

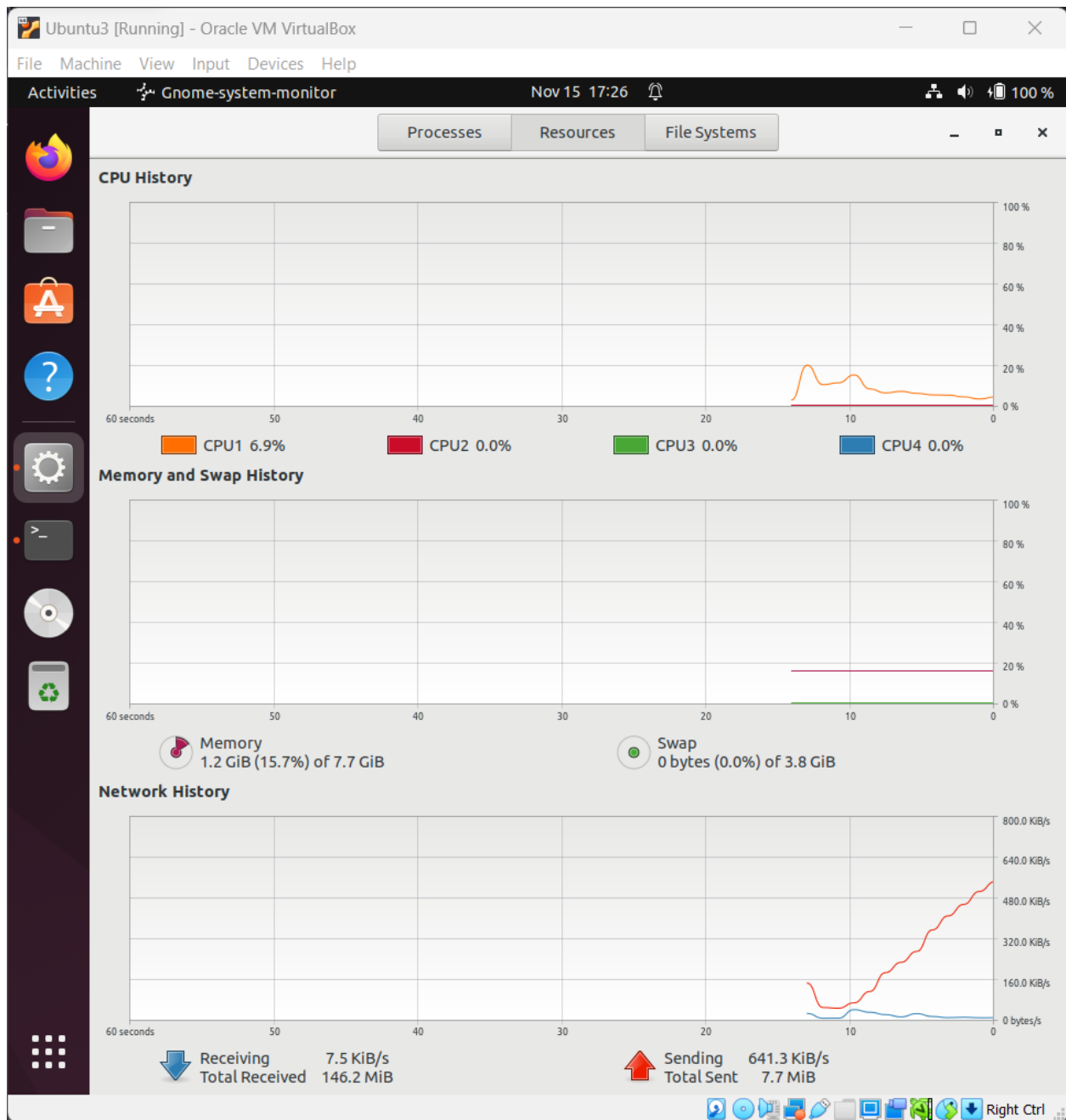


SOFE 4590U Embedded Systems

Lab #2: General Purpose I/O: Basic User Interface CRN: 44428

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First Name	Last Name	Student Number
Cyrus	Lee	100748627
Osasogie	Osuki	100748837
Philip	Jasionowski	100751888
Walid	Ayub	100695612
Yehchan	Park	100754068

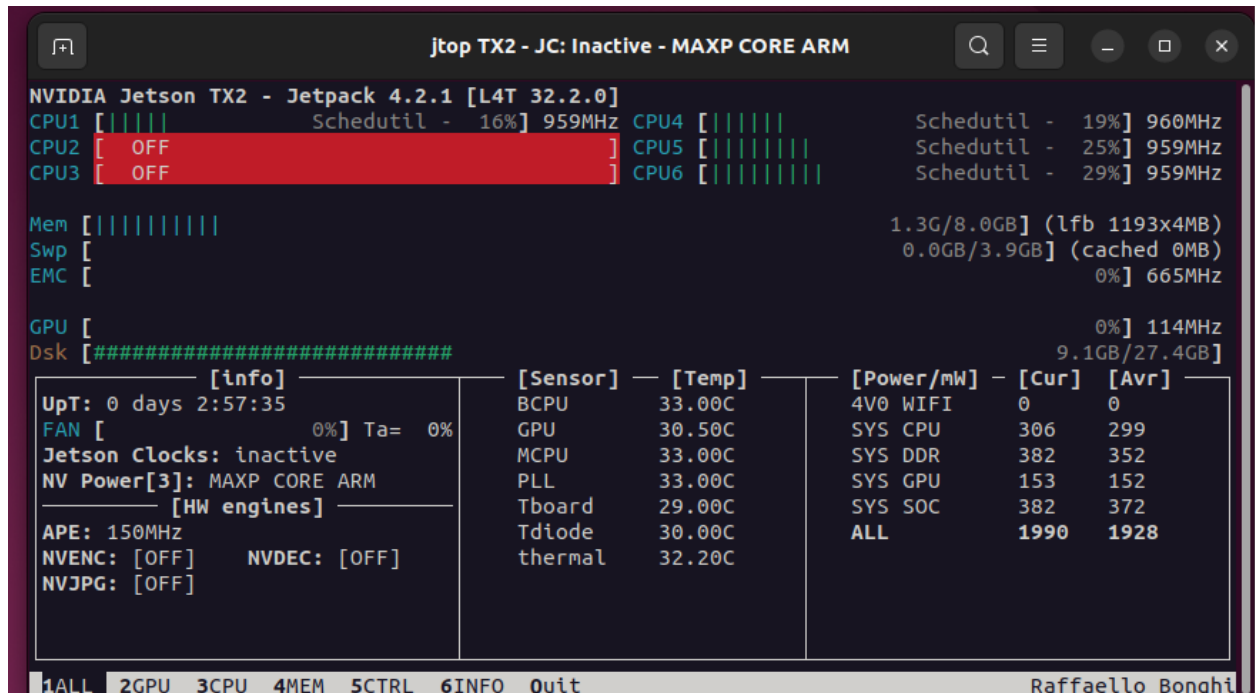


Gnome system monitor. This shows the history performance of system resources.

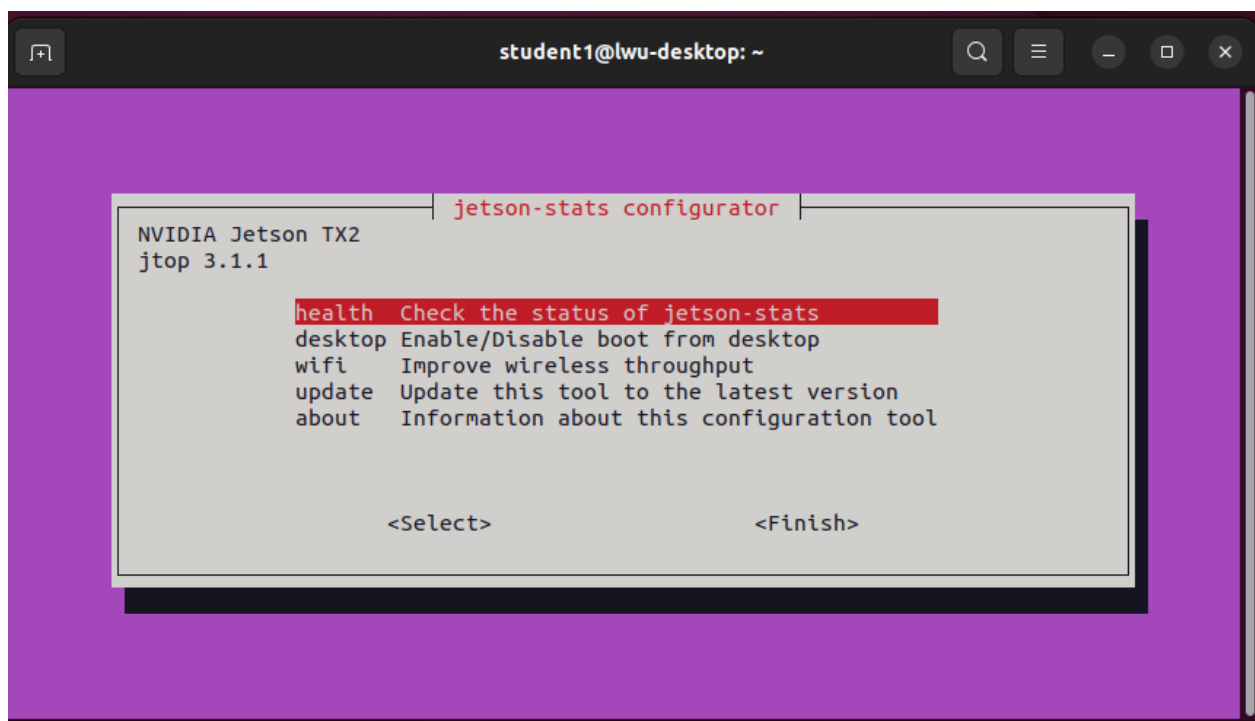
```
RAM 1094/7860MB (lfb 1193x4MB) SWAP 0/3930MB (cached 0MB) CPU [3%@345,off,off,0%
@345,1%@345,0%@345] EMC_FREQ 0% GR3D_FREQ 0% PLL@32C MCPU@32C PMIC@100C Tboard@2
9C GPU@30.5C BCPU@32C thermal@31.4C Tdiode@29.5C VDD_SYS_GPU 153/153 VDD_SYS_SOC
305/305 VDD_4V0_WIFI 0/0 VDD_IN 1377/1410 VDD_SYS_CPU 153/153 VDD_SYS_DDR 95/10
9
```

Tegrastats. Utility that shows system resources using the command line interface. The output is text based and in a singular line

1094MB/7860MB has been used. The GPU was running at 30.5C



Jtop utility page. Jetson stats used for monitoring and controlling Nvidia jetson boards. Controls the board in real time



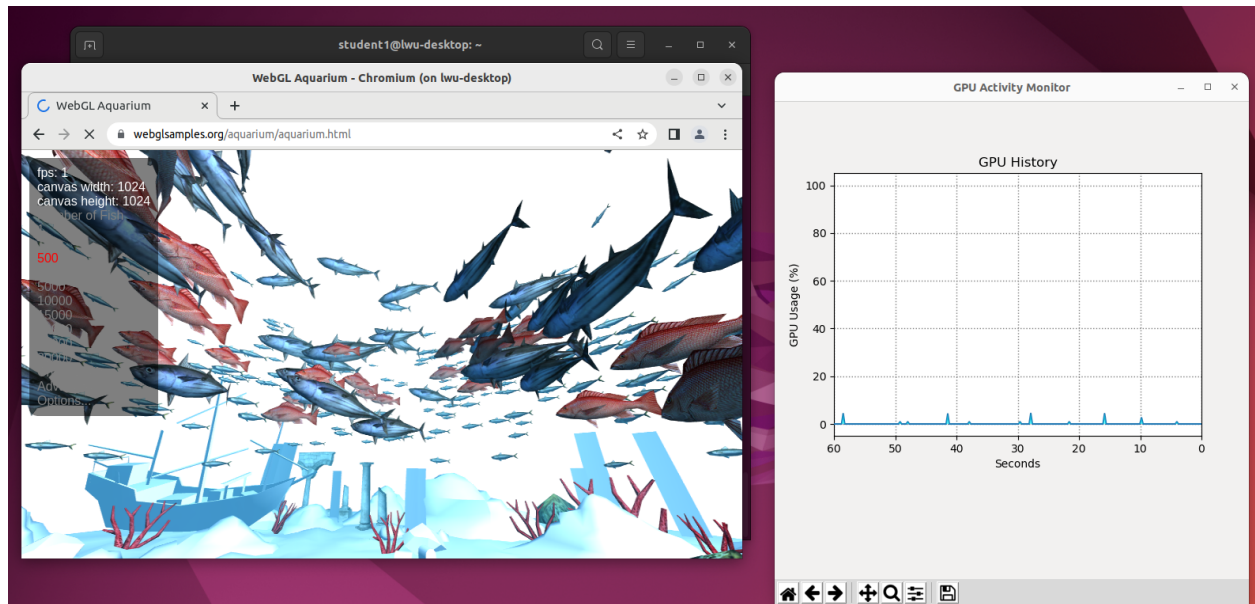
Jetson stats configurator. Gives a visual interface for controlling jetson stats.

```
student1@lwu-desktop:~$ jetson_config
student1@lwu-desktop:~$ jetson_release -v
Xlib: extension "NV-GLX" missing on display "localhost:10.0".
- NVIDIA Jetson TX2
  * Jetpack 4.2.1 [L4T 32.2.0]
  * NV Power Mode: MAXP_CORE_ARM - Type: 3
  * jetson_stats.service: active
- Board info:
  * Type: TX2
  * SOC Family: tegra186 - ID:24
  * Module: P3310-1000 - Board: UNKNOWN
  * Code Name: quill
  * Boardids: 3310:0000:A0
  * CUDA GPU architecture (ARCH_BIN): 6.2
  * Serial Number: 1424319078800
- Libraries:
  * CUDA: NOT_INSTALLED
  * cuDNN: NOT_INSTALLED
  * TensorRT: NOT_INSTALLED
  * Visionworks: NOT_INSTALLED
  * OpenCV: NOT_INSTALLED compiled CUDA: NO
  * VPI: NOT_INSTALLED
  * Vulkan: 1.1.70
- jetson-stats:
  * Version 3.1.1
  * Works on Python 3.6.9
```

Jetson release version information. Provides release information of multiple components including both software and hardware.



Jtop control page. Allows the user to control fans and clocks manually. The fan speed was manually set to 0% by the lab group, turning off the fan.



gpuGraphy.py. The python script used to show the gpu usage over time, graphed visually. The system is running a webGL tech demo attempting to increase the usage of the GPU of the jetson board. This was proven to be ineffective.