

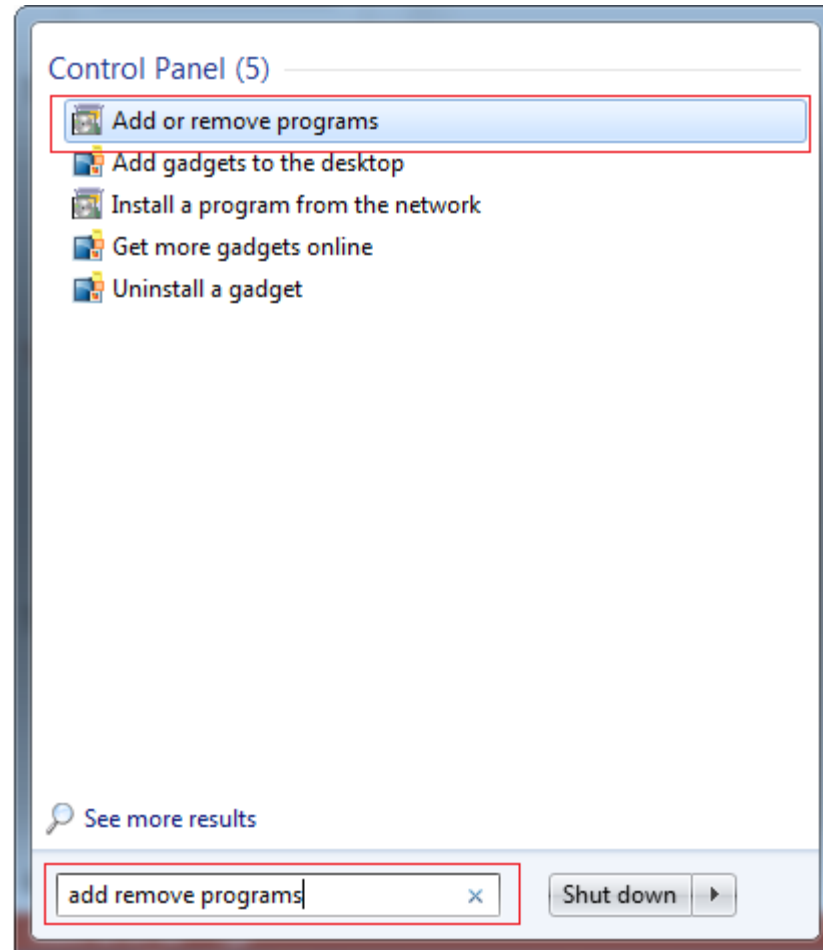


Machine Learning

Install Theano/TensorFlow/Keras

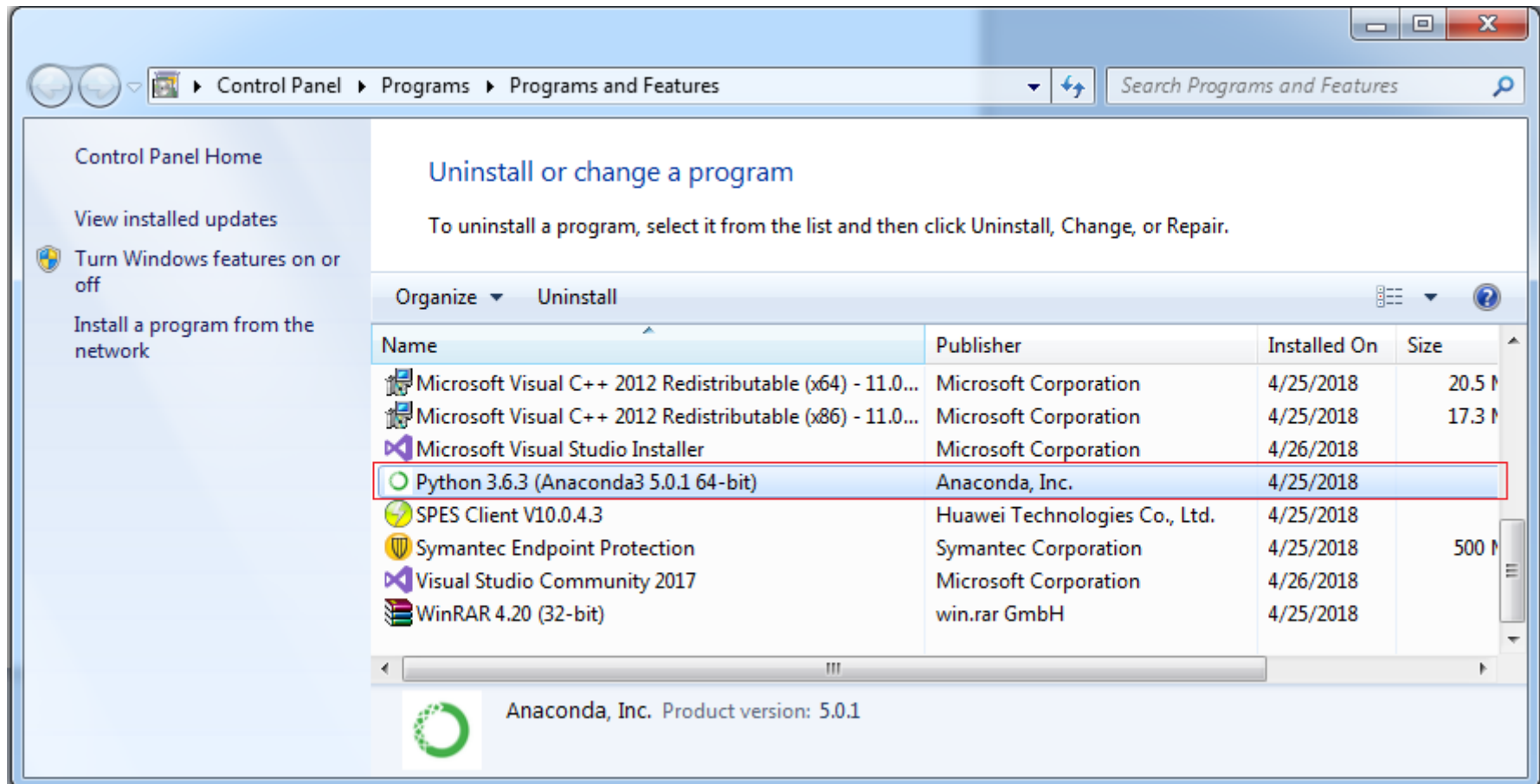
Installation Step-by-Step

- Open add remove programs.



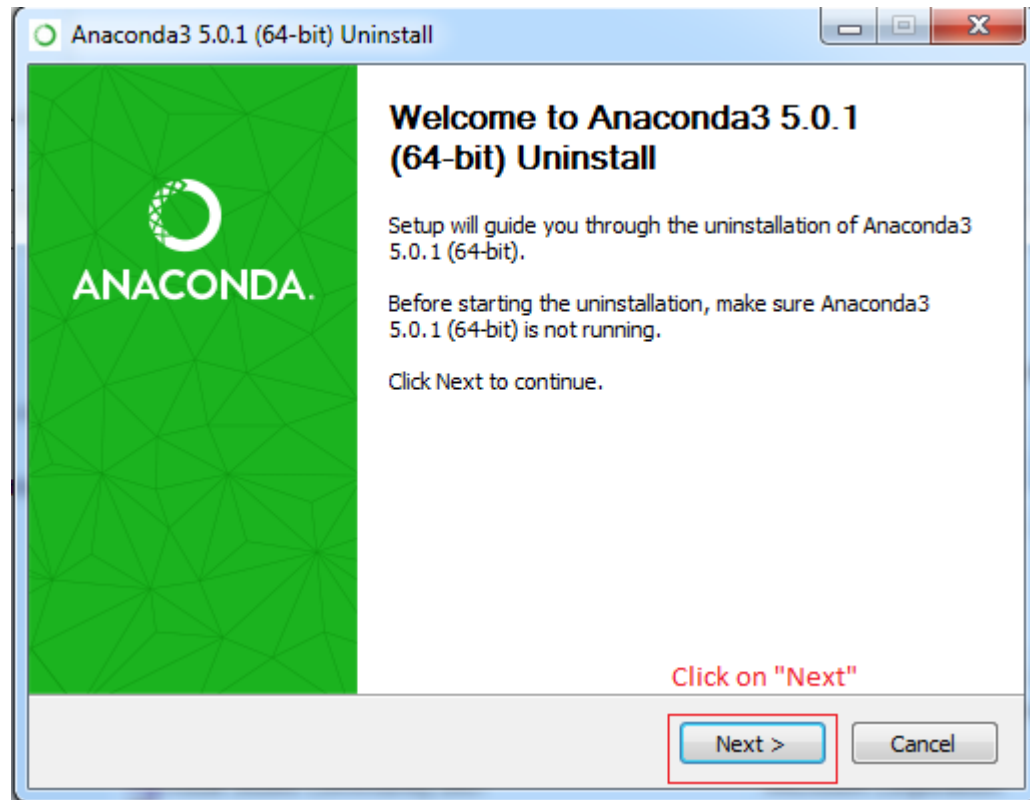
Installation Step-by-Step

- ▶ Click on “Python 3.6.3(Anaconda 3 5.0.1 64-bit)”



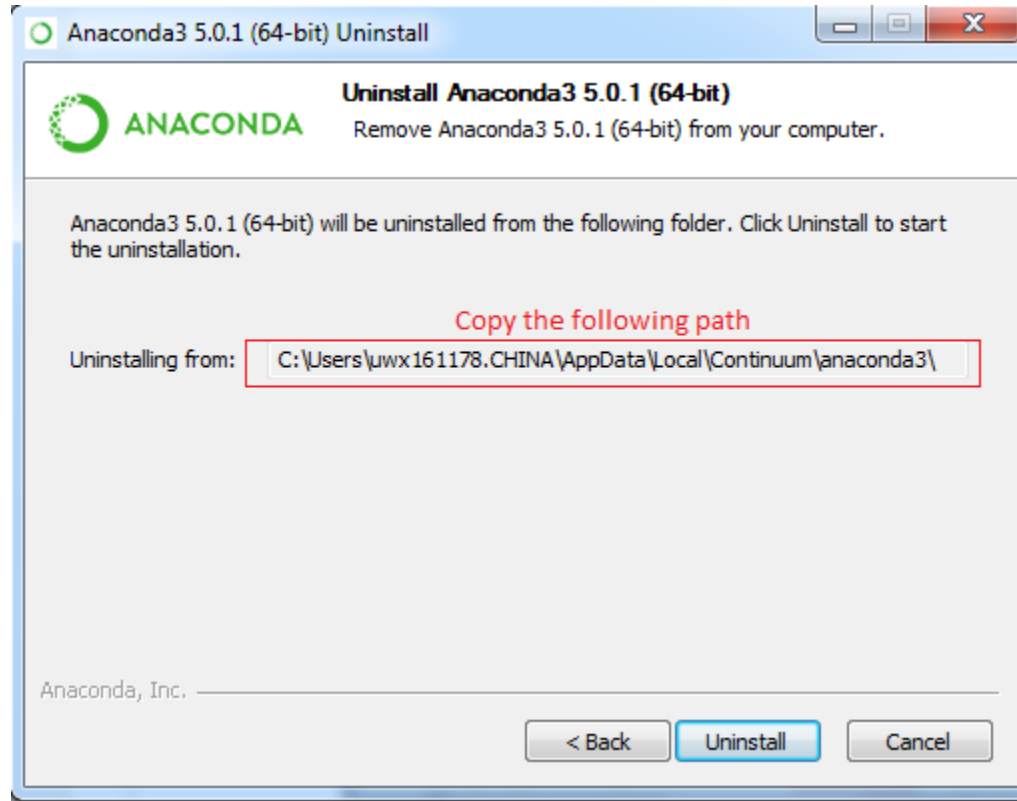
Installation Step-by-Step

- Click on “Next”.



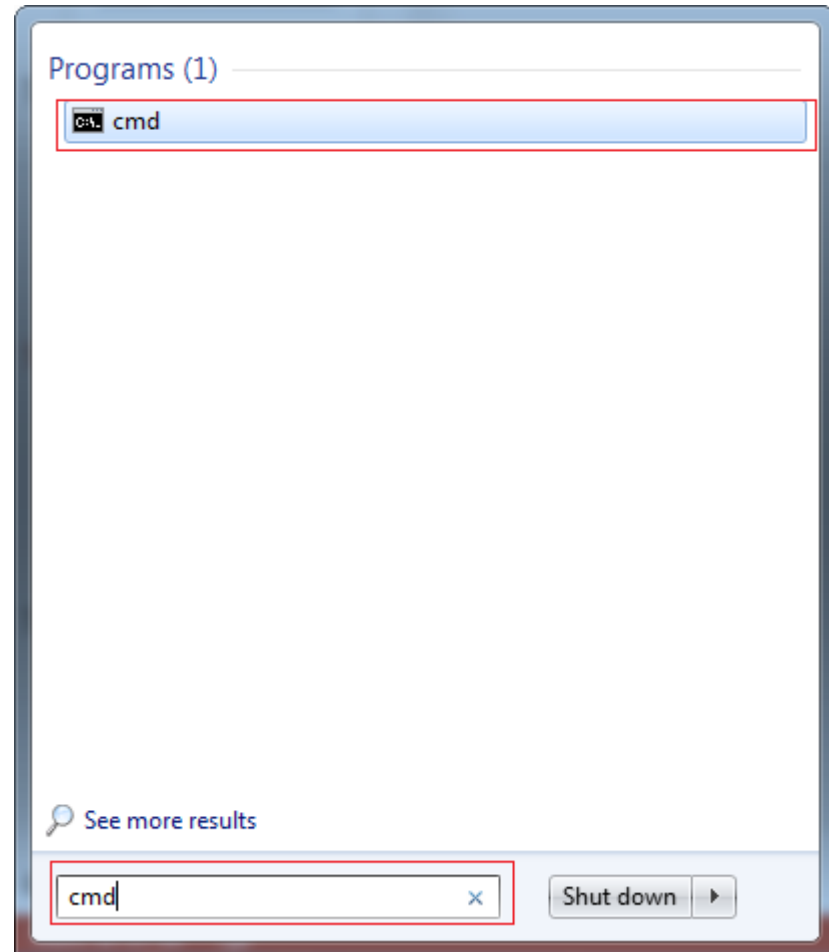
Installation Step-by-Step

- Copy the python installation path;



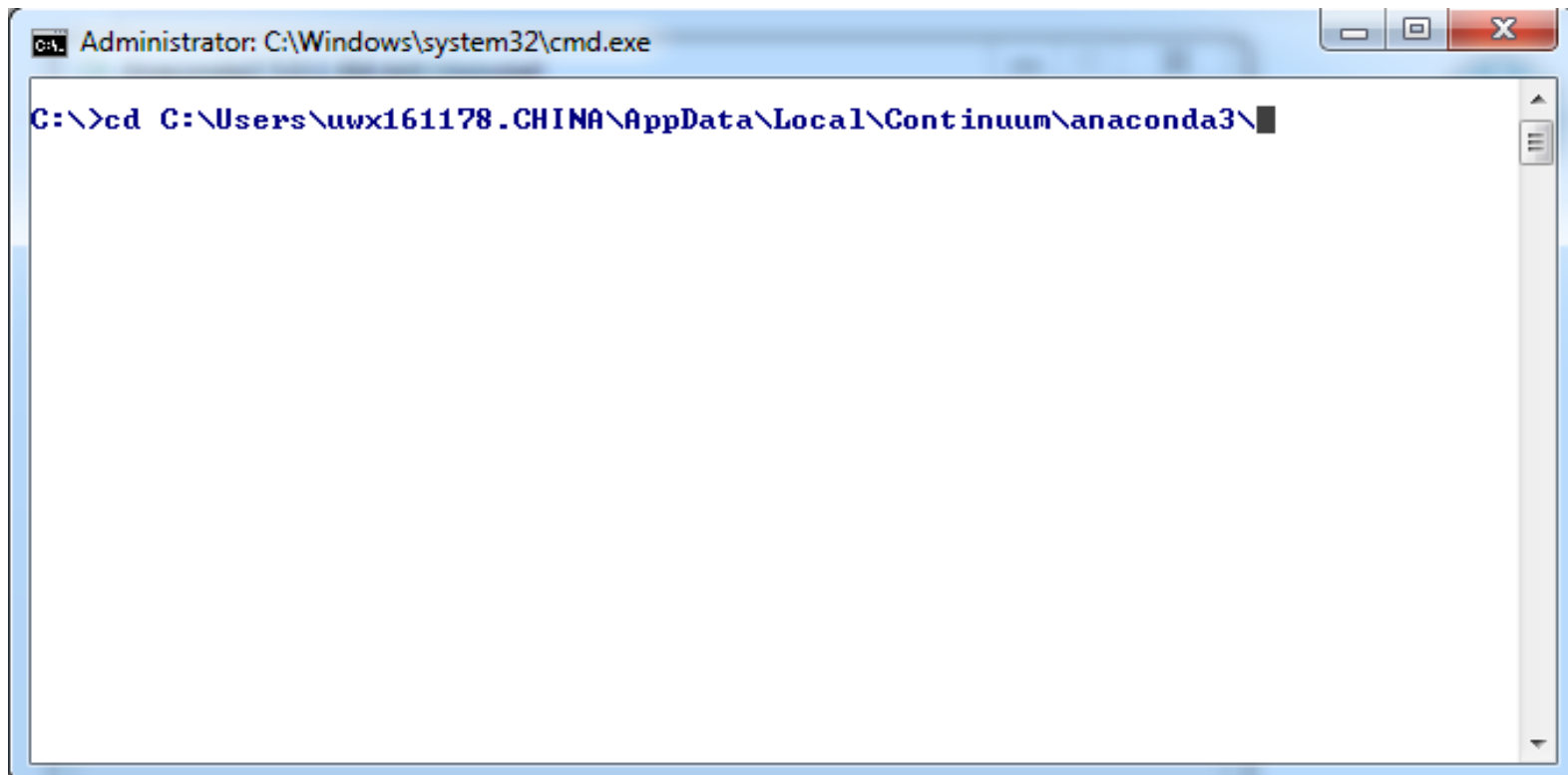
Installation Step-by-Step

- ▶ Open cmd.



Installation Step-by-Step

- ▶ **Command-1**
- ▶ Run the following command on cmd;
- ▶ `cd C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3\`

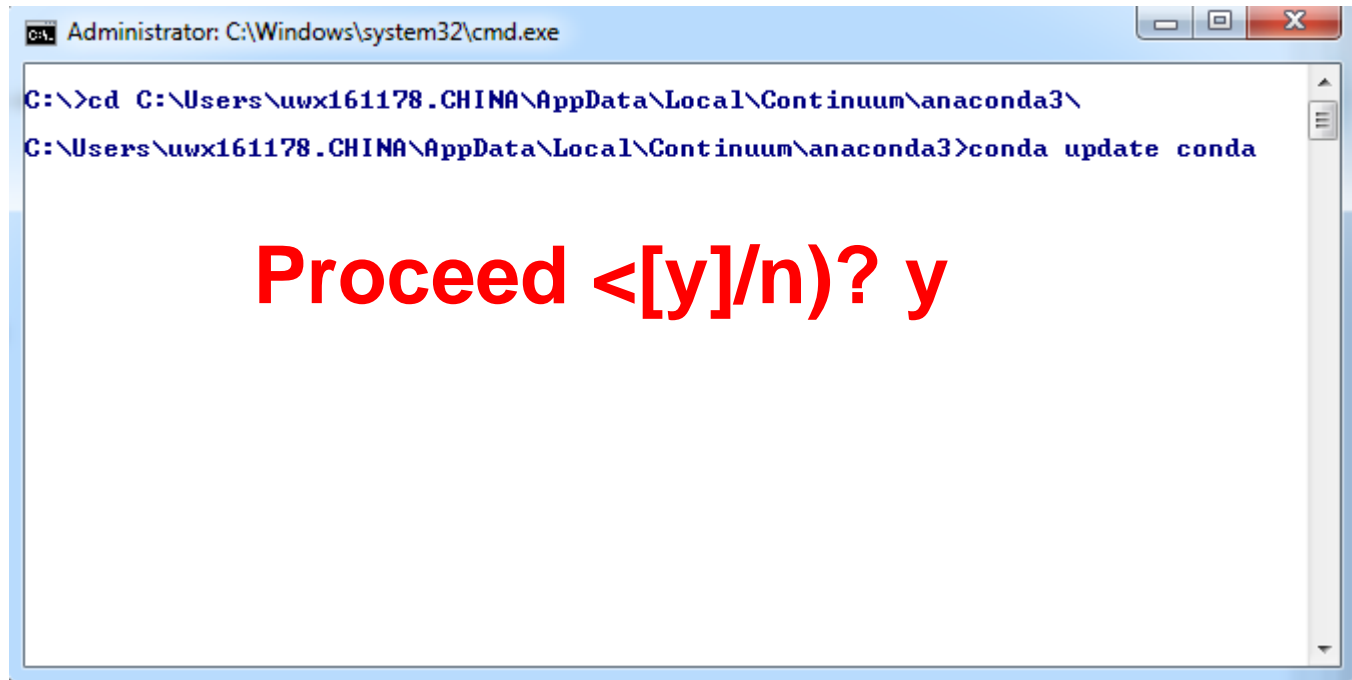
A screenshot of a Windows Command Prompt window titled 'Administrator: C:\Windows\system32\cmd.exe'. The window has a standard Windows interface with minimize, maximize, and close buttons in the top right corner. The command prompt shows the current directory as 'C:\' and the command 'cd C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3\' has been entered, followed by a black cursor. The text is displayed in a blue monospaced font on a white background. A vertical scrollbar is visible on the right side of the command prompt area.

```
Administrator: C:\Windows\system32\cmd.exe

C:\>cd C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3\
```

Installation Step-by-Step

- ▶ **Command-2**
- ▶ Run the following command on cmd;
- ▶ conda update conda

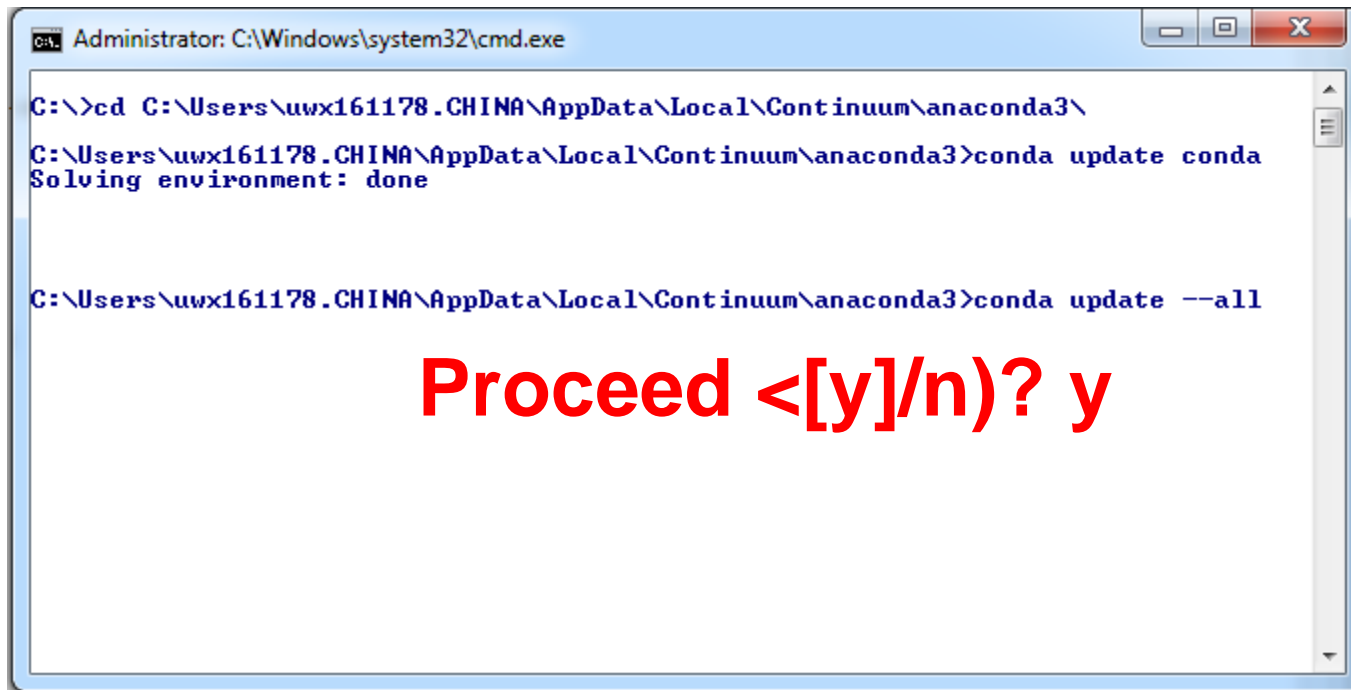
A screenshot of a Windows Command Prompt window titled 'Administrator: C:\Windows\system32\cmd.exe'. The window shows the following commands and output:

```
C:\>cd C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3\  
C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3>conda update conda
```

Below the command prompt, the text **Proceed <[y]/n)? y** is displayed in large red font, indicating the confirmation prompt for the conda update command.

Installation Step-by-Step

- ▶ **Command-3**
- ▶ Run the following command on cmd;
- ▶ conda update --all



```
Administrator: C:\Windows\system32\cmd.exe

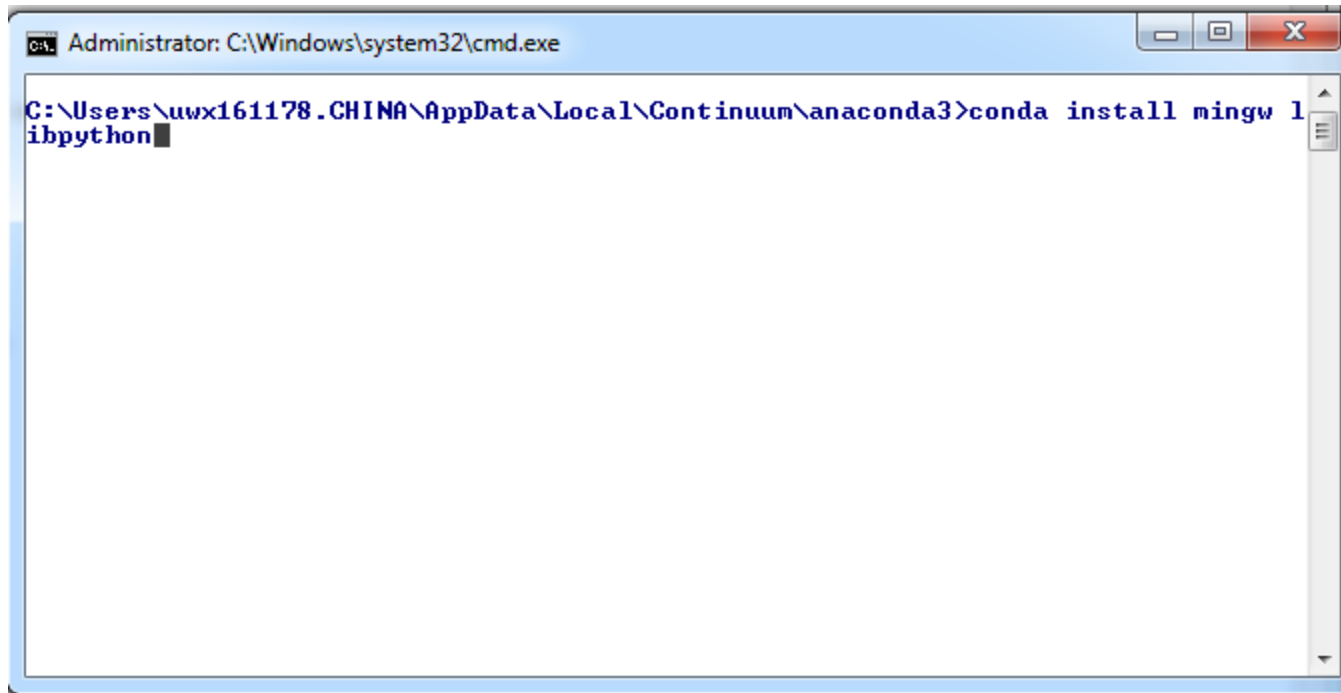
C:\>cd C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3\
C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3>conda update conda
Solving environment: done

C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3>conda update --all
```

Proceed <[y]/n)? y

Installation Step-by-Step

- ▶ **Command-4**
- ▶ Run the following command on cmd;
- ▶ `conda install mingw libpython`

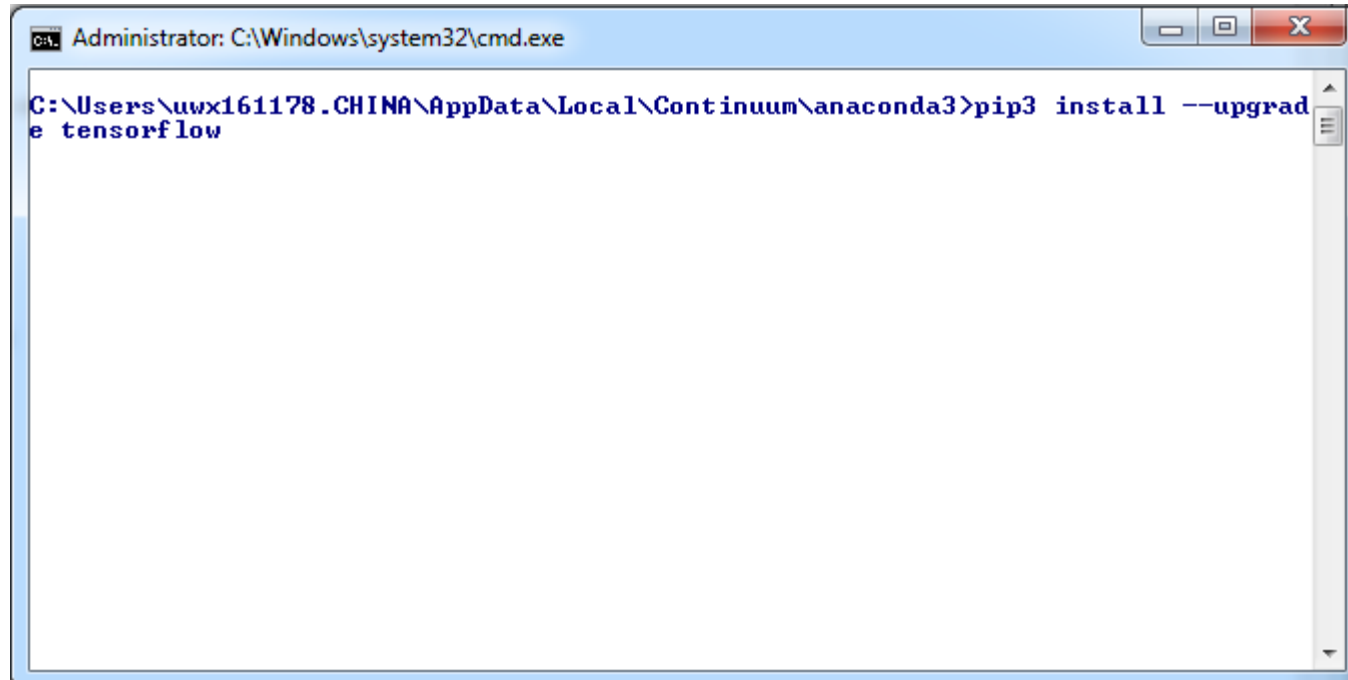
A screenshot of a Windows Command Prompt window. The title bar at the top reads 'Administrator: C:\Windows\system32\cmd.exe'. The command prompt shows the current directory as 'C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3>'. The command 'conda install mingw libpython' has been typed and is ready to be executed, with a cursor at the end of the line.

```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3>conda install mingw libpython
```

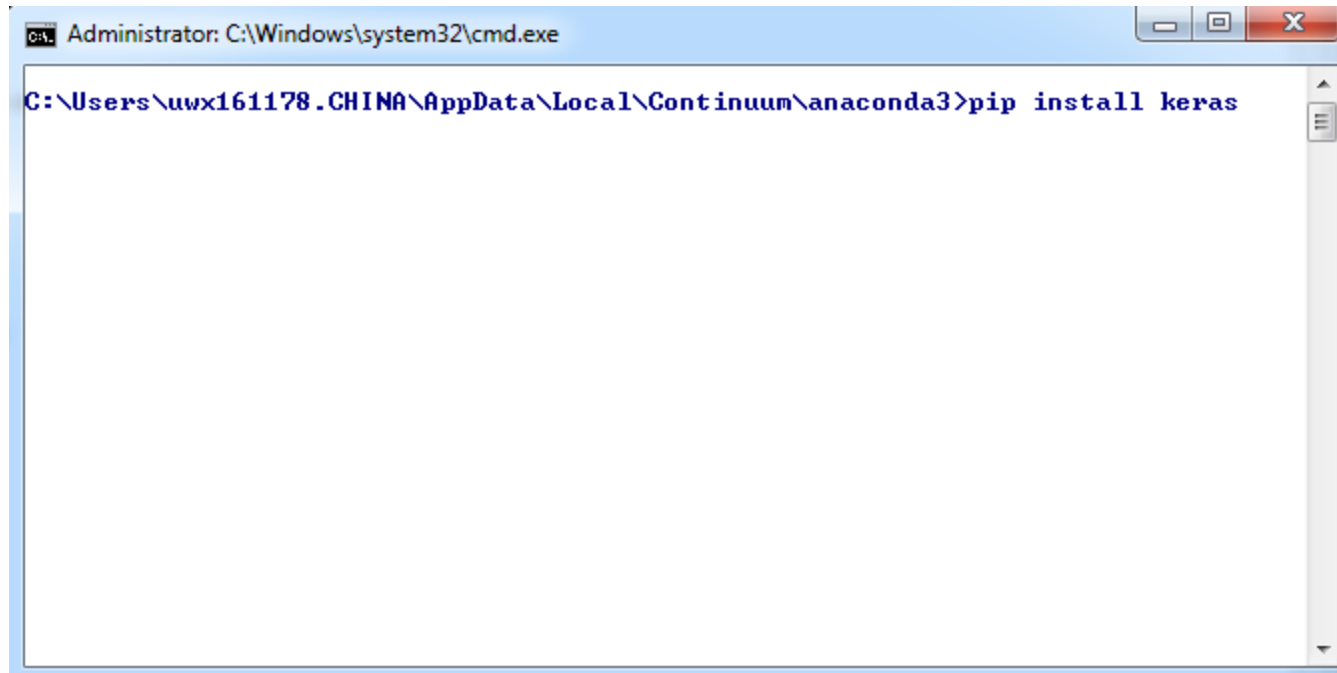
Installation Step-by-Step

- ▶ **Command-5**
- ▶ Run the following command on cmd;
- ▶ `pip3 install --upgrade tensorflow`

A screenshot of a Windows Command Prompt window. The title bar at the top reads 'Administrator: C:\Windows\system32\cmd.exe'. The command prompt shows the current directory as 'C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3' and the command being entered is 'pip3 install --upgrade tensorflow'. The command is split across two lines: 'C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3>pip3 install --upgrad' on the first line and 'e tensorflow' on the second line. The window has standard Windows window controls (minimize, maximize, close) in the top right corner.

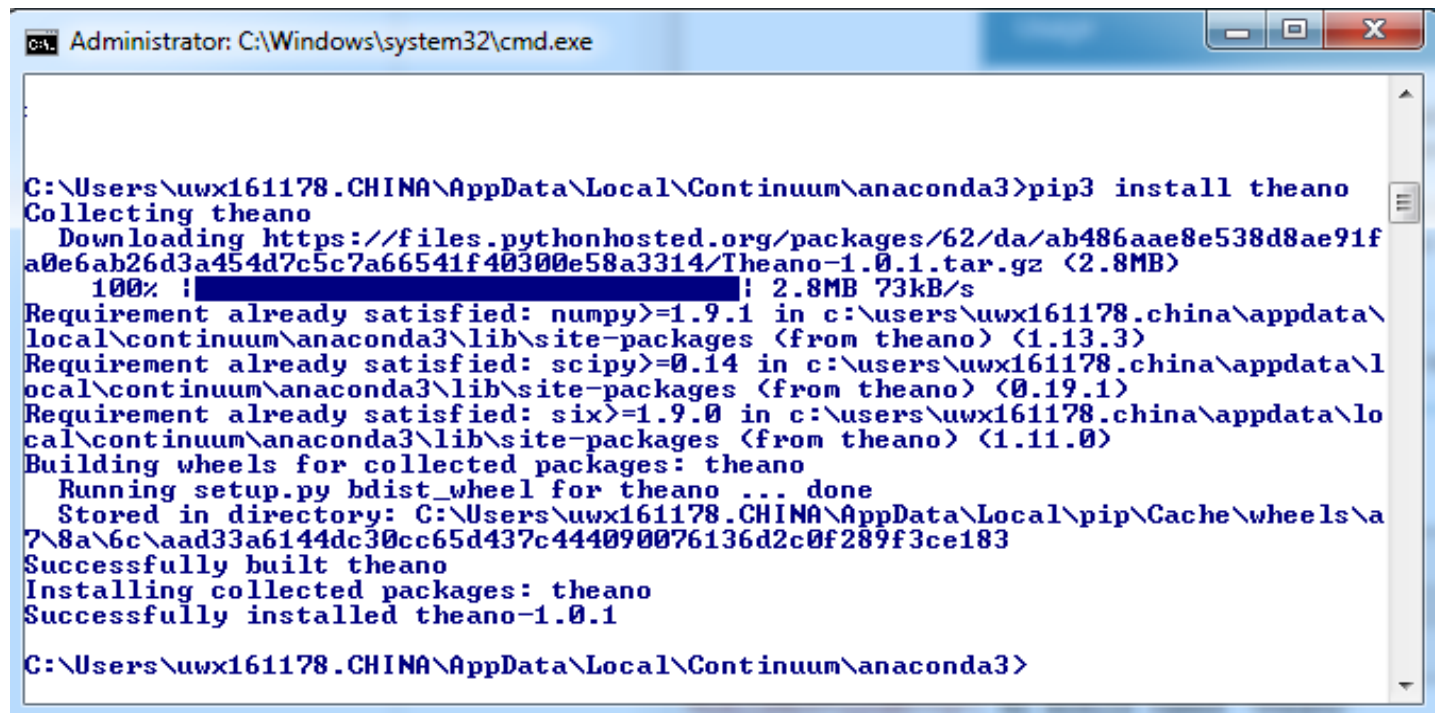
Installation Step-by-Step

- ▶ **Command-6**
- ▶ Run the following command on cmd;
- ▶ pip install keras

A screenshot of a Windows Command Prompt window. The title bar at the top reads 'Administrator: C:\Windows\system32\cmd.exe'. The command prompt shows the current directory as 'C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3' and the command 'pip install keras' has been entered. The window has standard Windows window controls (minimize, maximize, close) in the top right corner.

Installation Step-by-Step

- ▶ **Command-7**
- ▶ Run the following command on cmd;
- ▶ pip install pip3 install theano



```
C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3>pip3 install theano
Collecting theano
  Downloading https://files.pythonhosted.org/packages/62/da/ab486aae8e538d8ae91fa0e6ab26d3a454d7c5c7a66541f40300e58a3314/Theano-1.0.1.tar.gz (2.8MB)
    100% |████████████████████████████████████████| 2.8MB 73kB/s
Requirement already satisfied: numpy>=1.9.1 in c:\users\uwx161178.china\appdata\local\continuum\anaconda3\lib\site-packages (from theano) (1.13.3)
Requirement already satisfied: scipy>=0.14 in c:\users\uwx161178.china\appdata\local\continuum\anaconda3\lib\site-packages (from theano) (0.19.1)
Requirement already satisfied: six>=1.9.0 in c:\users\uwx161178.china\appdata\local\continuum\anaconda3\lib\site-packages (from theano) (1.11.0)
Building wheels for collected packages: theano
  Running setup.py bdist_wheel for theano ... done
  Stored in directory: C:\Users\uwx161178.CHINA\AppData\Local\pip\Cache\wheels\7\8a\6c\aad33a6144dc30cc65d437c444090076136d2c0f289f3ce183
Successfully built theano
Installing collected packages: theano
Successfully installed theano-1.0.1

C:\Users\uwx161178.CHINA\AppData\Local\Continuum\anaconda3>
```

Installation Step-by-Step

- ▶ Run the following code on Spyder, if no error its mean installation is ok.

```
import theano
import tensorflow as tf

hello = tf.constant('Hello, TensorFlow!')
sess = tf.Session()
print(sess.run(hello))
```

```
In [9]: import theano
...: import tensorflow as tf
...:
...: hello = tf.constant('Hello, TensorFlow!')
...: sess = tf.Session()
...: print(sess.run(hello))
b'Hello, TensorFlow!'
```