



Python Computing: Building a Sensor System

CSCI 250

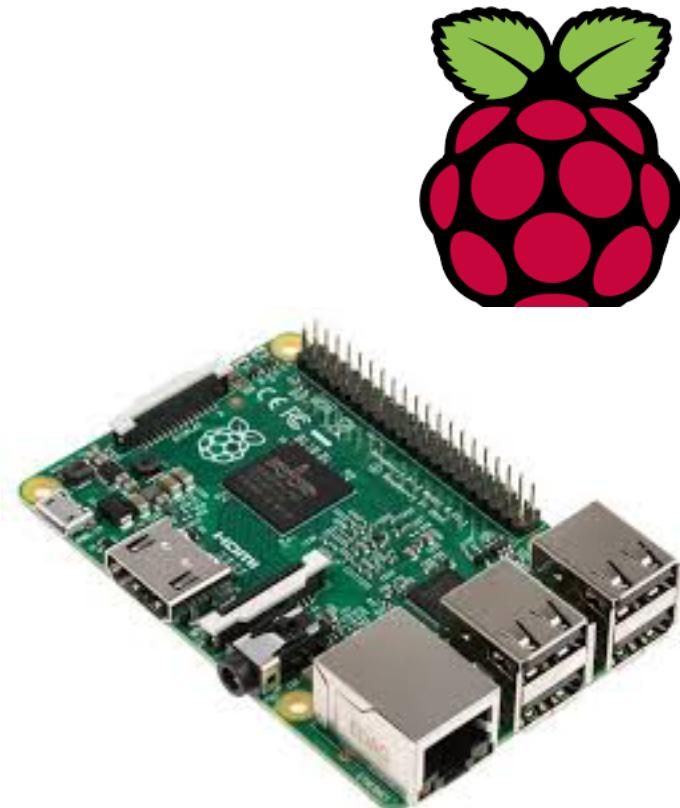
Lecture 2: Setting up the Raspberry Pi



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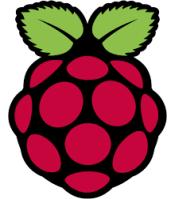
Today's Plan

- + Review
- + Daily Learning Objective
 - + Install the Raspbian operating system onto the Raspberry Pi Hardware and setup basic configuration parameters.
- + Setting up the Raspberry Pi
- + Start Chapter 1: Python Practice

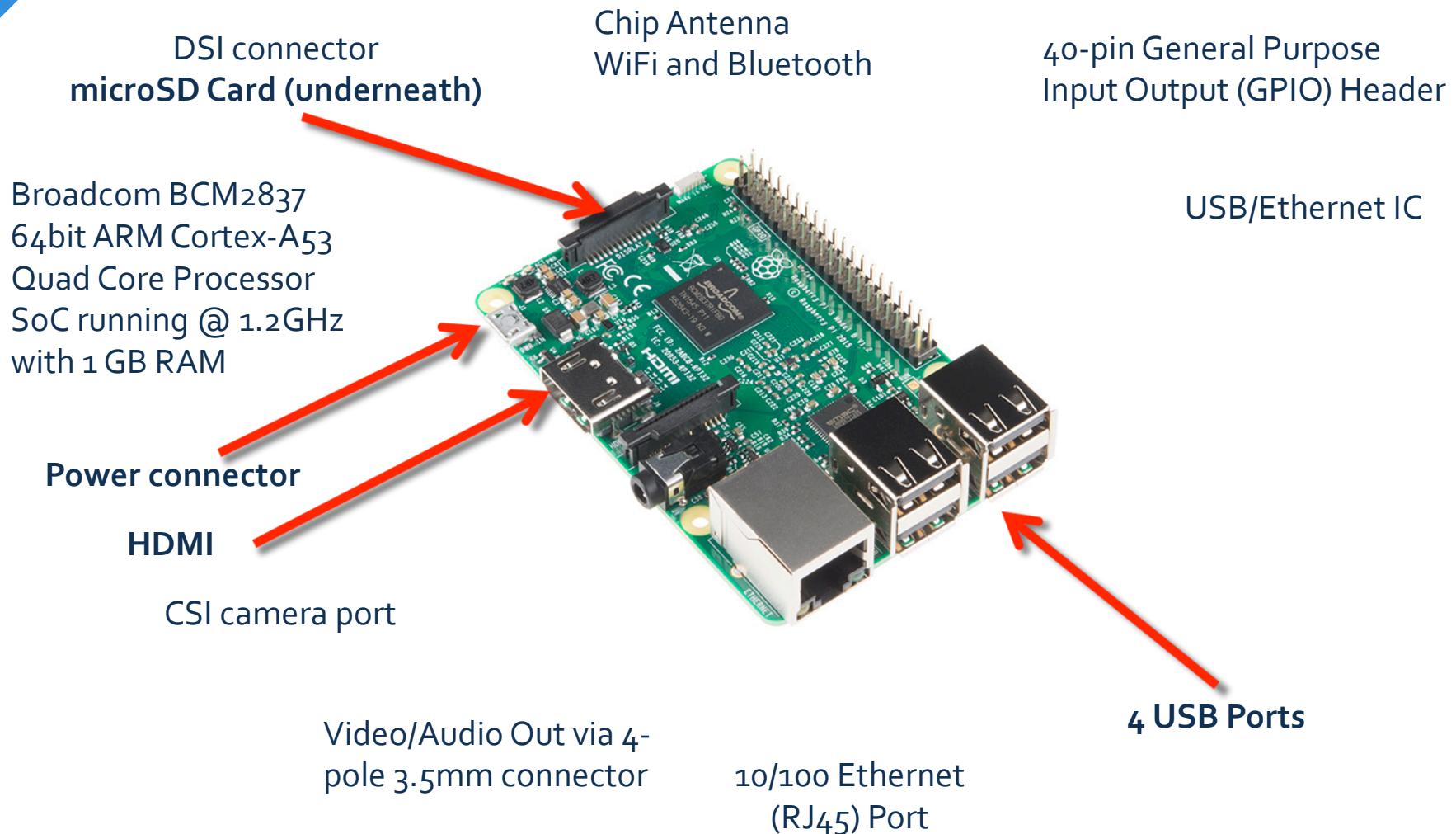


Review

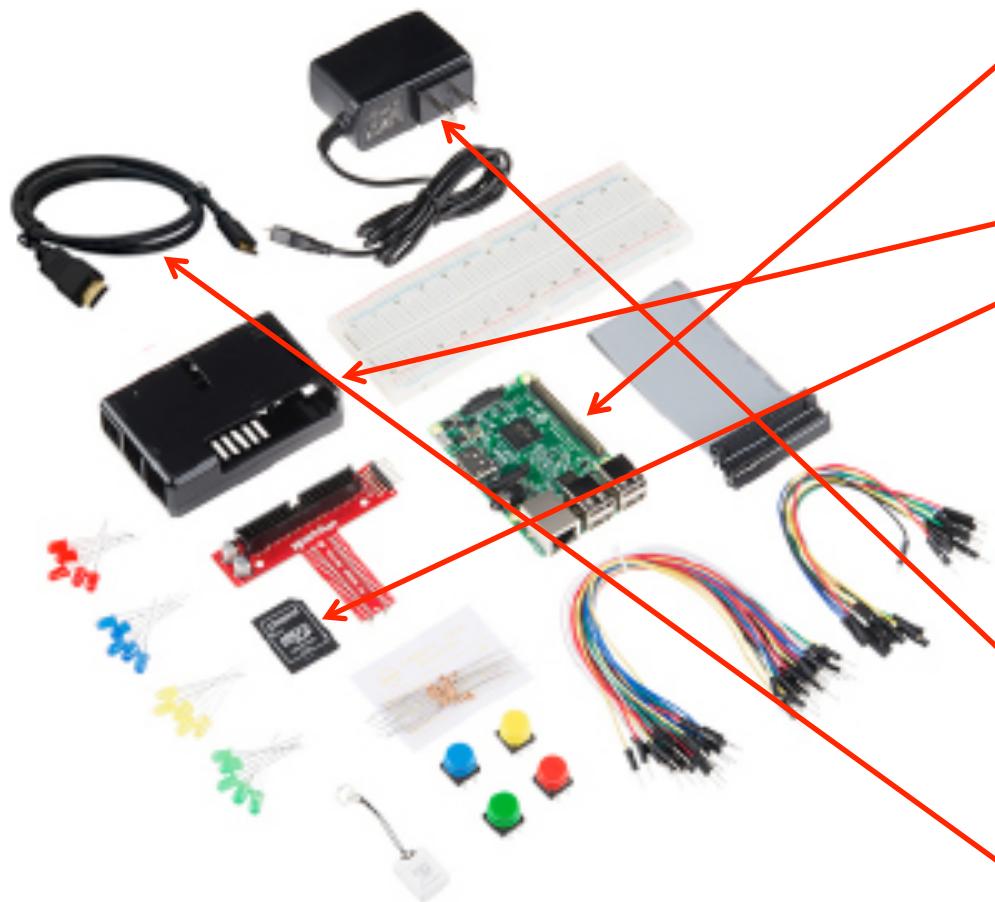
- + Logistics – any questions on
 - + Canvas
 - + Syllabus
 - + Schedule – I added module headings for next 3 weeks ...
- + What's in the box worksheets ...
 - + Will be turned in for grading on sensor day (binary fashion)
 - + Returned to you for your reference
- + Equipment
 - + Bring it to class each day



Raspberry Pi 3 Board



What we need today from the box



- **Raspberry Pi 3**
- SparkFun Pi Wedge (Preassembled)
- Breadboard - Full-Size (Bare)
- **Pi Tin for the Raspberry Pi - Black**
- **16GB microSD (Preloaded with OS)**
- microSD USB Reader
- Red, Blue, Yellow, Green Buttons
- Red, Blue, Yellow, and Green LEDs
- Resistors 330 Ohm 1/6 Watt PTH
- GPIO Ribbon Cable - 40-pin, 6"
- **Wall Adapter Power Supply**
- Jumper Wires Premium 6" M/F – 10
- Jumper Wires Standard 7" M/M - 30
- **HDMI Cable**

Getting started with Python - Next

- + Before getting started with the sensors
- + IDLE
 - + Open IDLE
 - + Interactive
 - + Batch
- + Chapter 1 –
 - + Algorithmic thinking – breaking down problems into sub problems
 - + Sequence of instructions or steps
 - + Skip the Spyder specific information – replace with Python 3 (IDLE)
 - + Very basics, importing libraries, variable names, functions



Wrap Up

- + Discussion:
 - + Again, today is all about the RPi setup
- + Assignment:
 - + Familiarize with Pi, customize, preloaded software
 - + Canvas submit screenshot – RPi Setup Photo (Due by 11:59 pm)
 - + Review Chapter 1
- + Next
 - + Thursday: Linux Day and Chapter 1
 - + Tuesday: Sensor Day and the GPIO

