

# ENGR 3421: Robotics I

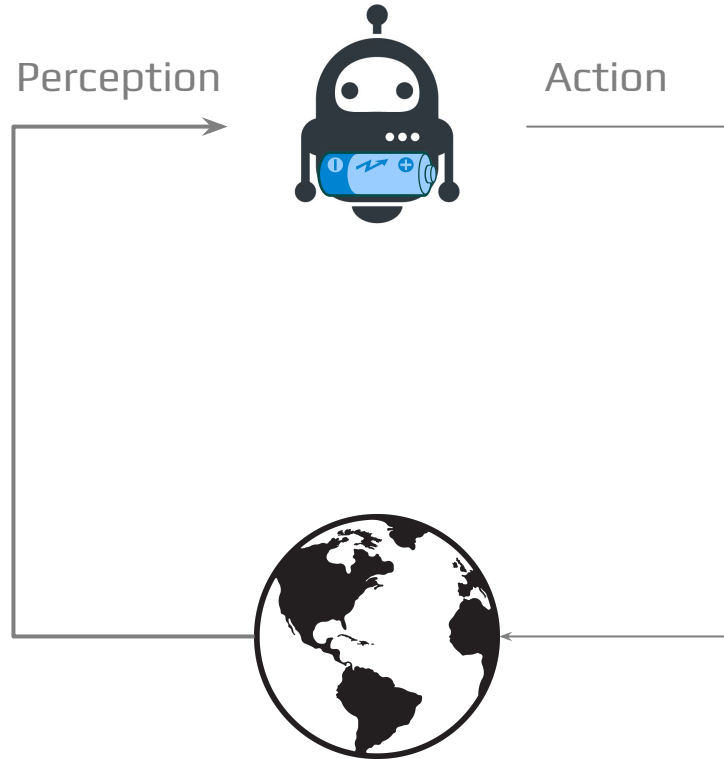
Power System

09/26/2023

# Outline

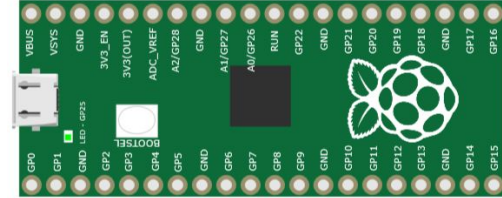
- Different Voltages
- Power Budget

# A Robot Needs (a) Heart(s)

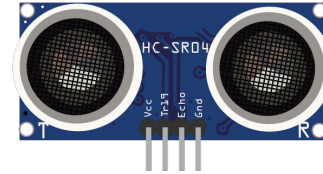


# Different Voltages

1.8 - 5.5 V



5 V

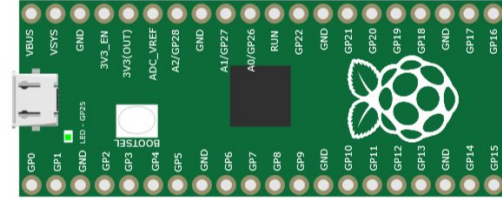


~6 V

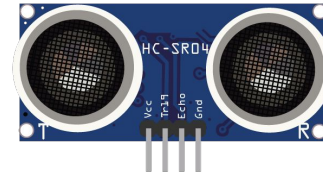


# Maximum Current Consumption

93 mA







20 mA



6 A



# Batteries

Type	Nominal Voltage	Max Current	Notes
AA / AAA 	1.5 V	2 A	easy to buy, good for small robots, rechargeable versions has nominal voltage of 1.2 V per cell
9V Alkaline 	9 V	3 A	easy to buy, classical source for Arduino Uno
Lithium-ion 	3.7 V	5 A to 30 A	rechargeable, relatively safe, good for mid-scale robots
Lithium Polymer 	3.7 V	5A to LARGE	rechargeable, fire/explosion hazard, powerful, good for speedy robots
Others 