# Ambient AI Bootcamp

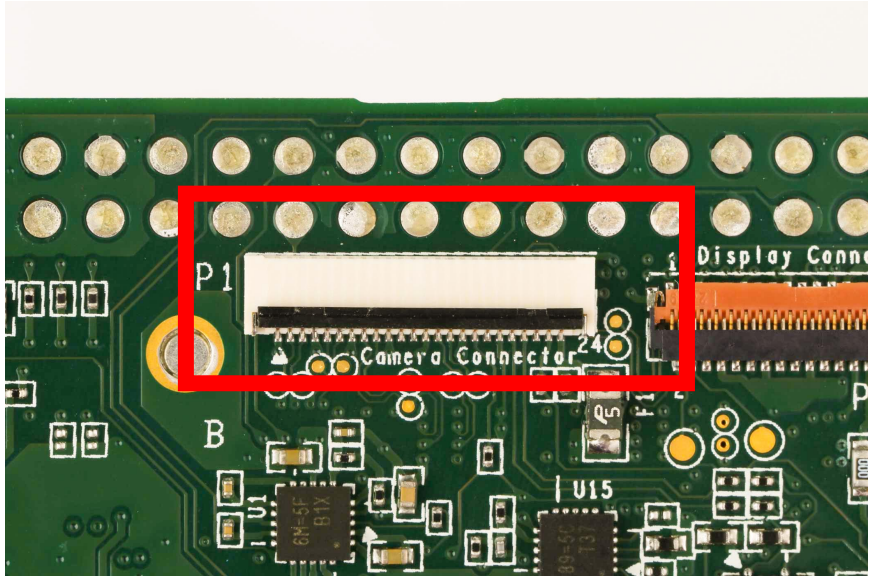
## *Practice 7*

SNU Graduate School of Data Science

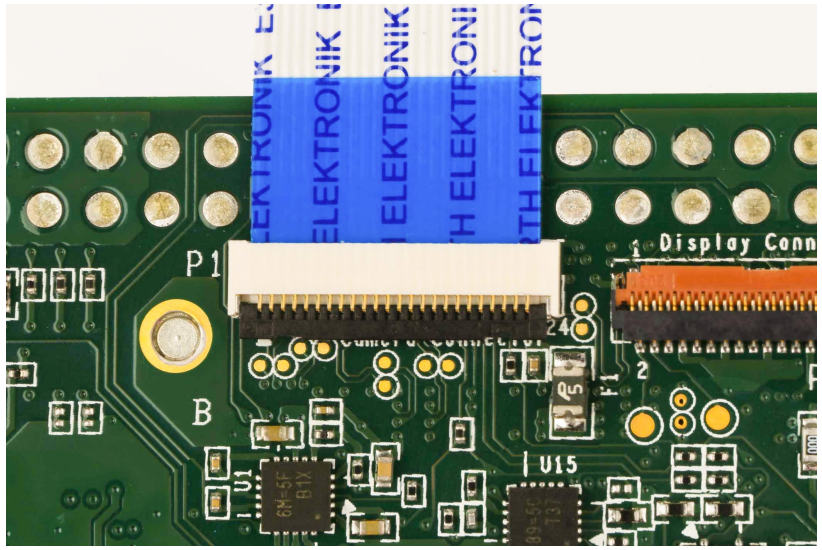
# 7. Biggest Face Detection on Coral

# Connecting a Camera

1. Make sure the board is turned off and unplugged
2. On the bottom of the Dev Board, locate the CSI “Camera Connector” and flip the black latch so that it’s facing upwards




3. Slide the camera into the connector and close the latch



# Connecting a Camera

- Power on the board and verify it detects the camera

```
mendel@tuned-tang:~$ v4l2-ctl --list-devices

i.MX6S_CSI (platform:30a90000.csi1_bridge):
/dev/video0
```

# Prerequisites

- Set the value for your default device
  - Replace coral-name with your Coral device (e.g., orange-turtle)
  - Required to push and pull files to/from your Coral device

```
(mendel) ~ % mdt set preferred-device coral-name
```

- Download the video from this link

- Upload the video into the Coral Board using the following command
  - Replace PATH_TO_VIDEO with the downloaded video's path (e.g. ~/Downloads)

```
(mendel) ~ % mdt push PATH_TO_VIDEO/video_for_coral_practice.mp4
```

# Prerequisites

- Connect to the board and run the following commands

```
mendel@tuned-tang:~$ git clone https://github.com/google-coral/examples-camera --depth 1
mendel@tuned-tang:~$ cd examples-camera/
mendel@tuned-tang:~/examples-camera$ sh download_models.sh
mendel@tuned-tang:~/examples-camera$ cd opencv
mendel@tuned-tang:~/examples-camera/opencv$ bash install_requirements.sh
```

  - Installing opencv can take up to 3-5 minutes

- We can run coco object detection
  - Note that we can only see the output when connected to a monitor with an HDMI cable

```
mendel@tuned-tang:~/examples-camera/opencv$ python3 detect.py
```

# Prerequisites

- We can also use different models using the --model argument

```
mendel@tuned-tang:~/examples-camera/opencv$ python3 detect.py --model
../all_models/mobilenet_ssd_v2_face_quant_postprocess_edgetpu.tflite
```

# Live Coding

# Thank You!