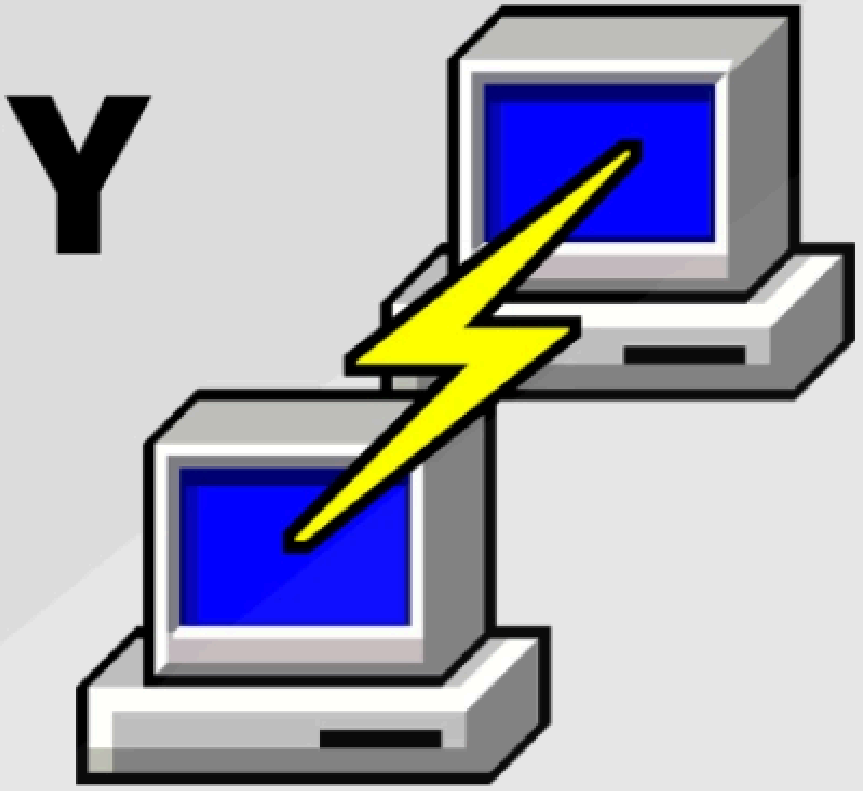
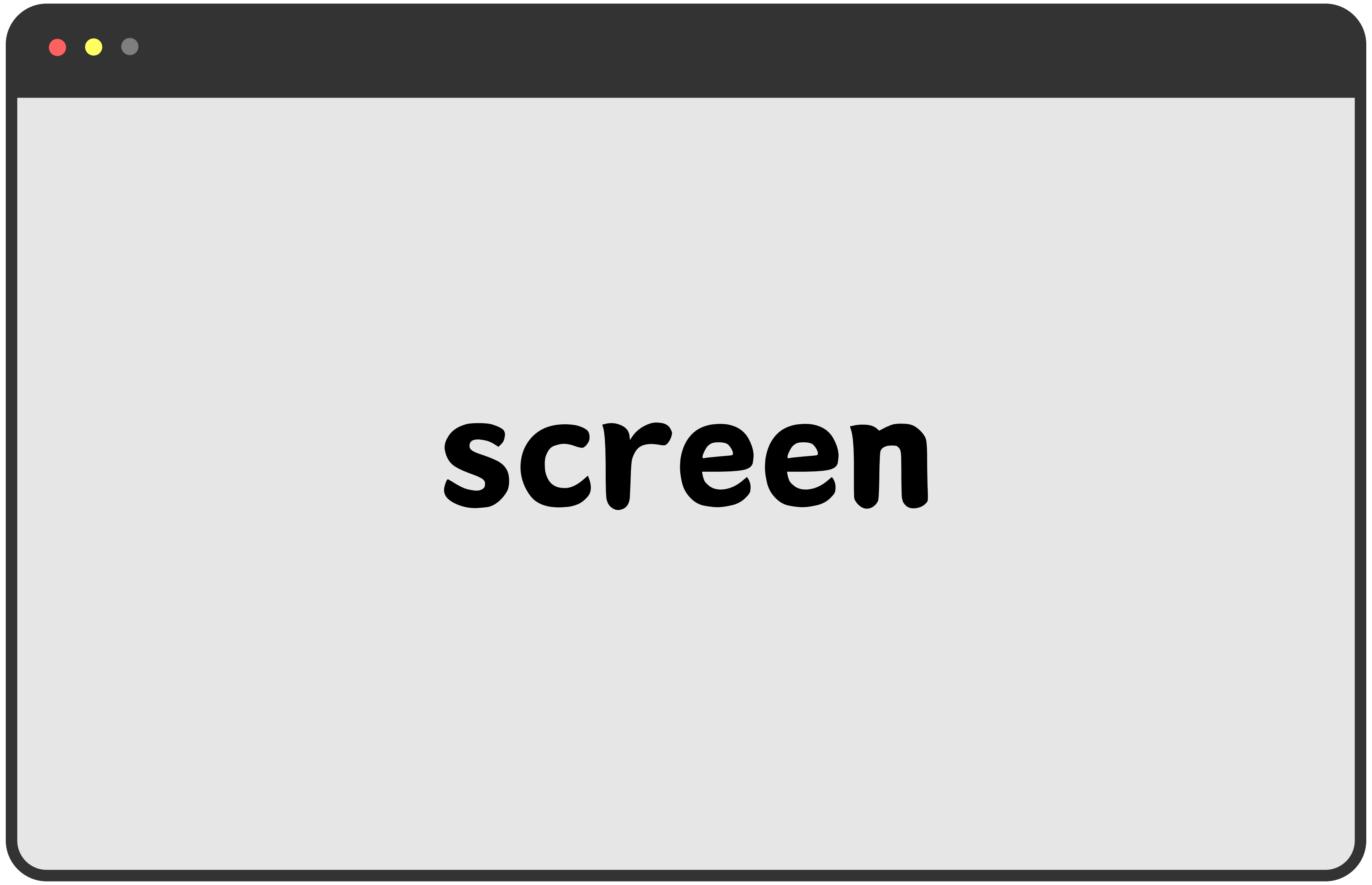
부산대학교
PUSAN NATIONAL UNIVERSITY

On-device AI특강

PuTTY



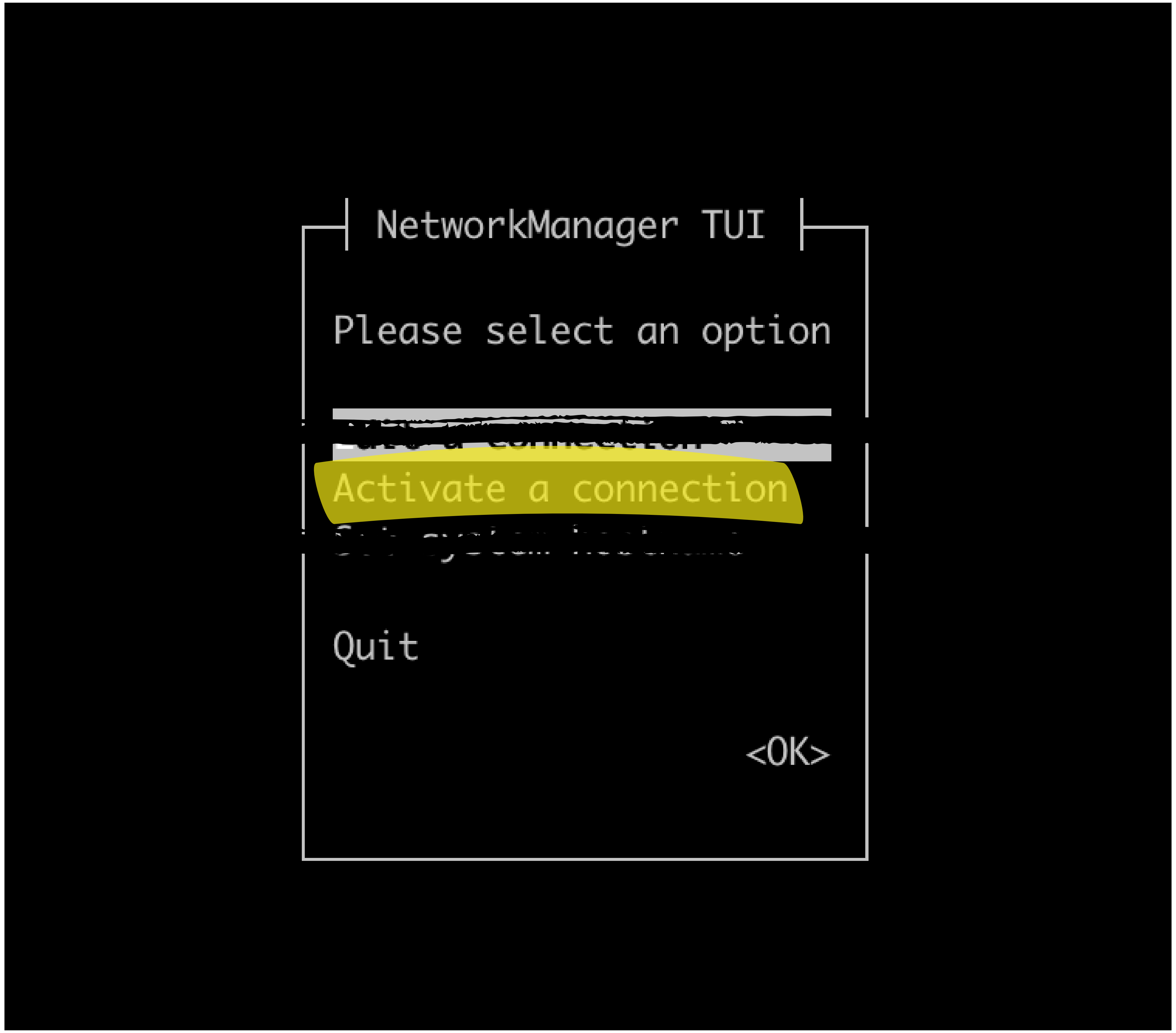
-screen(test)



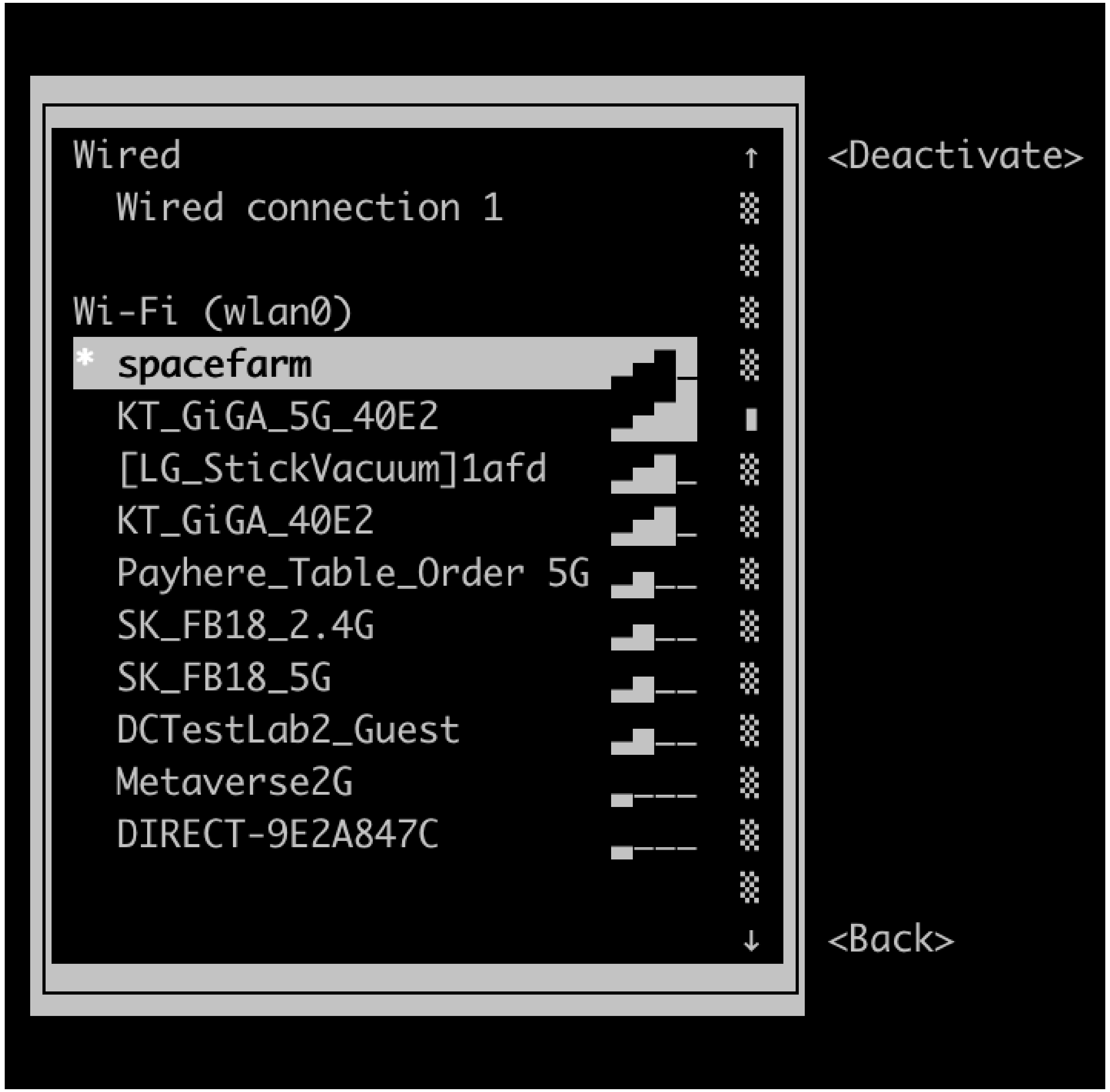
-screen(test)

-screen(hdmi)

nmtui(wifi) 연결

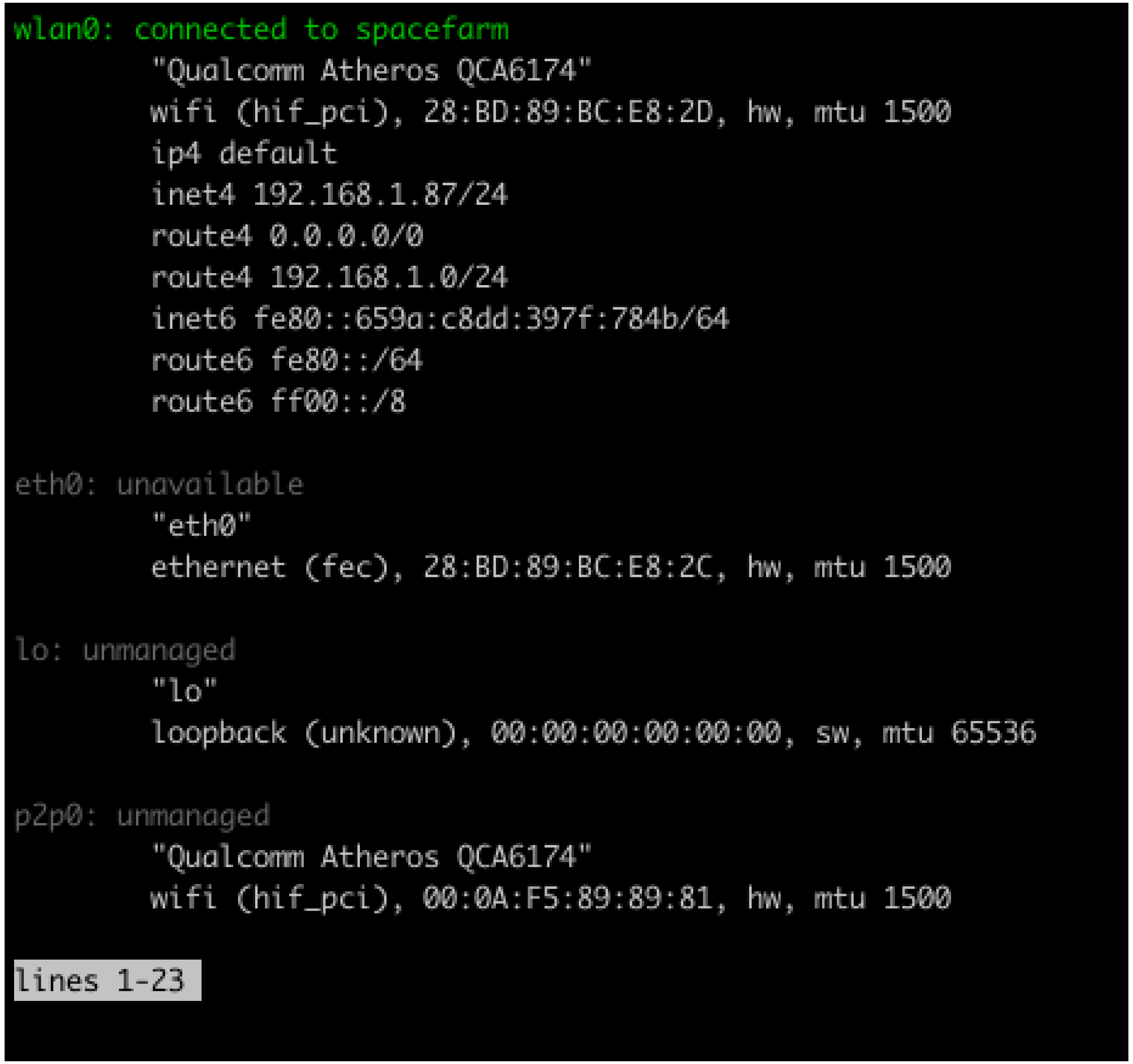

NetworkManager TUI
Please select an option
Edit a connection
Activate a connection
Set system hostname
Quit
<OK>

-nmtui(wifi)



```
Wired
  Wired connection 1

Wi-Fi (wlan0)
* spacefarm
  KT_GiGA_5G_40E2
  [LG_StickVacuum]1afd
  KT_GiGA_40E2
  Payhere_Table_Order 5G
  SK_FB18_2.4G
  SK_FB18_5G
  DCTestLab2_Guest
  Metaverse2G
  DIRECT-9E2A847C
```

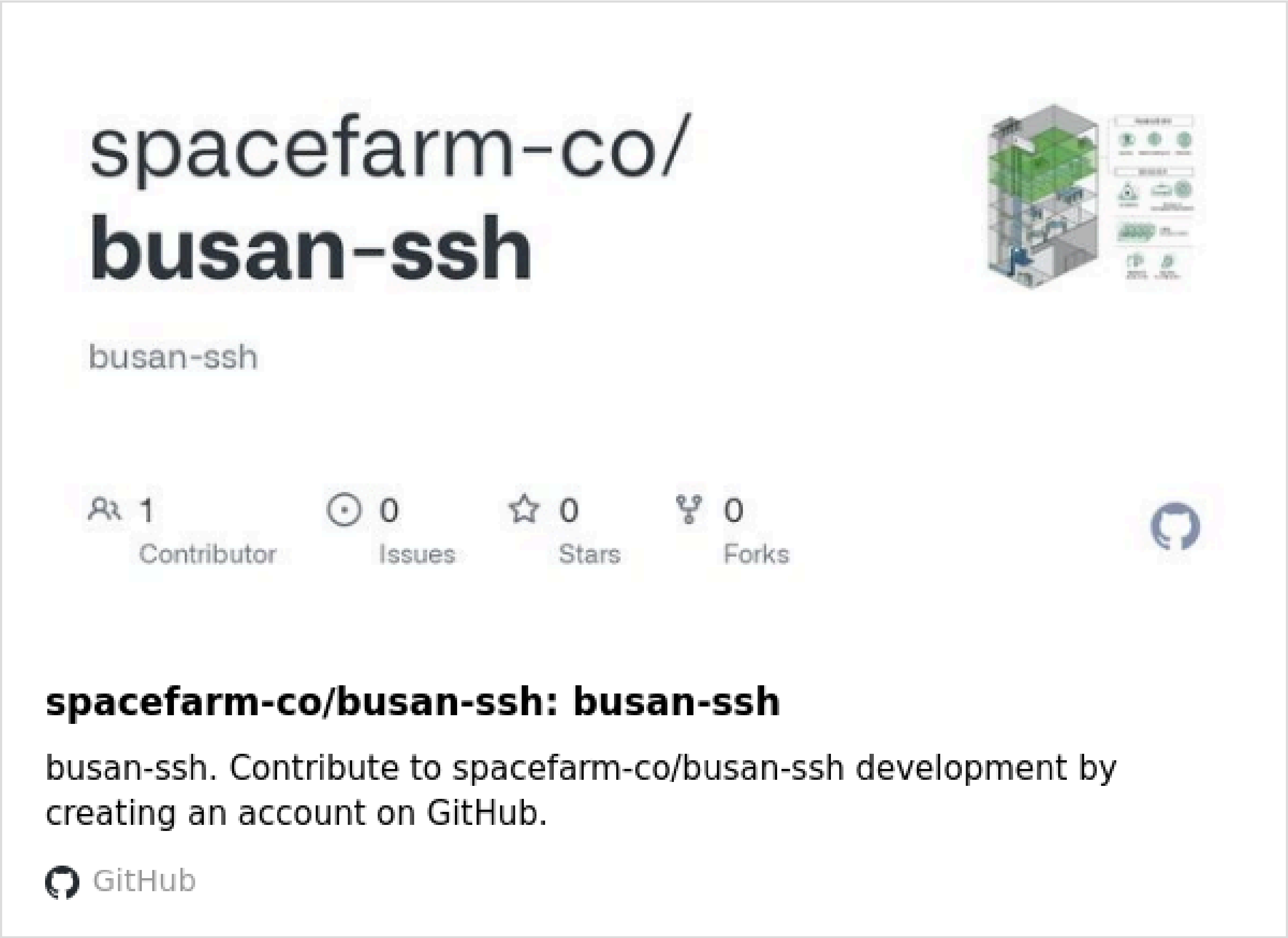
-nmtui(wifi)



```
wlan0: connected to spacefarm
        "Qualcomm Atheros QCA6174"
        wifi (hif_pci), 28:BD:89:BC:E8:2D, hw, mtu 1500
        ip4 default
        inet4 192.168.1.87/24
        route4 0.0.0.0/0
        route4 192.168.1.0/24
        inet6 fe80::659a:c8dd:397f:784b/64
        route6 fe80::/64
        route6 ff00::/8

eth0: unavailable
        "eth0"
        ethernet (fec), 28:BD:89:BC:E8:2C, hw, mtu 1500

lo: unmanaged
        "lo"
        loopback (unknown), 00:00:00:00:00:00, sw, mtu 65536

p2p0: unmanaged
        "Qualcomm Atheros QCA6174"
        wifi (hif_pci), 00:0A:F5:89:89:81, hw, mtu 1500

lines 1-23
```

-nmtui(wifi)

.ssh 폴더 생성



spacefarm-co/
busan-ssh

busan-ssh

1 Contributor

0 Issues

0 Stars

0 Forks

spacefarm-co/busan-ssh: busan-ssh

busan-ssh. Contribute to spacefarm-co/busan-ssh development by creating an account on GitHub.

GitHub

"https://github.com/spacefarm-co/busan-ssh.git"

```
mv ./busan-ssh
```

로컬에서도 git clone => .ssh id_rsa*

```
chmod 600 id_rsa
```

ssh mendel@192.168.1.x 접속

□-ssh

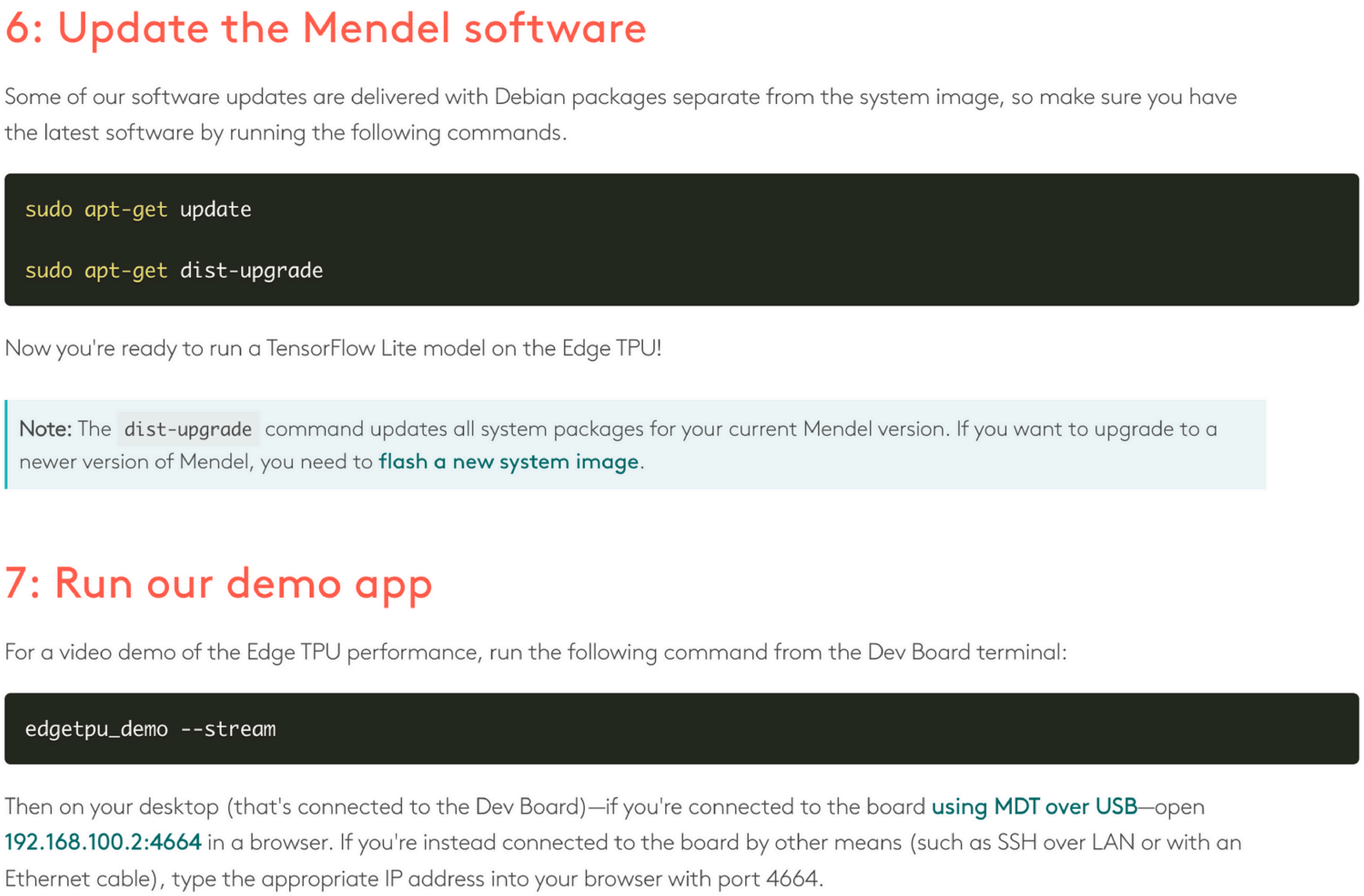
ssh mendel@ID 접속

▯-ssh

ASUS Tinker Board Test

1.highway

2.parrot



6: Update the Mendel software

Some of our software updates are delivered with Debian packages separate from the system image, so make sure you have the latest software by running the following commands.

```
sudo apt-get update

sudo apt-get dist-upgrade
```

Now you're ready to run a TensorFlow Lite model on the Edge TPU!

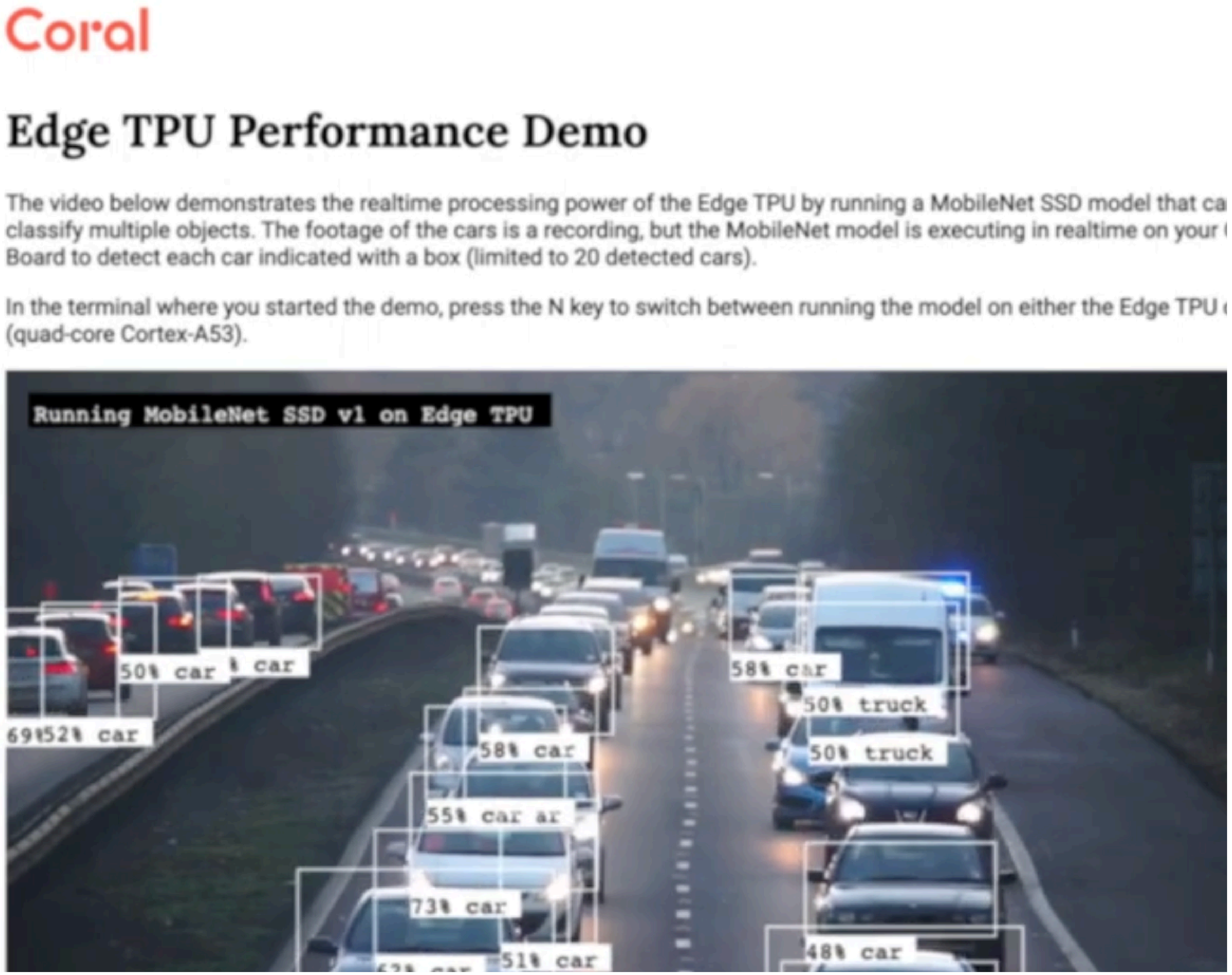
> Note: The `dist-upgrade` command updates all system packages for your current Mendel version. If you want to upgrade to a newer version of Mendel, you need to **flash a new system image**.

7: Run our demo app

For a video demo of the Edge TPU performance, run the following command from the Dev Board terminal:

```
edgetpu_demo --stream
```

Then on your desktop (that's connected to the Dev Board)—if you're connected to the board using MDT over USB—open 192.168.100.2:4664 in a browser. If you're instead connected to the board by other means (such as SSH over LAN or with an Ethernet cable), type the appropriate IP address into your browser with port 4664.



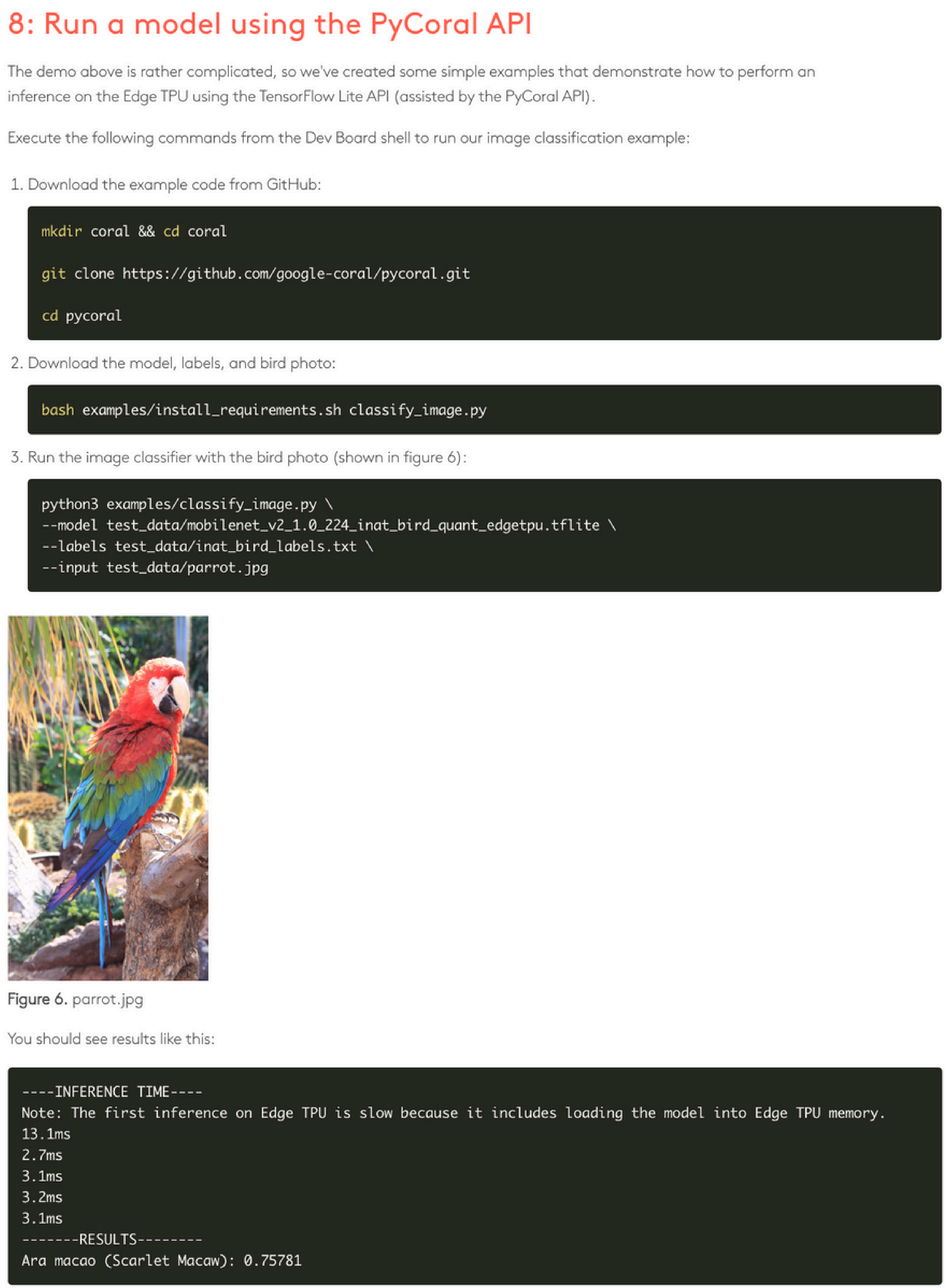
Coral

Edge TPU Performance Demo

The video below demonstrates the realtime processing power of the Edge TPU by running a MobileNet SSD model that ca
classify multiple objects. The footage of the cars is a recording, but the MobileNet model is executing in realtime on your
Board to detect each car indicated with a box (limited to 20 detected cars).

In the terminal where you started the demo, press the N key to switch between running the model on either the Edge TPU
(quad-core Cortex-A53).

–highway



8: Run a model using the PyCoral API

The demo above is rather complicated, so we've created some simple examples that demonstrate how to perform an inference on the Edge TPU using the TensorFlow Lite API (assisted by the PyCoral API).

Execute the following commands from the Dev Board shell to run our image classification example:

1. Download the example code from GitHub:

```
mkdir coral && cd coral

git clone https://github.com/google-coral/pycoral.git

cd pycoral
```

2. Download the model, labels, and bird photo:

```
bash examples/install_requirements.sh classify_image.py
```

3. Run the image classifier with the bird photo (shown in figure 6):

```
python3 examples/classify_image.py \
--model test_data/mobilenet_v2_1.0_224_inat_bird_quant_edgetpu.tflite \
--labels test_data/inat_bird_labels.txt \
--input test_data/parrot.jpg
```

Figure 6. parrot.jpg

You should see results like this:

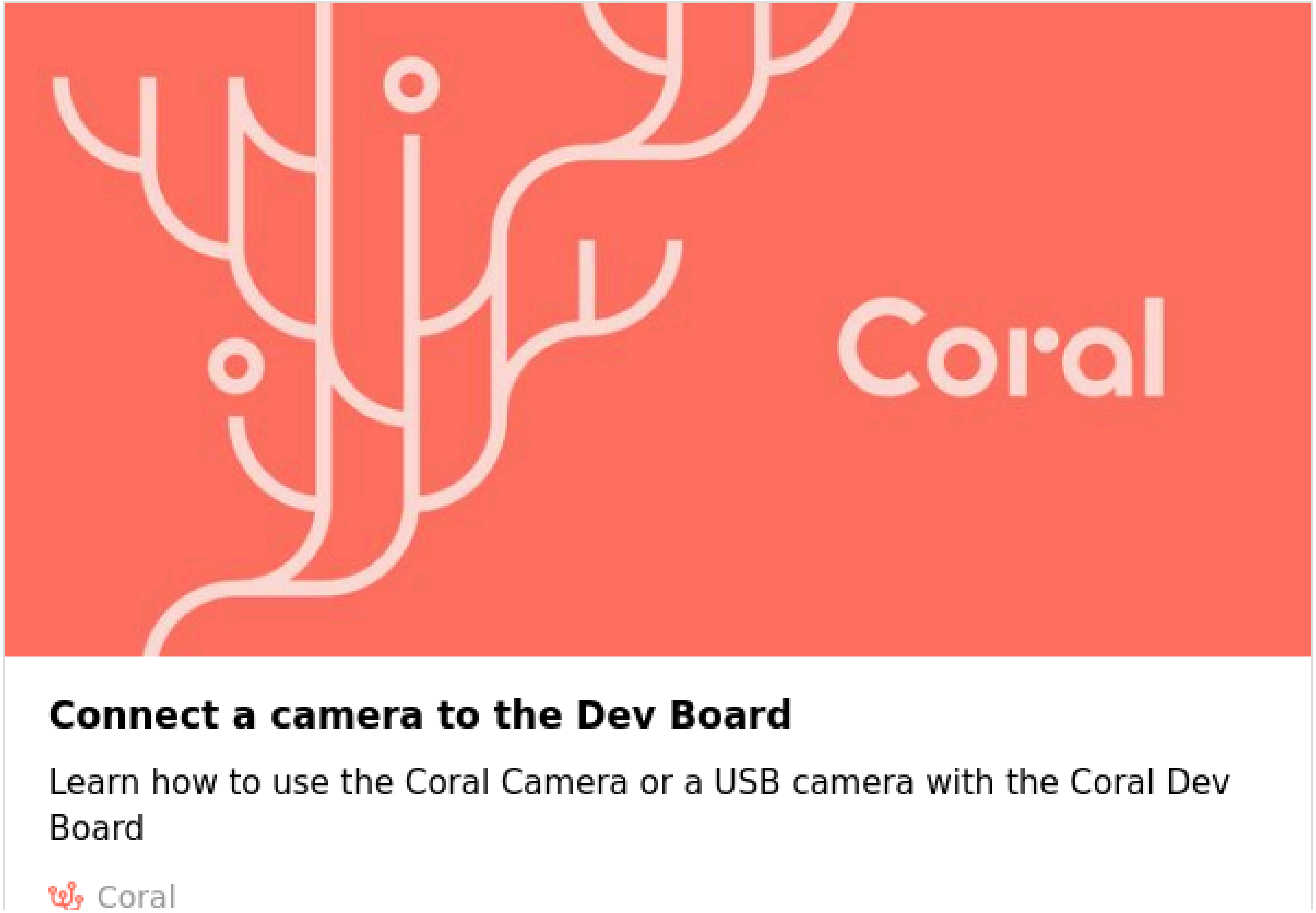
```
----INFERENCE TIME----
Note: The first inference on Edge TPU is slow because it includes loading the model into Edge TPU memory.
13.1ms
2.7ms
3.1ms
3.2ms
3.1ms
-------RESULTS--------
Ara macao (Scarlet Macaw): 0.75781
```

-parrot

On-device Camera connect

1.sanpshot

2.imgcat

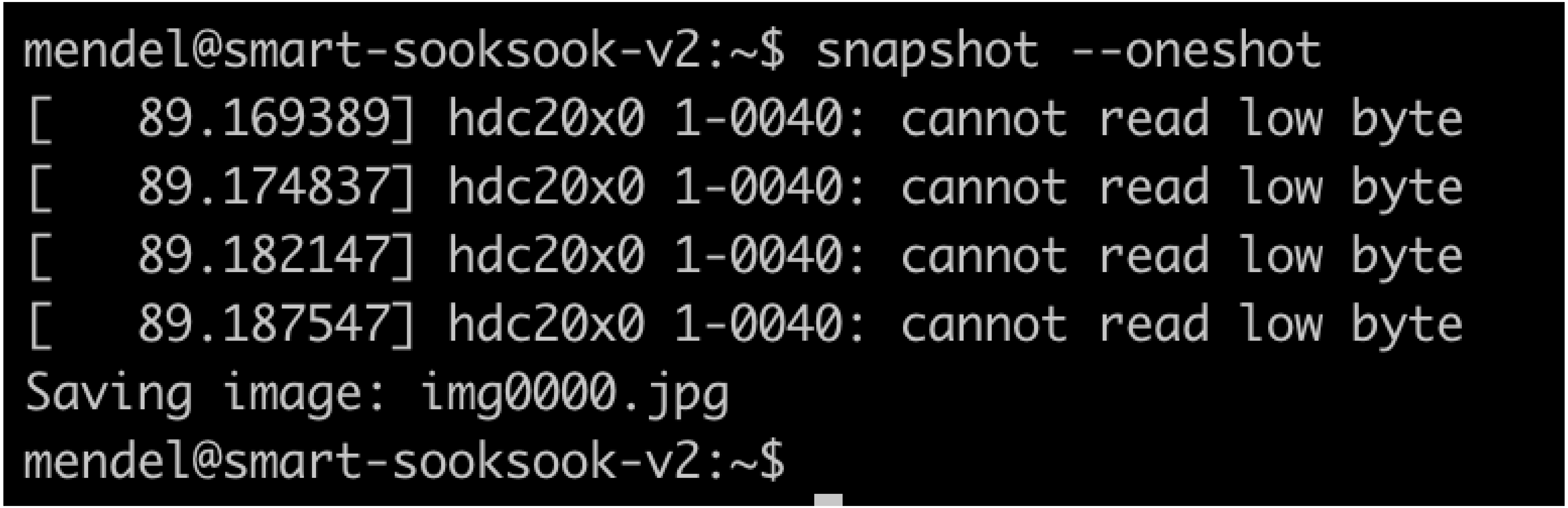


Connect a camera to the Dev Board

Learn how to use the Coral Camera or a USB camera with the Coral Dev Board

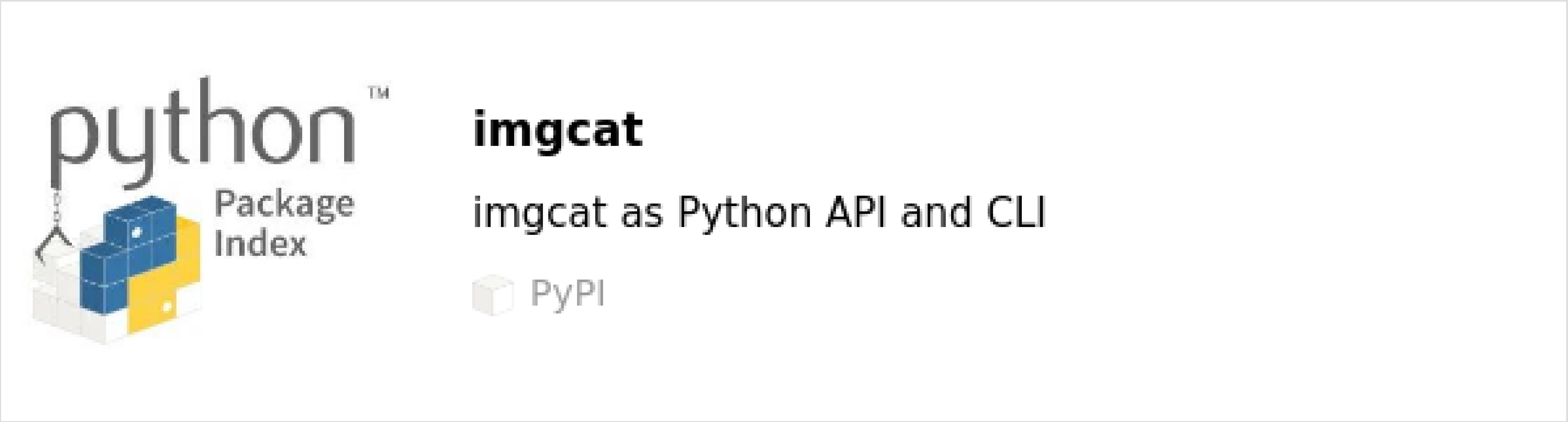
Coral

-snapshot



```
mendel@smart-sooksook-v2:~$ snapshot --oneshot
[   89.169389] hdc20x0 1-0040: cannot read low byte
[   89.174837] hdc20x0 1-0040: cannot read low byte
[   89.182147] hdc20x0 1-0040: cannot read low byte
[   89.187547] hdc20x0 1-0040: cannot read low byte
Saving image: img0000.jpg
mendel@smart-sooksook-v2:~$
```

-snapshot



imgcat

imgcat as Python API and CLI

PyPI