

## Installation Guide for Gesture Recognition on Raspberry Pi

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### 1. Connect Your Laptop to Raspberry Pi's Wi-Fi

- Wi-Fi Name (SSID): piwifi
- Password: piwifi1234

Once connected, you'll be able to control the Raspberry Pi from your laptop.

#### To connect via SSH:

- Use the following details:
  - Username: pi
  - Password: 1234
  - Hostname: something like raspberry00, raspberry01, etc.

#### Example command (type this in your terminal or PowerShell):

```
ssh pi@raspberrypi.local
```

- If you're on Windows, you can use a program called **PuTTY** instead.
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### 2. Set Up the Raspberry Pi for Gesture Detection

Follow these steps carefully on your Raspberry Pi terminal:

#### Step 1: Update your Pi to make sure everything is current

```
sudo apt update
```

#### Step 2: Install the camera software

```
sudo apt install -y python3-picamera2
```

#### Step 3: Create a virtual Python environment (a safe place to install your code)

```
python3 -m venv env1 --system-site-packages
```

If you've already created an environment, just open this file:

```
env1/pyvenv.cfg
```

and make sure this line is there:

```
include-system-site-packages = true
```

#### Step 4: Activate the environment so it's ready to use

```
source env1/bin/activate
```

#### Step 5: Install TensorFlow (this is the brain of the gesture recognition)

```
pip install tensorflow
```

### **Step 6: Fix a small issue by updating simplejpeg**

```
pip install -U simplejpeg
```

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Done!

If you ever turn off the Pi or restart it, remember to activate your environment again:

```
source env1/bin/activate.
```