

# Analyzing Rec Center Data

- 15 subjects total (8 male, 7 female)
- 60 data sets from Arduino ADC (4 for each subject)
- For all data sets:
  - Median reps = 20 [5, 42]
  - Median voltages generated = 63 [16, 327]
  - Minimum voltages range = [0,20]
  - Maximum voltages range = [81, 1023]

# Current State of Algorithm

- Rep detection
  - 4 sets match observed count
  - 15 sets are +/- 2 reps
  - Remainder are +/- >2 reps
  - Range of differences: [-16, 109]
- Fatigue detection
  - Briefly worked for one data set
  - Broke when I setup batch processing
  - Currently no fatigue detected on any set

# Observations

- The BASELINE value is currently fixed. This could be dynamically adjusted to make rep detection more robust
- The THRESHOLD value is currently calculated from the first rep detected. This does not necessarily mimic how calibration will be in the final device.
- The observed rep counts need to be hand verified due to data collection anomalies.