scipy==1.0.0 (from -r C:\Users\Sai\requirements.txt (line 9))
  Using cached https://files.pythonhosted.org/packages/51/92/974014afc3ff4f1f7bae4fd380d0b911a5e9187e7
Collecting sknw from git+git://github.com/csangara/sknw@6594d8a953ecd8d4f961821b843b47a40391bb1b#egg=s
  Cloning git://github.com/csangara/sknw (to revision 6594d8a953ecd8d4f961821b843b47a40391bb1b) to c:\
```

After all packages have been installed you should be able to run Plength with the command

```
python PLENGTH.py
```



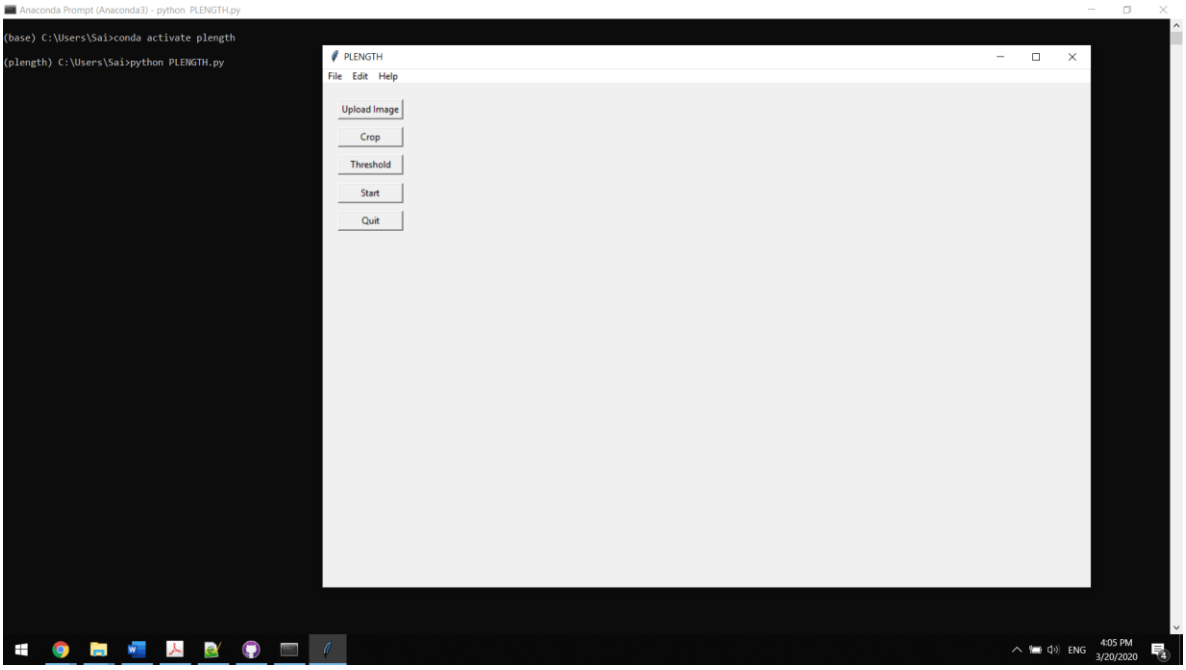
Note: In case the file requirements.txt is somehow unavailable, you can create the file yourself with the following content:

```
astropy==1.0.6
matplotlib==3.0.0
networkx==1.11
numba==0.37.0
numpy==1.14.1
opencv-python==3.4.2.16
Pillow==4.0.0
scikit-image==0.13.1
scipy==1.0.0
git+git://github.com/csangara/sknw@6594d8a953ecd8d4f961821b843b47a40391bb1b#egg=sknw
```

5. Using Plength afterwards

From now on, every time you would like to use Plength, you must

- Open “Anaconda Prompt”
- Type `conda activate plength`
- Type `python PLENGTH.py`



Happy measuring!