摄像头

CSI 摄像头安装注意点

- 闭坑指南： csi不支持热拔插，开机前安装好

- 轻开轻关，我就搞坏了一个 CSI 接口

启动后查看 摄像头

- 查看摄像头硬件：
  - ls /dev/video*
- 安装摄像头查看工具
  - sudo apt install v4l-utils
- 查看摄像头设备
  - v4l2-ctl --list-devices
- 查看摄像头规格参数
  - v4l2-ctl --device=/dev/video0 --list-formats-ext

验证摄像头

- $ gst-launch-1.0 nvarguscamerasrc ! 'video/x-raw(memory:NVMM),width=3820, height=2464, framerate=21/1, format=NV12' ! nvvidconv flip-method=0 ! 'video/x-raw,width=960, height=616' ! nvvidconv ! nvegltransform ! nveglglessink -e

安装 vscode

- 下载vscode arm64版本
- https://code.visualstudio.com/docs/?dv=linuxarm64_deb

- 安装 vscode
- sudo dpkg -i code_1.71.2-1663189619_arm64.deb

- 运行 vscode
- code

python usb 调用摄像头

- import cv2
- cap=cv2.VideoCapture(0) // 根据 设备id填写
- while True:
- success,img=cap.read()
- cv2.imshow("Video",img)
- if cv2.waitKey(1)&0xFF==ord('q'):
- break

python csi调用摄像头

- import cv2
- window_title = "CSI Camera"
- pipeLine = "nvarguscamerasrc sensor-id=0 !video/x-raw(memory:NVMM), width=(int)1920, height=(int)1080, framerate=(fraction)30/1 ! nvvidconv flip-method=0 ! video/x-raw, width=(int)960, height=(int)540, format=(string)BGRx ! videoconvert ! video/x-raw, format=(string)BGR ! appsink"
- video_capture = cv2.VideoCapture(pipeLine, cv2.CAP_GSTREAMER)
- if video_capture.isOpened():
- try:
- window_handle = cv2.namedWindow(window_title, cv2.WINDOW_AUTOSIZE)
- while True:
- ret_val, frame = video_capture.read()
- if cv2.getWindowProperty(window_title, cv2.WND_PROP_AUTOSIZE) >= 0:
- cv2.imshow(window_title, frame)
- else:
- break

第二章介绍 Hello AI World

- jetson-inference