

## 1.1 REQUIREMENTS & CONSTRAINTS

### Physical constraints:

- Prosthetic arm must weigh less than 8 lbs
- Cannot be longer than 20 inches

### Physical Requirements:

- All fingers must be able to move independently
- Must be able to respond to touch/pressure
- Must be able to be held up by its own weight by socket

### Power constraints:

- Must not exceed an operating temperature of more than 50 deg C
- Must have ease of charging
- Must have little to no exposed wires

### Power Requirements:

- Must be able to operate for an 8 hour day
- Must be able to charge within 8 hours

### Electrical constraints:

- Must be able to be shut down after signal loss
- Must be able to withstand light amounts of rain

### Electrical Requirements:

- Must have all circuitry operate with low power and voltage levels
- Must be able to transmit power safely and effectively between the battery and motherboard

## 1.2 ENGINEERING STANDARDS

A lot of the devices and products used in the project will be made according to IEEE standards and will not be modified in significant ways.

For the mechanical portion of the arm, some standards we might use are the ASME standards. This would apply to creating tolerances for the different moving parts on the device. Such as tolerancing and dimensioning.