ReadMe:

Installation instructions

1. ~~Set up Ubuntu OS~~ 
   1. ~~Install Raspberry Pi Imager on whatever OS you are working on~~
   2. ~~Connect micro-SD card of at least 8GB to the computer you’re working on.~~
   3. ~~Open up the imager and choose ubuntu for OS, the micro SD card for the SD card and press Write~~
   4. ~~Move card from computer to RPI~~
   5. ~~Connect RPI to monitor and power~~
   6. ~~Follow the set up instructions~~
   7. ~~To go back to GUI from CLI in Ubuntu, try “startx”,~~
   8. ~~https://askubuntu.com/questions/168736/how-to-start-gui-from-command-line~~
   9. ~~sudo apt-get install ubuntu-desktop (helpful if you accidentally switch ot CLI)~~
2. Set up Debian OS (formerly known as Raspbian OS)
   1. Install Raspberry Pi Imager on whatever PC you are working on
   2. Connect micro-SD card of at least 8GB to the computer which you’re working on.
   3. Open up the imager and choose the “Raspberry Pi OS” for OS, the micro SD card for the SD card and press Write
   4. Move card from PC to RPI
   5. Connect RPI to monitor, mouse, keyboard, and power
   6. Follow the set up instructions and set a user name, password, etc.
3. Install VSCode
   1. Go to <https://code.visualstudio.com/Download>
   2. choose the “ARM” option from the .deb installation menu
4. Install PIP
   1. be in home directory, input “cd” in terminal to go to home
   2. write the following code: **sudo apt update**, **sudo apt install python3-pip**
   3. double check version by typing **pip3 –version**, the one im using is pip 20.3.3
5. Install Git
   1. From terminal: **sudo apt-get install Git**
6. Clone github project to a working directory for your code, mine is in Home/Working Directory – Plot Cam.
   1. Within the working directory, right click select “Open in Terminal”
   2. From terminal : **git clone https//github.com/ruaaabdu/PlotCamLite/**
   3. There should be a folder in the working directory now called PlotCamLite, this will only contain the master, which right now is empty
7. Open Terminal in the plotcamlite folder
8. Checkout branch
   1. Check the branches available: from terminal : git branch -a
   2. From terminal: **git checkout** “*branch-name”,* for example: **git checkout ruaa-abdu-patch-1-linux**. Now your plot cam lite wil have all the files available in the branch.
9. Install PyQt5
   1. From terminal: **sudo apt-get && install python3-pyqt5 && sudo apt-get install pyqt5-dev-tools && sudo apt-get install qttools5-dev-tools**
10. Install pyrealsense2
    1. Follow the instructions mentioned here : <https://github.com/IntelRealSense/librealsense/blob/master/doc/installation_raspbian.md>
       1. Note: in Add Swap: change **sudo vim** to **sudo nano**, rest of command stays the same.
       2. For the “protobuf” subsection, the installation instructions didn’t work too well so I referred to the instructions in the ReadMe: <https://github.com/protocolbuffers/protobuf/blob/master/src/README.md> . The **make** commands will take a long amount of time.
11. Install OpenCV
    1. In terminal: **sudo apt update && sudo apt upgrade && sudo apt install python3-opencv**
12. **Install Phidget library** 
    1. **pip install phidget22**
13. **Install PyQt Graph**
    1. **pip install pyqtgraph**
14. **install pillow**
    1. **pip install pillow**