# Power and Control

All about our power system and control.

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# Resources

Research Paper for Hydrofoils

# Batteries

Battery 1

Capacity: 71,688mah + 17,457mah + 14,206mah = 103,351mah

Battery 2

Capacity: 90,007mah + 12,816mah = 102,823mah

Battery 3


Battery 4

# PCB Iterations

## V0.1 (Breadboard)

Pre-PCB design that often was multiple parts of the system that would eventually become one.

### Pros

- Easy to add/change components for testing

### Cons

- Unreliable connections

### Components

- [ESP32-WROOM-32U](#)
- [FLIPSKY 75100 VESC](#)
- [Stepper motor driver DM542T](#)
- [SparkFun Logic Level Converter - Bi-Directional](#)

| V0.1 (Breadboard) |
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|  |

## V1

Version one was created by Brandon Marcellus & Juan Silva early on in the start of the project after we had started some of the basic wiring of control and data collection.
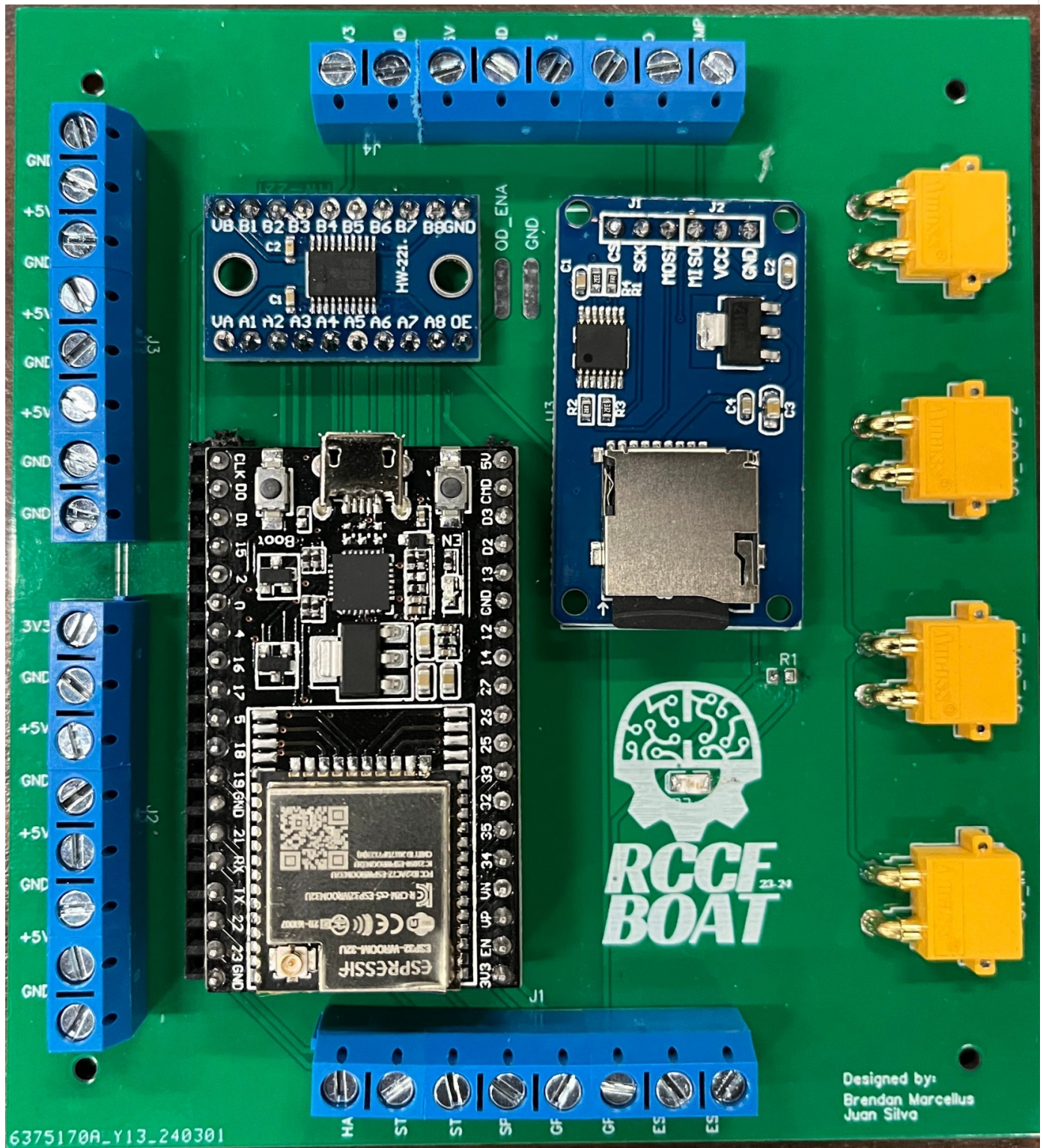
### Pros

- Organization greatly improved
- Power distribution
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### Cons

- Logic level shifter was not wired correctly
- Not enough IO ports were available for use
- SD Card module VCC pin was connected to 3.3V instead of 5V

**V1**

# V 1.1 (Breadboard)

# V2