# **Hand detection**

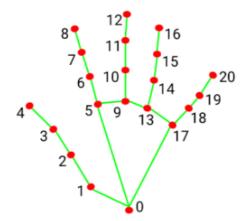
#### **Hand detection**

- 1. Hand detection
- 2. Effect preview
  - 2.1. USB camera
  - 2.2, CSI camera

MediaPipe is a cross-platform machine learning framework that can process key point detection such as hands, faces, and postures in videos and images in real time.

## 1. Hand detection

MediaPipe hand detection can identify and track 21 key points of the hand.



- 0. WRIST
- 1. THUMB\_CMC
- 2. THUMB\_MCP
- 3. THUMB\_IP
- 4. THUMB\_TIP
- 5. INDEX\_FINGER\_MCP
- 6. INDEX\_FINGER\_PIP
- 7. INDEX\_FINGER\_DIP
- 8. INDEX\_FINGER\_TIP
- 9. MIDDLE\_FINGER\_MCP
- 10. MIDDLE\_FINGER\_PIP

- 11. MIDDLE\_FINGER\_DIP
- 12. MIDDLE\_FINGER\_TIP
- RING\_FINGER\_MCP
- 14. RING\_FINGER\_PIP
- 15. RING\_FINGER\_DIP
- 16. RING\_FINGER\_TIP
- 17. PINKY\_MCP
- 18. PINKY\_PIP
- 19. PINKY\_DIP
- 20. PINKY\_TIP

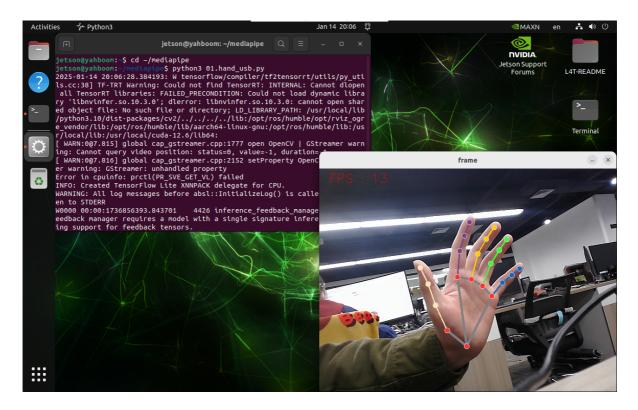
## 2. Effect preview

#### 2.1. USB camera

cd ~/mediapipe

python3 01.hand\_usb.py

Note: Select the camera screen and press q to exit the program!



### 2.2, CSI camera

cd ~/mediapipe

python3 01.hand\_csi.py

Note: Select the camera image and press q to exit the program!

