Computer Engineering Python Document

This is a compiled list of resources of topics and skills that we commonly use in the Lubin Lab in terms of computer engineering, microcontrollers, and working with sensors/raspberry pis.

Raspberry Pi

- https://learn.adafruit.com/groups/learn-raspberry-pi: Adafruit's full tutorial on raspberry pi
- What you will need | Getting started with Raspberry Pi | Coding projects for kids and teens: General Tutorial for getting started with a Raspberry Pi
- Raspberry Pi Tutorial | Tutorialspoint: In depth guide for raspberry pi

SSH & VNC

- Overview | Adafruit's Raspberry Pi Lesson 6. Using SSH: Adafruit tutorial on how to control you Raspberry pi over ssh
- How to Setup Raspberry Pi Remote Desktop using TightVNC: We use TightVNC to create vnc servers to connect to the pi. With TightVNCViewer, it is the easiest way to set this up

GPIO

Remember GPIO Board vs GPIO BCM for the pins

- Raspberry Pi Pinout: Pinout for the Raspberry pi GPIO pins
- Overview | Adafruit's Raspberry Pi Lesson 4. GPIO Setup: Adafruit GPIO Guide
- Raspberry Pi GPIO Tutorial: The Basics Explained: Good example tutorial

Serial Communication

- Short introduction — pySerial 3.4 documentation: Pyserial Documentation to read and write serial
- PyVISA: Very useful package used for communicating with measurement devices
- Instrumentation Programming with Python | Magna-Power: Example talking about different ways to communicate with instruments

I2C

- Configuring I2C | Adafruit's Raspberry Pi Lesson 4. GPIO Setup

SPI

- Configuring SPI | Adafruit's Raspberry Pi Lesson 4. GPIO Setup

UART

- Raspberry Pi UART Communication using Python and C

MicroPython (Pyboard)

- MicroPython tutorial for the pyboard