

```
Last login: Sun Mar  7 15:13:44 on ttys000
uttam@Uttams-MacBook-Pro ~ % ssh mmvc@10.224.33.116
The authenticity of host '10.224.33.116 (10.224.33.116)' can't be established.
ECDSA key fingerprint is SHA256:qGM2Aee6ChXA8ZsW2xS50s3B8ajsM8//IohC1ZOM+PQ.
Are you sure you want to continue connecting (yes/no/[fingerprint])? y
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added '10.224.33.116' (ECDSA) to the list of known hosts.
mmvc@10.224.33.116's password:
Welcome to Ubuntu 18.04.5 LTS (GNU/Linux 5.4.0-60-generic x86_64)
```

```
* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:       https://ubuntu.com/advantage

* Canonical Livepatch is available for installation.
  - Reduce system reboots and improve kernel security. Activate at:
    https://ubuntu.com/livepatch
```

```
72 packages can be updated.
28 of these updates are security updates.
To see these additional updates run: apt list --upgradable
```

```
New release '20.04.2 LTS' available.
Run 'do-release-upgrade' to upgrade to it.
```

```
Your Hardware Enablement Stack (HWE) is supported until April 2023.
*** System restart required ***
```

```
Last login: Sun Mar  7 14:00:27 2021 from 10.224.125.214
```

```
mmvc@a1-m1-lt-116:~$ ls
Desktop  Music  Templates  sydata  mmvc-ad-teachnas
Documents Pictures Uttam_decision_tree  cvdata
Downloads Public Videos  examples.desktop
mmvc@a1-m1-lt-116:~$ cd Uttam_decision_tree
mmvc@a1-m1-lt-116:~/Uttam_decision_tree$ ls
decision_tree_ukm202.ipynb  decision_tree_ukm202.py  iris.csv  spambase.csv
mmvc@a1-m1-lt-116:~/Uttam_decision_tree$ python decision_tree_ukm202.py
```

Command 'python' not found, but can be installed with:

```
apt install python3
apt install python
apt install python-minimal
```

Ask your administrator to install one of them.

You also have python3 installed, you can run 'python3' instead.

```
mmvc@a1-m1-lt-116:~/Uttam_decision_tree$ apt install python3
E: Could not open lock file /var/lib/dpkg/lock-frontent - open (13: Permission denied)
E: Unable to acquire the dpkg frontend lock (/var/lib/dpkg/lock-frontent), are you root?
mmvc@a1-m1-lt-116:~/Uttam_decision_tree$ python3 --version
Python 3.6.9
mmvc@a1-m1-lt-116:~/Uttam_decision_tree$ python3 decision_tree_ukm202.py
Traceback (most recent call last):
  File "decision_tree_ukm202.py", line 15, in <module>
    import numpy as np
ModuleNotFoundError: No module named 'numpy'
mmvc@a1-m1-lt-116:~/Uttam_decision_tree$ pip install numpy
```

Command 'pip' not found, but can be installed with:

```
apt install python-pip
Please ask your administrator.
```

```
mmvc@a1-m1-lt-116:~/Uttam_decision_tree$ apt install python-pip
E: Could not open lock file /var/lib/dpkg/lock-frontent - open (13: Permission denied)
E: Unable to acquire the dpkg frontend lock (/var/lib/dpkg/lock-frontent), are you root?
mmvc@a1-m1-lt-116:~/Uttam_decision_tree$ pip3 install numpy
Collecting numpy
  Downloading https://files.pythonhosted.org/packages/45/b2/6c7545bb7a38754d63048c7696804a0d947328125d81bf12beaa692c3ae3/numpy-1.19.5-cp36-cp36m-manylinux1_x86_64.whl (13.4MB)
    100% |#####| 13.4MB 186kB/s
Installing collected packages: numpy
Successfully installed numpy-1.19.5
mmvc@a1-m1-lt-116:~/Uttam_decision_tree$ python3 decision_tree_ukm202.py
Please press 1 for 'iris.csv' and 2 for 'spambase.csv': 1
```

```
Traceback (most recent call last):
  File "decision_tree_ukm202.py", line 657, in <module>
    num_arr = load_csv(newfile)
  File "decision_tree_ukm202.py", line 43, in load_csv
    X = np.genfromtxt(file, delimiter=",", dtype=str)
  File "/home/mmvc/.local/lib/python3.6/site-packages/numpy/lib/npio.py", line 1749, in genfromtxt
    fid = np.lib._datasource.open(fname, 'rt', encoding=encoding)
  File "/home/mmvc/.local/lib/python3.6/site-packages/numpy/lib/_datasource.py", line 195, in open
    return ds.open(path, mode, encoding=encoding, newline=newline)
  File "/home/mmvc/.local/lib/python3.6/site-packages/numpy/lib/_datasource.py", line 533, in open
    encoding=encoding, newline=newline)
FileNotFoundError: [Errno 2] No such file or directory: '/iris.csv'
mmvc@a1-m1-lt-116:~/Uttam_decision_tree$ nano decision_tree_ukm202.py
mmvc@a1-m1-lt-116:~/Uttam_decision_tree$ python3 decision_tree_ukm202.py
```

Please press 1 for 'iris.csv' and 2 for 'spambase.csv': 1

150

Accuracy is 0.8666666666666667  
Accuracy is 0.9333333333333333  
Accuracy is 1.0  
Accuracy is 0.9333333333333333  
Accuracy is 0.9333333333333333  
Accuracy is 1.0  
Accuracy is 1.0  
Accuracy is 1.0  
Accuracy is 0.9333333333333333  
Accuracy is 0.8666666666666667  
Accuracy across 10-cross validation for 0.05 is 0.9466666666666667  
Standard deviation across 10-cross validation for 0.05 is 0.05258737584977435

150

Accuracy is 1.0  
Accuracy is 0.9333333333333333  
Accuracy is 0.9333333333333333  
Accuracy is 1.0  
Accuracy is 1.0  
Accuracy is 1.0  
Accuracy is 0.9333333333333333  
Accuracy is 1.0  
Accuracy is 0.8666666666666667  
Accuracy is 0.8666666666666667  
Accuracy across 10-cross validation for 0.1 is 0.9533333333333335  
Standard deviation across 10-cross validation for 0.1 is 0.05488484015657096

150

Accuracy is 0.9333333333333333  
Accuracy is 0.8  
Accuracy is 1.0  
Accuracy is 1.0  
Accuracy is 1.0  
Accuracy is 1.0  
Accuracy is 1.0  
Accuracy is 0.8666666666666667  
Accuracy is 0.9333333333333333  
Accuracy is 0.9333333333333333  
Accuracy across 10-cross validation for 0.15 is 0.9466666666666667  
Standard deviation across 10-cross validation for 0.15 is 0.06885303726590962

150

Accuracy is 1.0  
Accuracy is 0.9333333333333333  
Accuracy is 0.8666666666666667  
Accuracy is 0.9333333333333333  
Accuracy is 0.9333333333333333  
Accuracy is 0.9333333333333333  
Accuracy is 0.9333333333333333  
Accuracy is 0.9333333333333333  
Accuracy is 0.9333333333333333  
Accuracy is 1.0  
Accuracy is 0.8666666666666667  
Accuracy across 10-cross validation for 0.2 is 0.9333333333333336  
Standard deviation across 10-cross validation for 0.2 is 0.04444444444444443

150

Accuracy is 0.9333333333333333  
Accuracy is 1.0  
Accuracy is 0.8666666666666667  
Accuracy is 0.8666666666666667  
Accuracy is 0.9333333333333333  
Accuracy is 0.8  
Accuracy is 1.0  
Accuracy is 1.0  
Accuracy is 1.0  
Accuracy is 1.0  
Accuracy across 10-cross validation for 0.25 is 0.9399999999999998  
Standard deviation across 10-cross validation for 0.25 is 0.07336699564097411

mmvc@a1-ml-1t-116:~/Uttam\_decision\_tree\$ python3 decision\_tree\_ukm202.py  
Please press 1 for 'iris.csv' and 2 for 'spambase.csv': 2

4601

^X^Z  
[1]+ Stopped python3 decision\_tree\_ukm202.py  
mmvc@a1-ml-1t-116:~/Uttam\_decision\_tree\$ python3 decision\_tree\_ukm202.py  
Please press 1 for 'iris.csv' and 2 for 'spambase.csv': 2

2000

^Z  
[2]+ Stopped python3 decision\_tree\_ukm202.py

```
mmvc@a1-m1-lt-116:~/Uttam_decision_tree$ python3 decision_tree_ukm202.py
Please press 1 for 'iris.csv' and 2 for 'spambase.csv': 2
```

```
1800
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy across 10-cross validation for 0.05 is 1.0
Standard deviation across 10-cross validation for 0.05 is 0.0
```

```
1800
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy across 10-cross validation for 0.1 is 1.0
Standard deviation across 10-cross validation for 0.1 is 0.0
```

```
1800
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy across 10-cross validation for 0.15 is 1.0
Standard deviation across 10-cross validation for 0.15 is 0.0
```

```
1800
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy across 10-cross validation for 0.2 is 1.0
Standard deviation across 10-cross validation for 0.2 is 0.0
```

```
1800
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy is 1.0
Accuracy across 10-cross validation for 0.25 is 1.0
Standard deviation across 10-cross validation for 0.25 is 0.0
```

```
mmvc@a1-m1-lt-116:~/Uttam_decision_tree$
```