

# Systems Note 3

## Jupyter Packages on Raspberry Pi

Hardware - Raspberry Pi 4 4GB RAM

OS - Raspberry Pi OS (32 bit) with desktop and recommended software Version May 2020 Kernel 4.19

uname -a gives Linux raspberrypi 5.4.51-v7l+ #1327 SMP date armv7l GNU/Linux

In Terminal to enter the pyenv version set up in Note2

```
cd ~/jn_production
```

To enter the pipenv environment created in Note2

```
pipenv shell
```

```
sudo apt-get install libatlas-base-dev
```

```
sudo apt-get install liblzma-dev
```

```
sudo apt-get install gfortran
```

```
sudo apt-get install libjpeg-dev
```

Should be able to batch these but had problems if all on one line so:

```
pipenv install package-name
```

Where package names one line at a time are:

```
numpy sympy matplotlib pandas plotly bokeh scipy seaborn statsmodels scikit-learn  
vpython
```

To enable use of %matplotlib notebook:

```
sudo apt-get install nodejs
```

Gives version 10.21.0 at time of install

For later version From <https://nodejs.org> Other Downloads, ARMv7

In Downloads open node-v14.7.0-linux-armv7l.tar.xz

Extract files to /home/pi/jn\_production

```
echo 'export PATH="/home/pi/jn_production/node-v14.7.0-linux-armv7l/bin:$PATH"' >>  
~/.bashrc
```

```
File Edit Tabs Help
pi@raspberrypi:~/jproduction
Traceback (most recent call last):
  File "statsmodels", line 2, in <module>
  File "C:\Users\pi\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.8.1_3ea51e61-693f-4920-b310-9d5b3da1ac2f\Python38\python.exe", line 385, in <module>
    raise ImportError(f'cannot import name {module} from {package}')
ImportError: cannot import name 'statsmodels' from 'C:\Users\pi\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.8.1_3ea51e61-693f-4920-b310-9d5b3da1ac2f\Python38\python.exe'

The headers in library files could not be found for jpeg,
a required dependency when compiling Pillow from source.

Please see the official instructions at:
https://pillow.readthedocs.io/en/latest/installation.html

ERROR: Command errored out with exit status 1: 'C:\Users\pi\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.8.1_3ea51e61-693f-4920-b310-9d5b3da1ac2f\Python38\python.exe'
  command: 'C:\Users\pi\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.8.1_3ea51e61-693f-4920-b310-9d5b3da1ac2f\Python38\python.exe' -c 'import sys, setuptools, tokenize; sys.argv[0] = '"'"'C:\Users\pi\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.8.1_3ea51e61-693f-4920-b310-9d5b3da1ac2f\Python38\python.exe'"'"'; __file__ = 'C:\Users\pi\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.8.1_3ea51e61-693f-4920-b310-9d5b3da1ac2f\Python38\python.exe'; sys.argv[1:] = ['install', '-r', 'C:\Users\pi\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.8.1_3ea51e61-693f-4920-b310-9d5b3da1ac2f\Python38\python.exe']; exec(compile('from setuptools.command.install import *; install.run_command(self, *args, **kwargs)', 'setuptools', 'command')); sys.exit(0)';
  cwd: C:\Users\pi\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.8.1_3ea51e61-693f-4920-b310-9d5b3da1ac2f\Python38\python.exe;
  out: ''
  err: 'Traceback (most recent call last):
  File "C:\Users\pi\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.8.1_3ea51e61-693f-4920-b310-9d5b3da1ac2f\Python38\python.exe", line 385, in <module>
    raise ImportError(f'cannot import name {module} from {package}')
ImportError: cannot import name 'statsmodels' from 'C:\Users\pi\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.8.1_3ea51e61-693f-4920-b310-9d5b3da1ac2f\Python38\python.exe'

* Installation Failed
(jn_production) pi@raspberrypi:~/jproduction $ pipenv install statsmodels
Installing statsmodels...
Adding statsmodels to Pipfile's [packages]...
✓ Installation Succeeded
Pipfile.lock (dcb923) out of date, updating to (d4ba12)...
Locking [dev-packages] dependencies...
Locking [packages] dependencies...
Building requirements...
Resolving dependencies...
✓ Success!
Updated Pipfile.lock (d4ba12)!
Installing dependencies from Pipfile.lock (d4ba12)...
### 0/0 -
(jn_production) pi@raspberrypi:~/jproduction $ pipenv install scikit-learn
Installing scikit-learn...
Adding scikit-learn to Pipfile's [packages]...
✓ Installation Succeeded
Pipfile.lock (d4ba12) out of date, updating to (eed44f)...
Locking [dev-packages] dependencies...
Locking [packages] dependencies...
Building requirements...
Resolving dependencies...
✓ Success!
Updated Pipfile.lock (eed44f)!
Installing dependencies from Pipfile.lock (eed44f)...
### 0/0 -
(jn_production) pi@raspberrypi:~/jproduction $ pipenv install scikit-learn
```