2.1 Commonly Used Tools

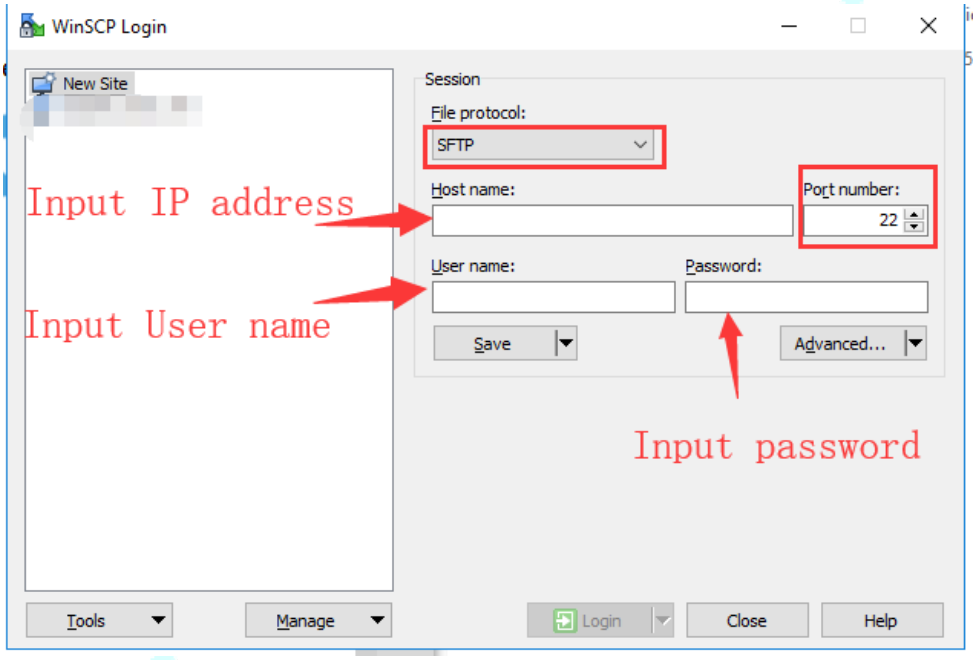
1. PC(Host) side --- WinSCP

Install WinSCP:

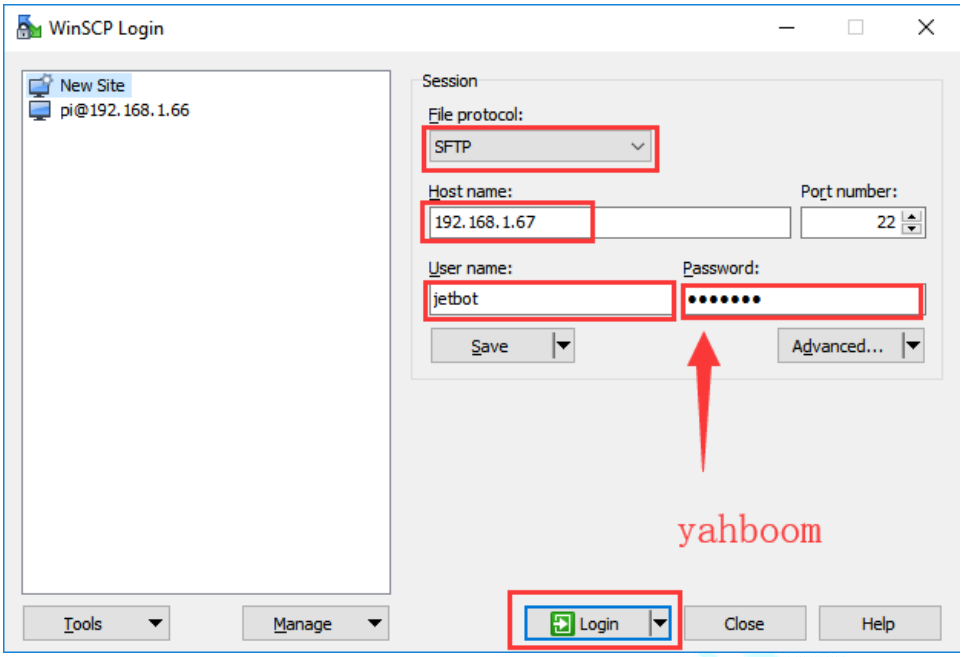
Path of package : [Jetbot-AI Car] --> [Annex] --> [Tools]---> [winscp556_setup.1416364912.exe]

WinSCP is an open-source graphical SFTP client that uses SSH in a Windows environment and supports the SCP protocol. Its main function is to securely transfer files between local and remote computers.
We need to configure the host name IP address, port number, username and password, choose to remember the password and save the connection credentials.

As long as the next time you use, the IP address of the Jetbot in the LAN does not change, we do not need to enter the IP address and password again.



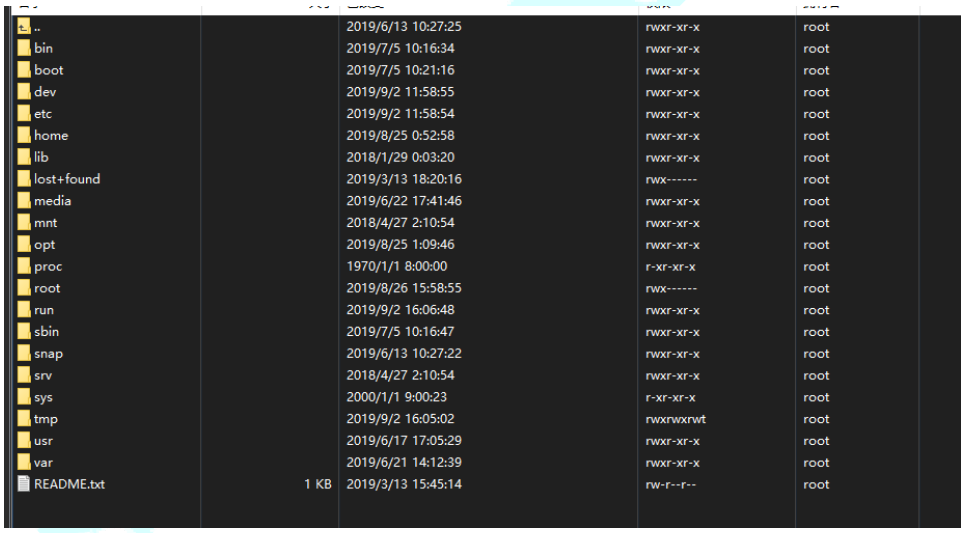
As shown below.

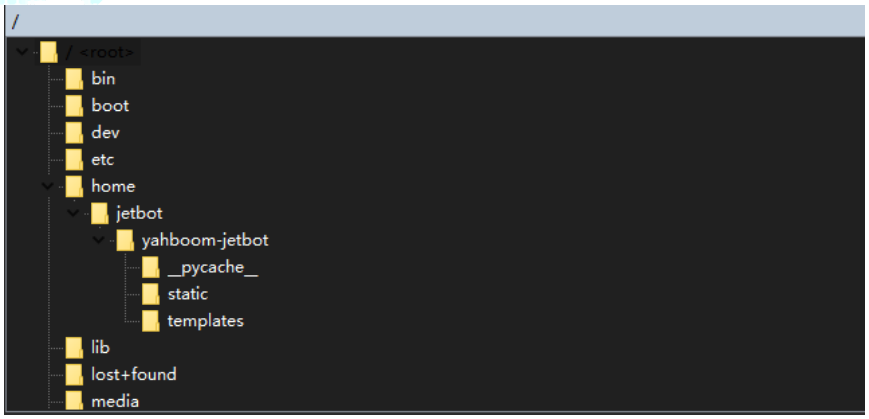


For example: my IP address is 192.168.1.67.

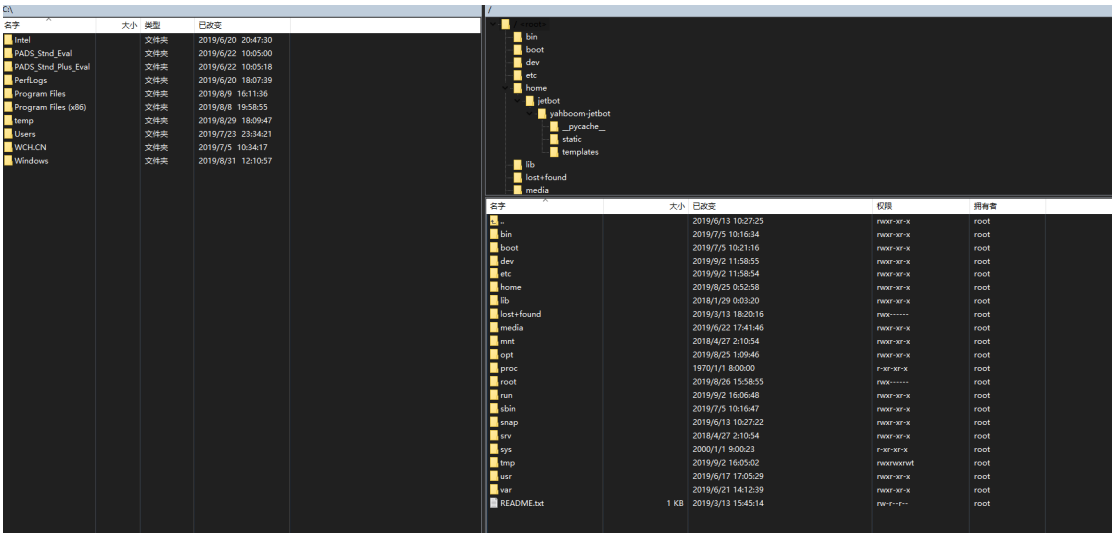
If you use image we provided, **the user name :jetbot　password: yahboom**

（The next course is to use this IP address and this image we provided.）





If you need to transfer any file between Windows and the remote Linux file system, just drag and drop to the target folder.



Note: Because WinSCP's encoding format and indentation rules may be inconsistent with your original file, resulting in an error after modification, so please do not modify the file directly here.

2. PC(Host) side --- Putty/Xshell

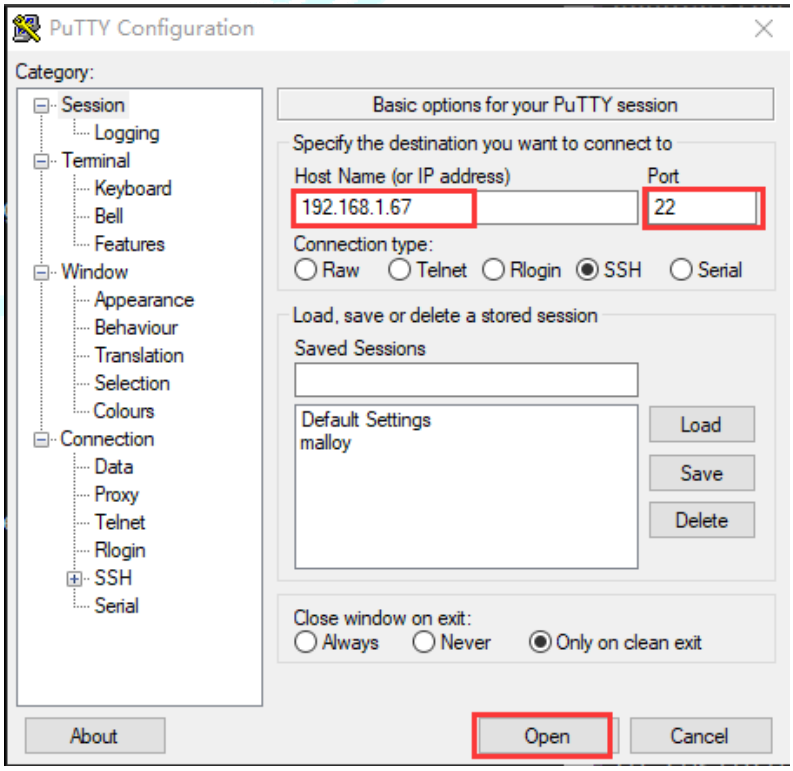
Install Putty **:**

Path of package : [Jetbot-AI Car] --> [Annex] --> [Tools]---> [PuTTY.exe]

Install Xshell **:**

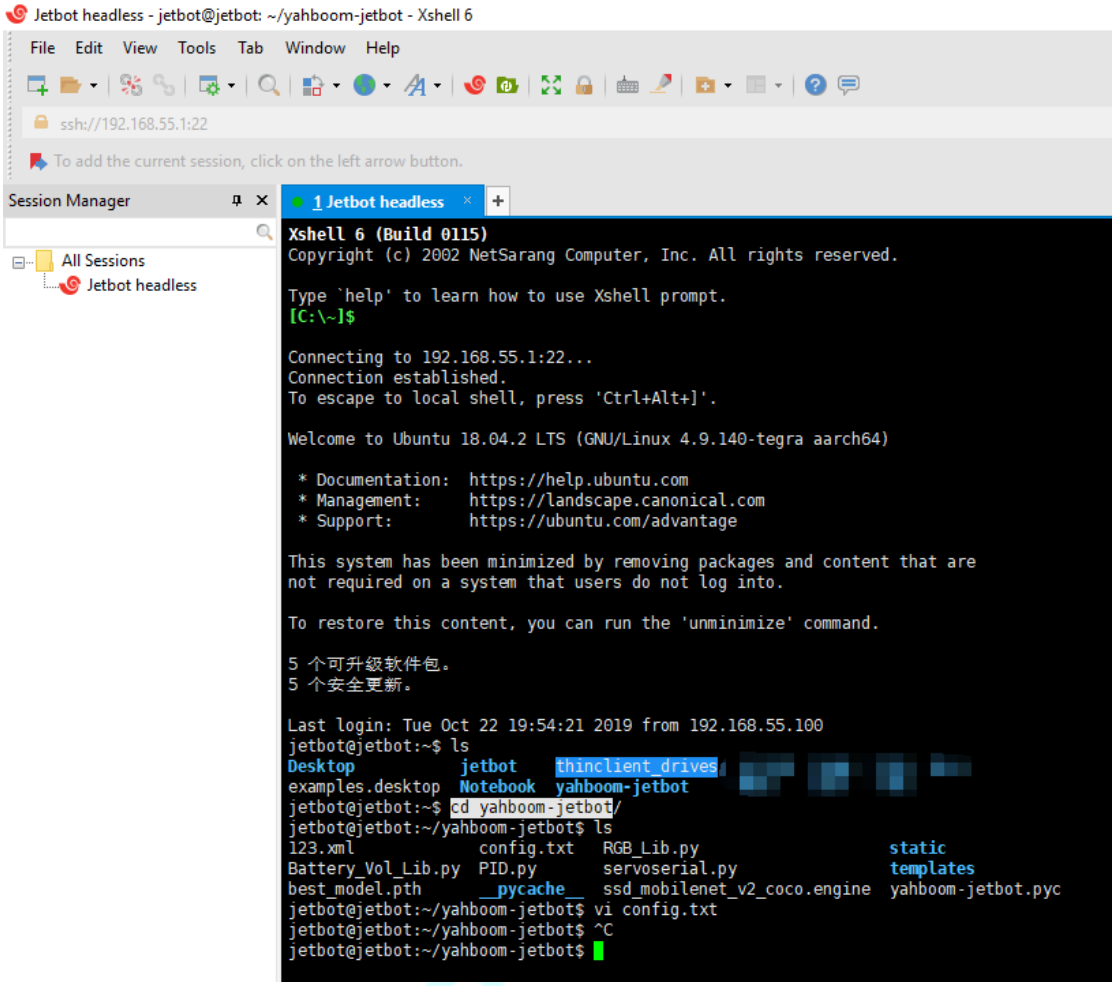
Path of package : [Jetbot-AI Car] --> [Annex] --> [Tools]---> [xshell-6]

About Putty：

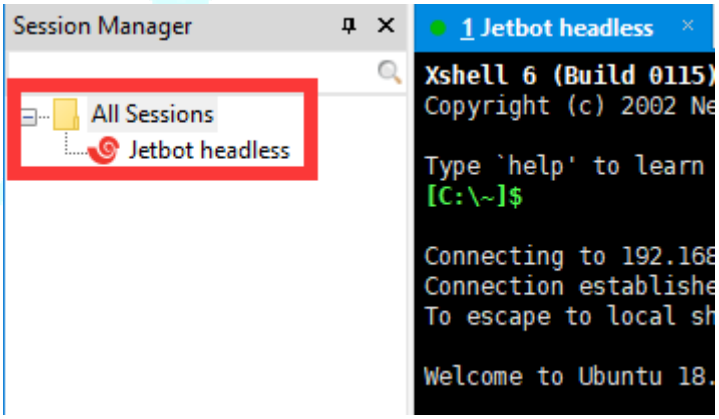


About Xshell:

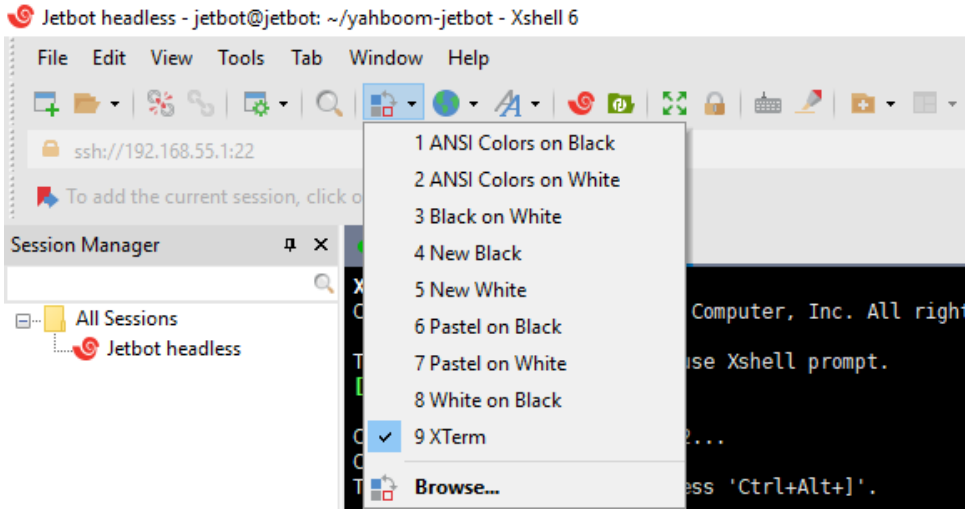
1) Multiple window operations can be performed by copying a conversation or opening a new connection while opening multiple consoles.



2) Ability to record multiple sets of login information, one-click connection.



3) Personalized color scheme.



3. Jetbot side - Jtop

Input this command to install: sudo pip3 install jetson-stats

Input this command to update: sudo -H pip install -U jetson-stats

Input this command to run: sudo jtop

Input this command to uninstall: sudo pip3 uninstall jetson-stats

About Jtop：

Jtop is a system monitoring utility that can run on the terminal to view and control the status of NVIDIA Jetson products in real time.

Control Jtop page:

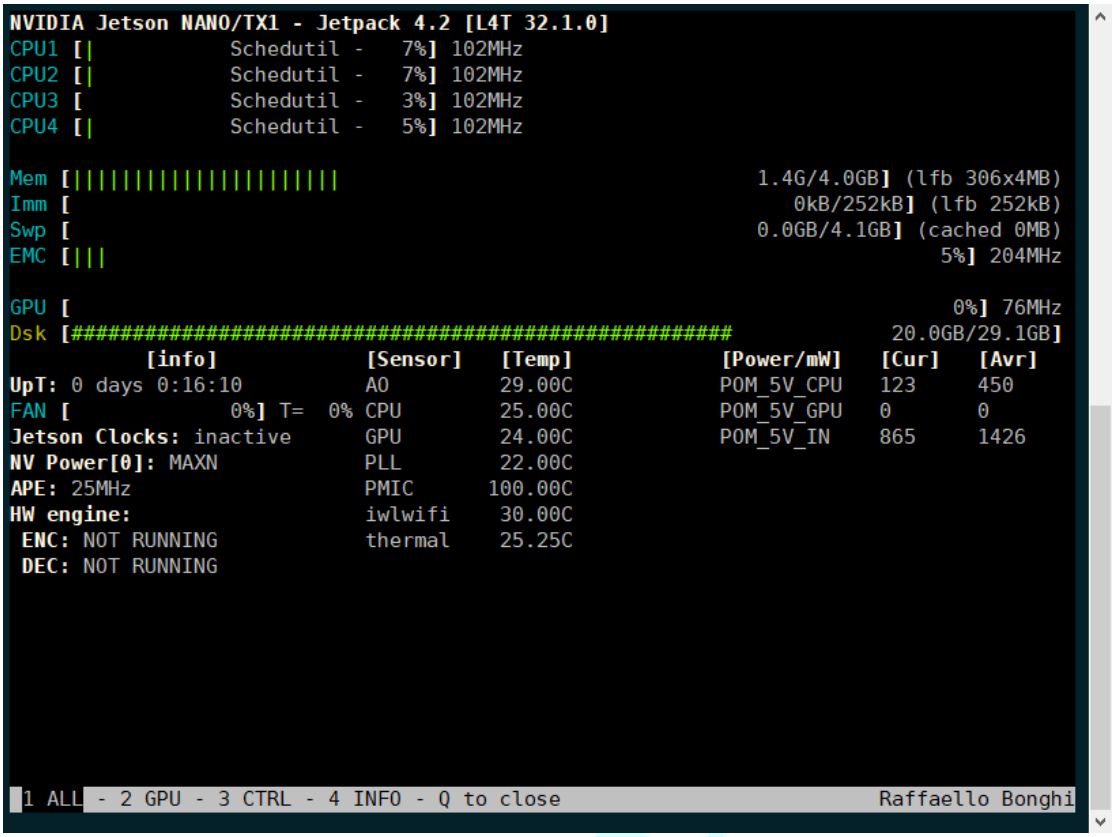
Use the left and right arrow keys on your keyboard to switch between different status display interfaces.

Jtop has four different pages to monitor your Jetbot's running status:

About four interfaces of Jtop:

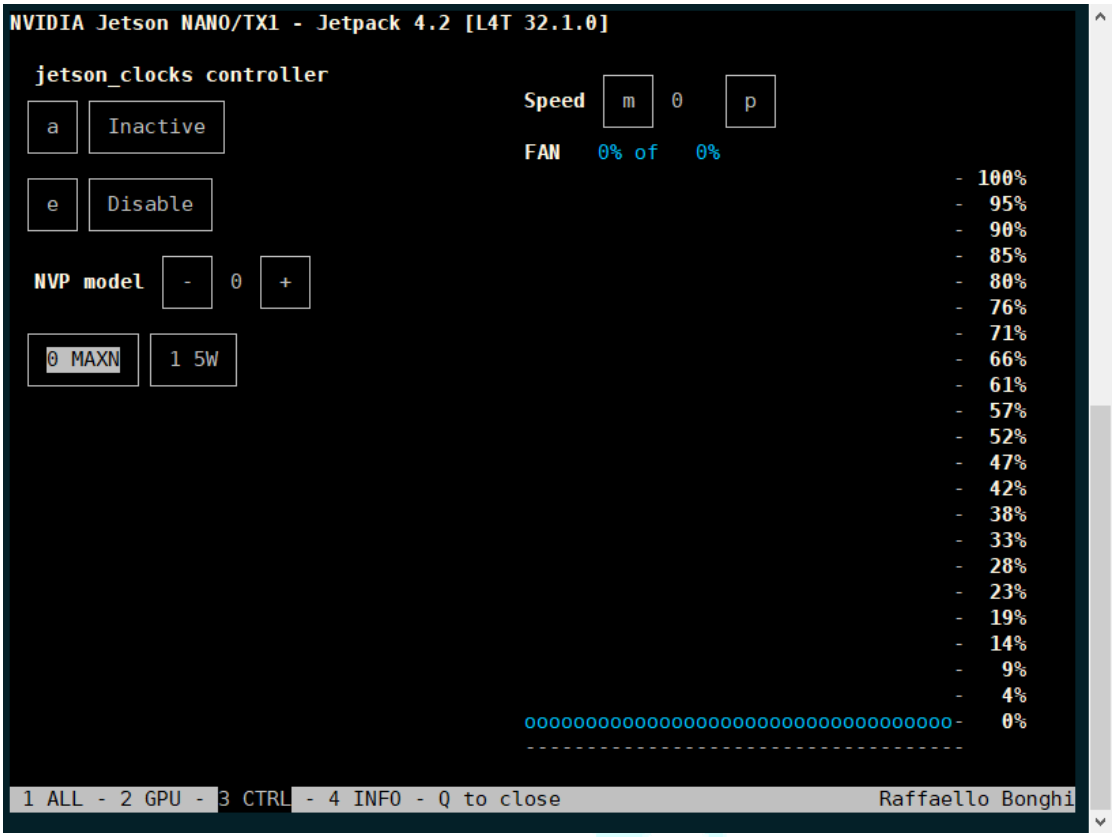
1. **ALL**: Collect all the information about development board: CPU, Memory, GPU, Disk, Fan and all the status about jetson_clocks, NVPmodel and others status.

As shown below.

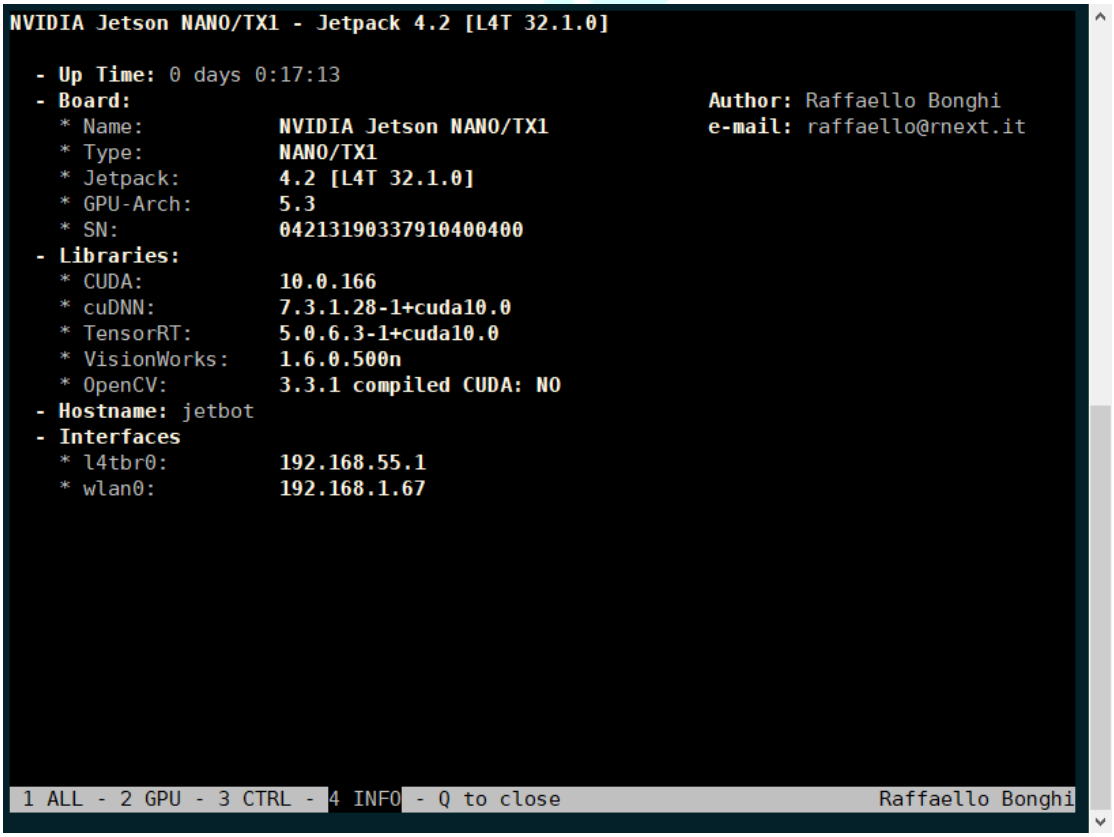


2. **GPU:** About your NVIDIA Jetson's real-time GPU history.

3. **CTRL:** Control your status



4. **INFO：** Collect all information about libraries, CUDA, serial numbers, interfaces, etc...



About Control Jetbot:

We can use following key on the keyboard to control Jebot.

a: Start/Stop jetson_clocks service（Note: jetson_clocks only starts after 60 seconds）

e: Start/Disable jetson_clocks onboard boot

+/-: Increase and decrease the NVP model

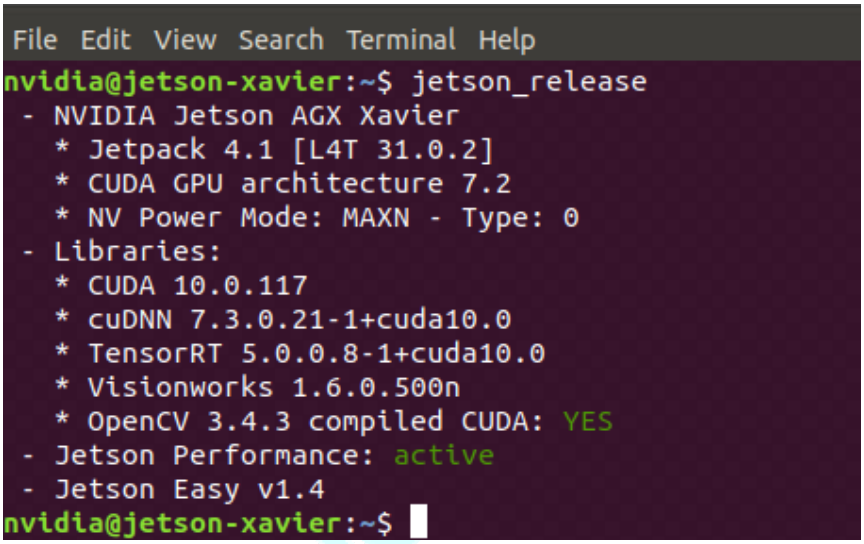
p/m: Increase and decrease speed of fan （But because Jetbot uses a non-shiftable fan, this feature is negligible）

Others function:

Jetson_release:

Display information about the current version of Jetbot's environment component version, status, etc.

As shown below:



export | grep JETSON:

This script generates a simple environment variable to understand the hardware version of Jetson and the installed Jetpack.

As shown below: