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ECE-350-001

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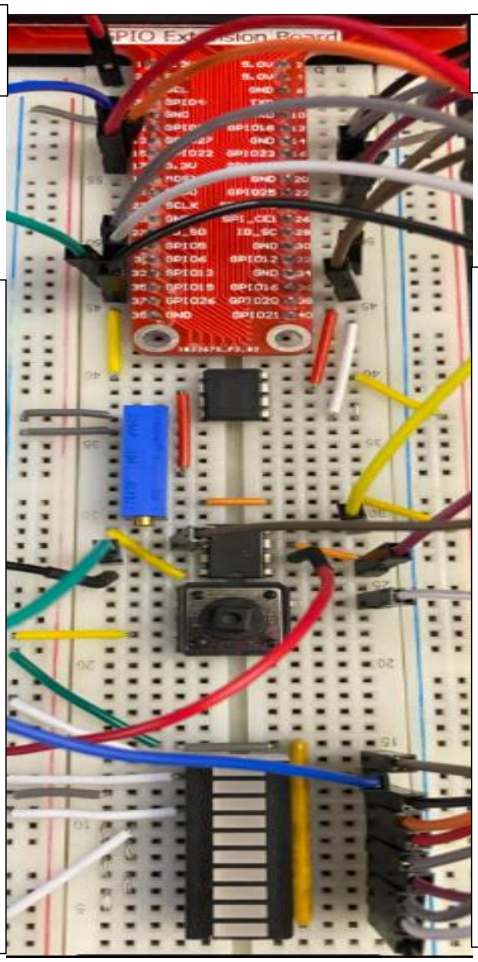
Lab 5: Brushed DC Motor Controller

Description: The purpose of this value is to use an ADC connected to a potentiometer so that when the potentiometer is turned CCW the value drops so eventually hitting zero, and that value can be inputted to set the speed of the motor. In addition, a button is added to reverse the direction of the motor.

Breadboard:

Ground Rail

Power Rail



First Chip: ADC
Yellow: CS
Red: data
Greys: Both are ground
Orange: Power

Next Chip: H-Bridge
Yellow: Shorts grounds
Black & Red Wire: Ground/Power
Green: IB
Black Jumper: IA

Button: Yellow = Ground

Remaining wires are all to connect the led strip to ground, along with small silver wires to connect some.

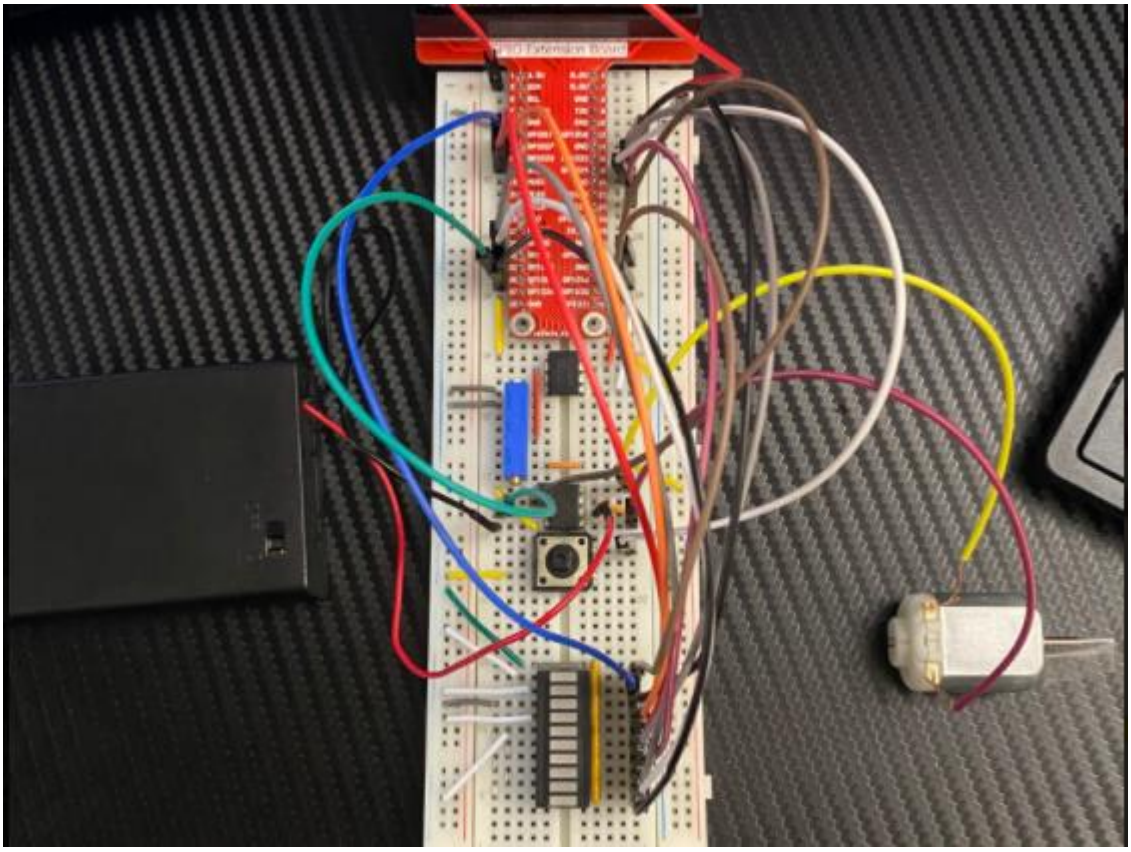
Red: CLK
White: DI/DO
Yellow: Power
-Note silver wire shorting 5/6

For Chip: H-Bridge
Yellow/Purple: Leads for motor

Button: White = GPIO Pin

Multiple Jumper wires are all used to connect the GPIO pins to determine which leds should be on.

Zoomed Out View



Conclusion/Comments: I got my lab to successfully work but for some reason I noticed the very first led in my led strip to be lit is always much dimmer than the other ones, I'm not sure why this is but it still works correct. Blue device is a potentiometer as I could not find mine.