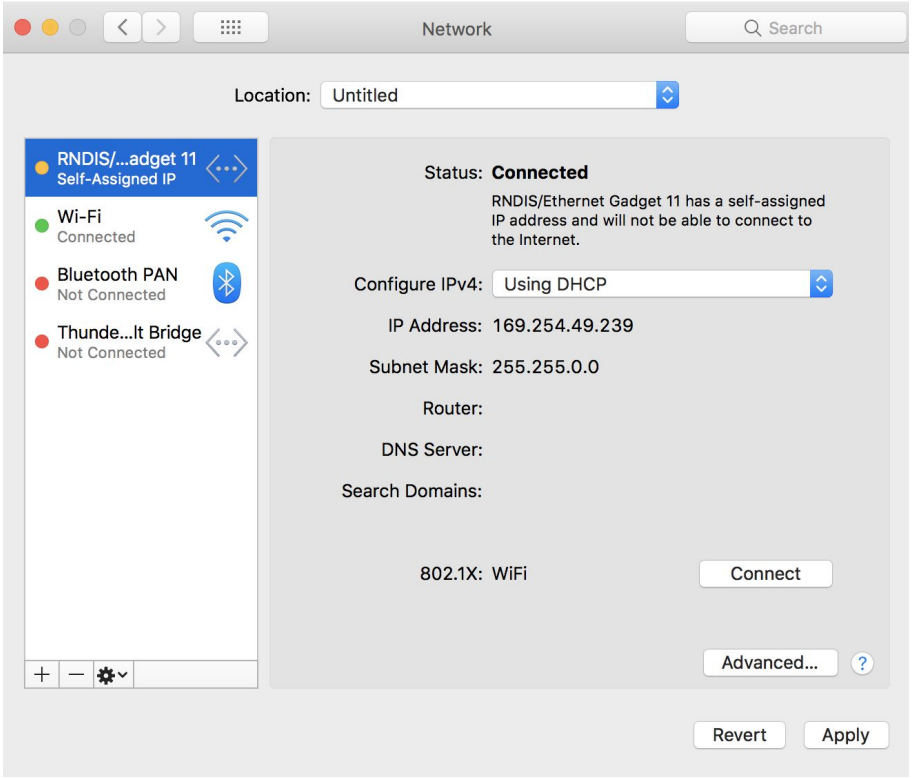
GelSight Drivers

Step 1: Connect to PC

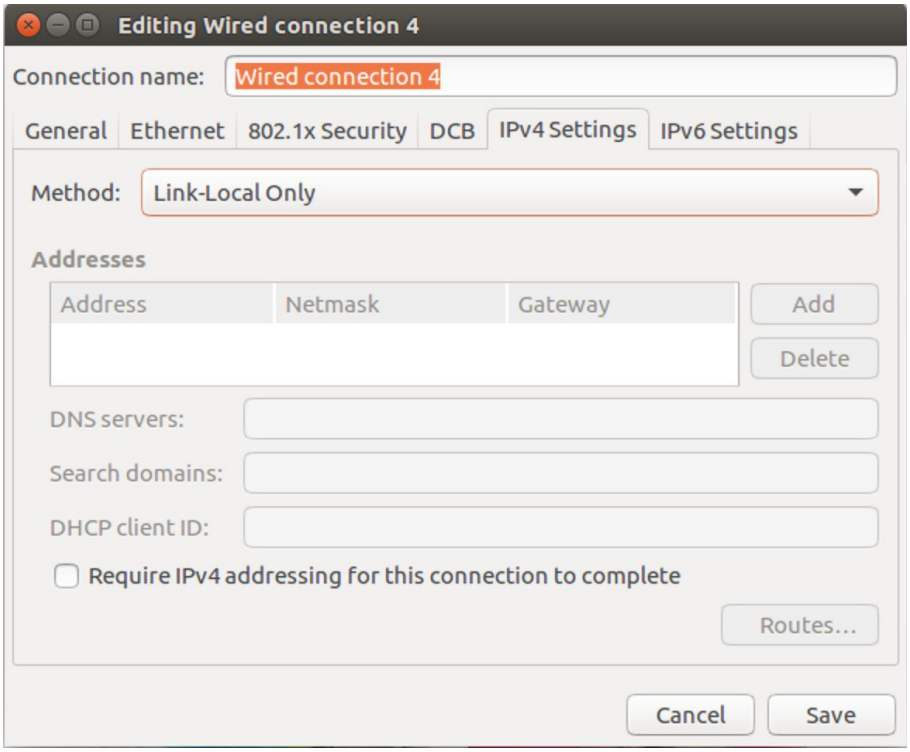
For **Mac**

- Connect the raspberry pi to the computer with USB; wait for 15 second for start
- Check ***RNDIS/Ethernet Gadget*** is connected in Network (if it doesn't show up, create a new network Location and apply. The RNDIS/Ethernet Gadget should show up automatically.)



For **Linux**

- Connect the raspberry pi to the computer with USB; wait for 15 second for start
- Open Network Settings -> USB Ethernet (or Wired connection) -> Edit -> "IPv4 Setting" -> Method -> select **"Link Local only"**
- Check RNDIS/Ethernet Gadget is connected in Network



Step 2: Get Raw Images

Preview from browser:
http://rpigelsight.local:8080/?action=stream

Install library:

pip install opencv-python open3d pybind11

Load from python:

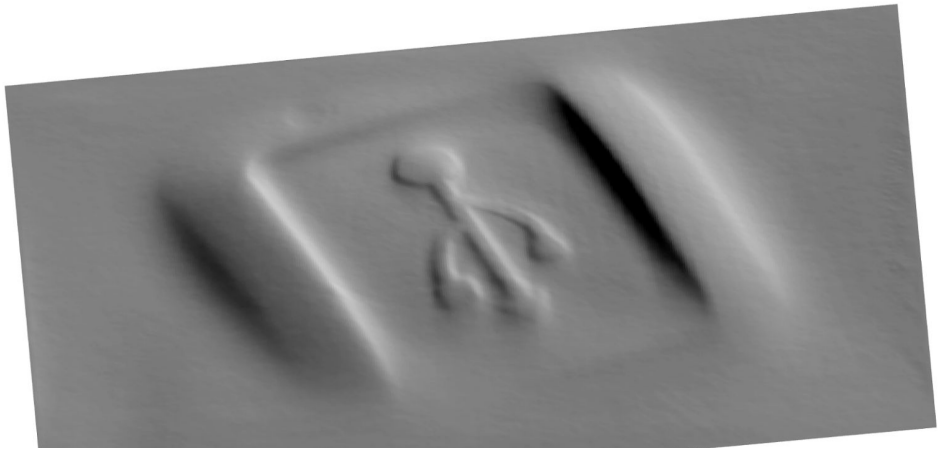
python gelsight_raw.py

Step 3: Get Estimated Depth

3D reconstruction:

python gelsight_3d.py

Examples:



3D Reconstruction of a USB plug

Step 4: Get Marker Displacement

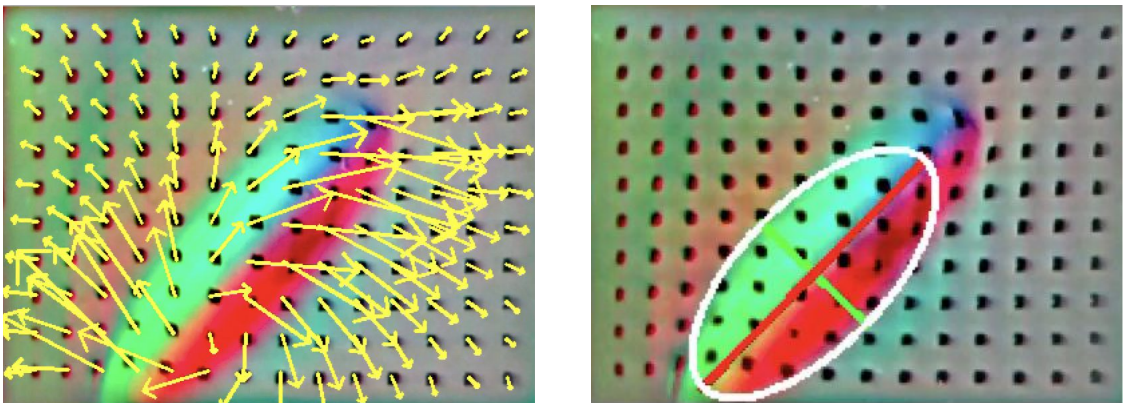
Compile marker tracking code:

cd src
make

Marker tracking & pose:

python gelsight_examples.py

Examples:



Twisting a pen
Left: Marker Displacement; Right: Pose Estimation (for linear objects, like pen, cable)

Appendix:

Raspberry Pi Camera: The raspberry pi zero is preset to run **mjp_streamer** for streaming the video on start. The command is located in ~/.bashrc.

Connect to Raspberry Pi:
ssh pi@rpigelsight.local
password: gelsight