UMassAmherst
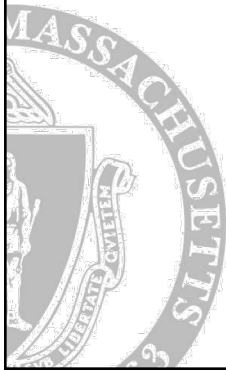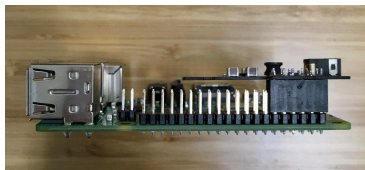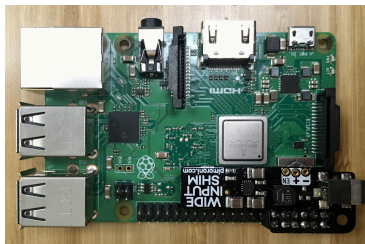
Raspberry Pi

October 1, 2019

Laboratory for Perceptual Robotics – College of Information and Computer Sciences

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Raspberry Pi 3 Model B+

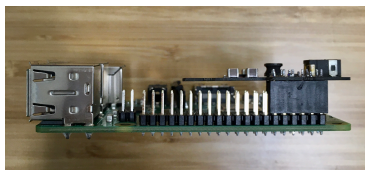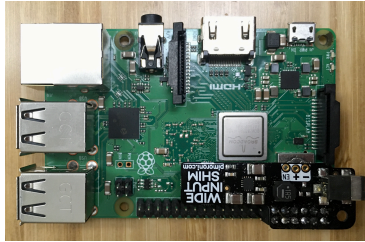

IMPORTANT USE & CARE INFO

- Interact with your Pi via ssh
  - Requires direct connection to CICS network OR through edlab account
  - If you have neither, contact Tiffany
- Power your Pi using the 5V power adapter included in team kit *XOR* using the battery via Wide Input Power Shim (**NEVER BOTH!**)
  - For Project #2, only use 5V power adapter to power Pi
  - For subsequent projects, use 5V power adapter to power Pi while building unless necessary to run on battery
  - Note orientation of power shim connection to Pi (your Pi comes with shim properly connected in your kit)

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### Raspberry Pi 3 Model B+

IMPORTANT USE & CARE INFO

- Always do graceful shutdowns to avoid SD card corruption
  - *sudo shutdown 0*
  - Unplug power source (5V adapter or battery) only after Pi shows signs of successful shutdown

- Do not leave Pi connected to power overnight/not in use

- Only install necessary libraries (8GB SD card)

- Never place your Pi on conductive surfaces

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Raspberry Pi Camera v2
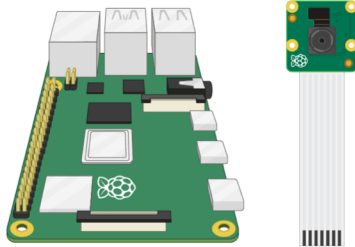
- Only connect/disconnect camera module to/from Pi when Pi is powered down

- As with Pi, camera should never come in contact with conductive surfaces

- Follow online tutorial/Project #2 handout to learn how to properly connect/disconnect camera module to/from Pi

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Project #2 Schematic

IR Sensor — Ping Sensor — 5V Adapter

be aware of the jumper config

or

Motors ← Motor Shield ← Arduino ← **USB** → Pi ← Camera

Battery → Power Shim