How to Setup the Object Detection Demo

Materials:

- Tello drone, ideally with multiples batteries
- Jetson computer (Jetson Xavier NX is the current recommendation)
- Screen, keyboard and mouse
- Router

Preparing Router

In this case we are using the router ASUS model RT-AC51. You can get the manual from here.

Check your router manual and configure the **SSID** and **PASSWORD** to connect to the network. In our case all the information is in labels stuck physically on the router.

Preparing Tello

Background information: The drone can be in two possible connection modes:

• Station Mode:

The drone is the Access Point. It creates its own Wi-Fi network and provides its own SSID. The client (the Jetson computer) connects to the drone's SSID directly.

• Access Point Mode:

The drone connects to an existing Wi-Fi access point (AP, SSID) as a client. The Jetson connects to the same SSID.





Set Mode using the Tello CLI

- 1. Download and install the tello-js package. This package includes a CLI tool that allows you to configure the drone.
- 2. Reset the Tello's Wi-Fi to factory configuration. To do so **press and hold the power button for 5 seconds**, the drone will restart with default configuration (Station Mode, no password)
- 3. Connect to the drone's Wi-Fi
- 4. Open a terminal and type:

tello set-ap -i

This set the Tello drone in Access Point Mode, the argument -i start the setup in interactive mode, for more details of the CLI check the README.md file from the tello-js repo.

Setup Static IP Address for Tello Drones

When the Tello drone is configured in **Access Point Mode** (more details in the next section) the DHCP server automatically assigns an IP on the network, this makes the <u>IP of the drone unpredictable</u> when connecting to it. To solve this problem you can assign a **static IP to the drone** so that each time it connects to the network it receives the same IP, that way if you have multiple drones on the network each one can have a static IP that identifies it.

If you are using the router ASUS RT-AC51 **check the manual** in **section 4.2.2 DHCP Server** (item number 8). Note that configuring a static IP for a device on the network varies depending on the company or even the router model so check your router manual to perform this configuration.

Running the Demo

cd ~/tello-controller-jetson
python3 main.py

The source code is in github: tello-controller-jetson

From: https://wiki.eolab.de/ - HSRW EOLab Wiki

Permanent link: https://wiki.eolab.de/doku.php?id=drones:mini_drones:object_detection_demo



Last update: 2024/01/26 13:23