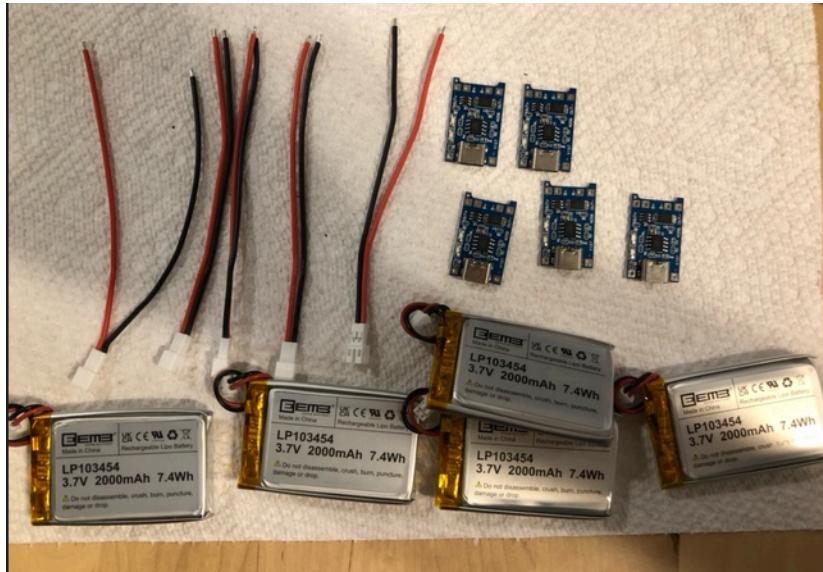
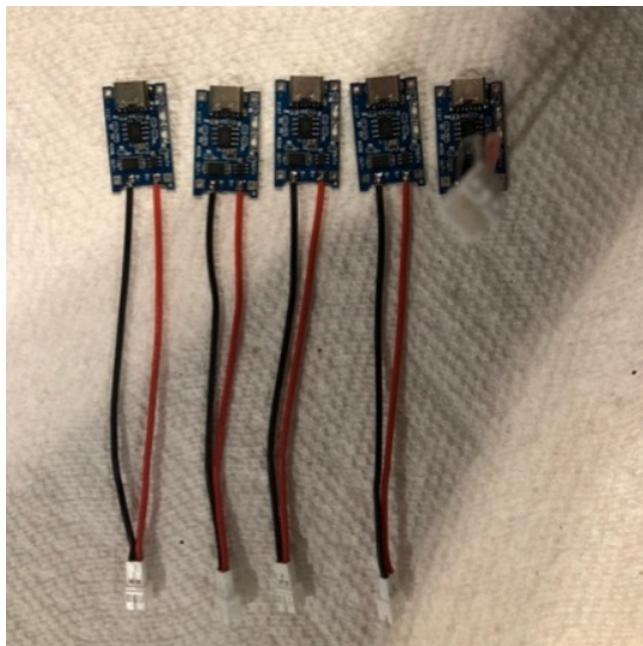


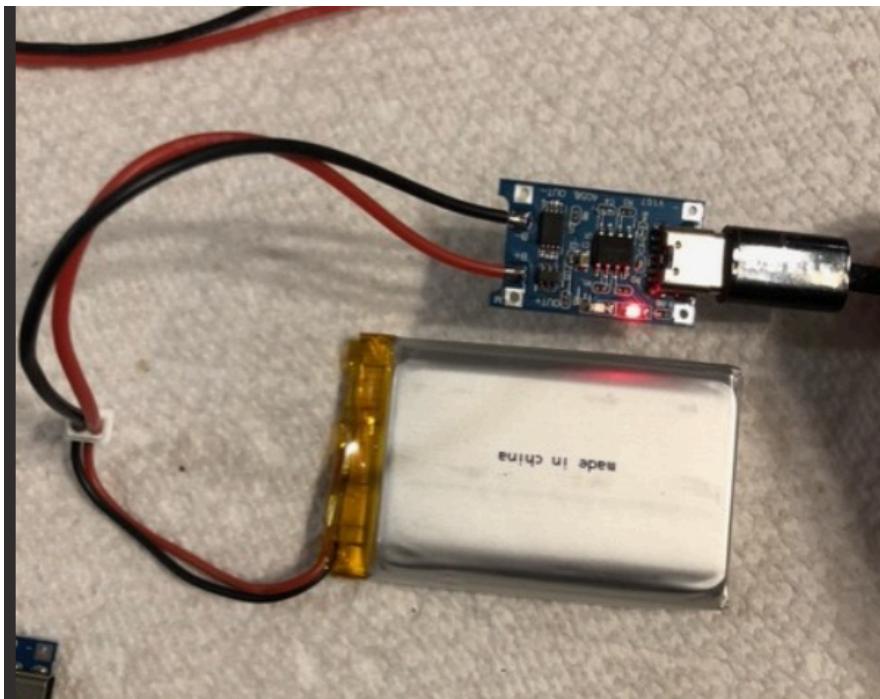
Battery Management System Module Build Instructions



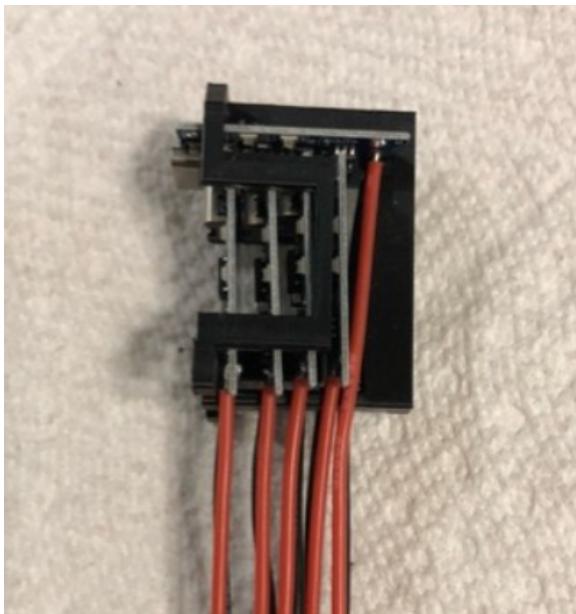
Necessary materials: five battery connect wires, five BMS modules, and five batteries (2000mAh). BMS holder piece isn't pictured



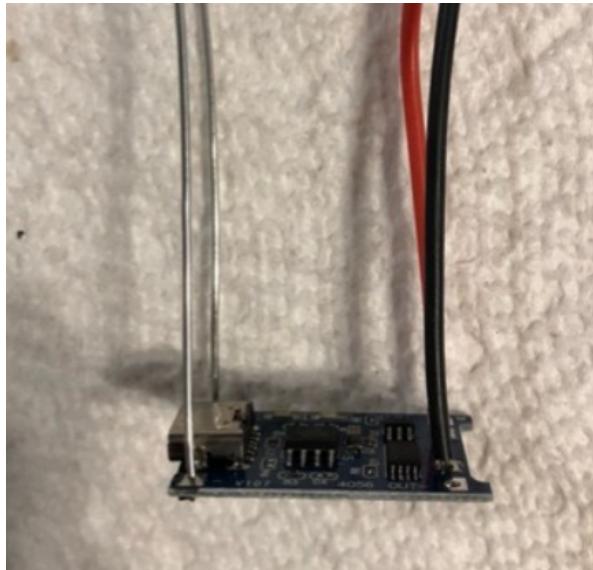
Solder the battery connect wires to the BMS modules B+/B-. Ensure four of them lay across the connection point and one of them is soldered perpendicular to the board. The last BMS module is pictured with the battery connect wires pointed straight at the camera.



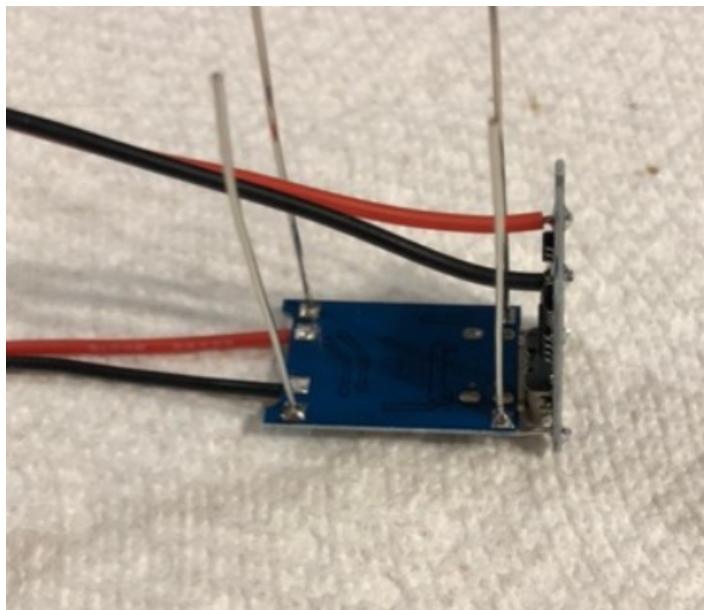
Once soldered, plug a battery into each one and test to see if it works correctly. Red means its charging, blue means the battery is fully charged. Intermittent blinking is not a good sign. If you aren't seeing solid red or blue, double check the solder points or get a new BMS board and try again.



What the assembly should look like when installed in the BMS holder in the robot. Note the wires soldered in perpendicular to the board at the top and the four other boards stacked on top of each other.



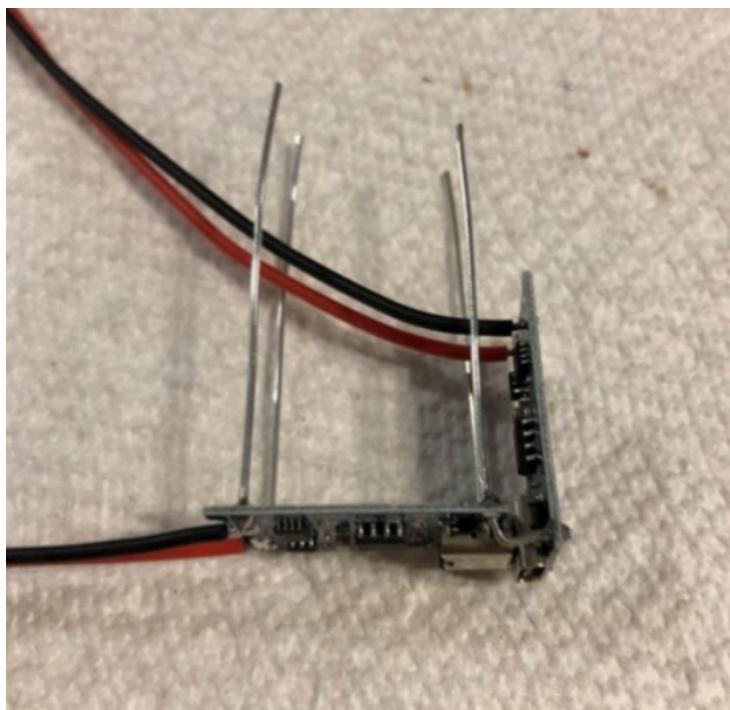
Start attaching them together by soldering two bare solid wires to the 5V+/- solder points just next to the USB connection.



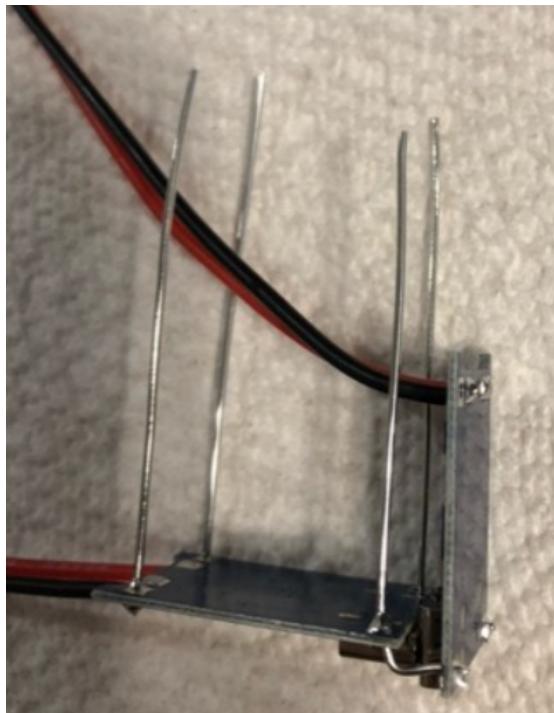
Once soldered, measure/estimate the location of the attachment point of the next BMS module and bend each wire 90 degrees so that the wire double backs on the board itself. Then slide the next BMS module down the wires and ensure that the second module USB connector sits against the first. Solder in place and make sure that the boards are well aligned and at right angles to each other. After that is complete solder two additional bare wires to the board +/- output just next to the battery connect wires. Also take note that the battery connect wires are now pointed in the same direction.



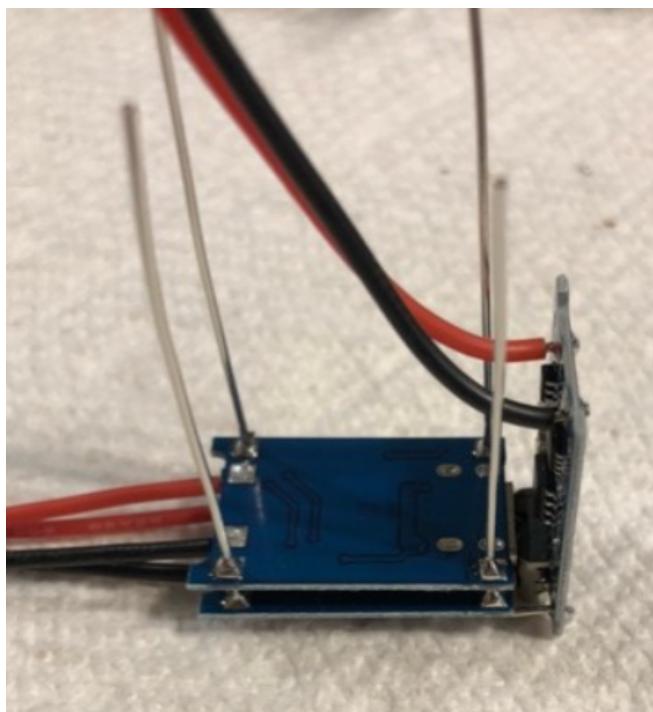
Ensure that the second module doesn't sit flush with the connection point of the first module but stands off by several millimeters so that the assembly will seat into the backplate when installed. I suggest reviewing the back plate build instructions before proceeding with this step.



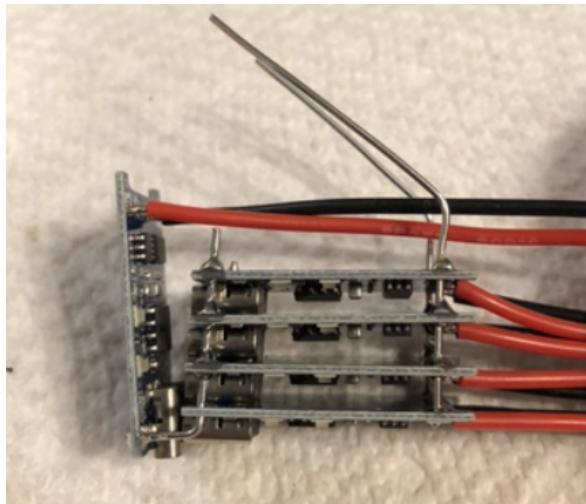
First two BMS modules pictured from another angle.



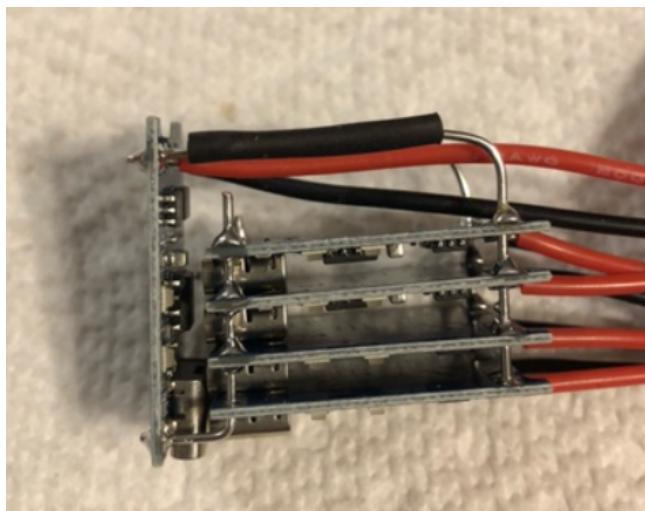
Yet another angle.



Now slide the remaining boards down the wires and solder each corner in place as pictured.
Try to ensure uniform vertical stacking.



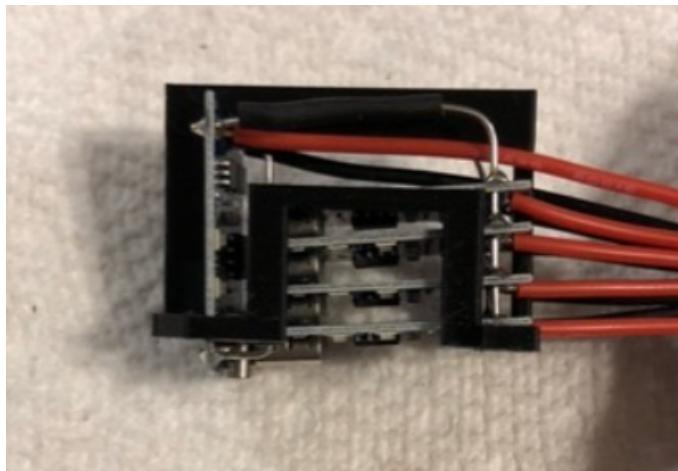
All five BMS modules connected together. Clip excess wire but leave a small section of exposed wire here:



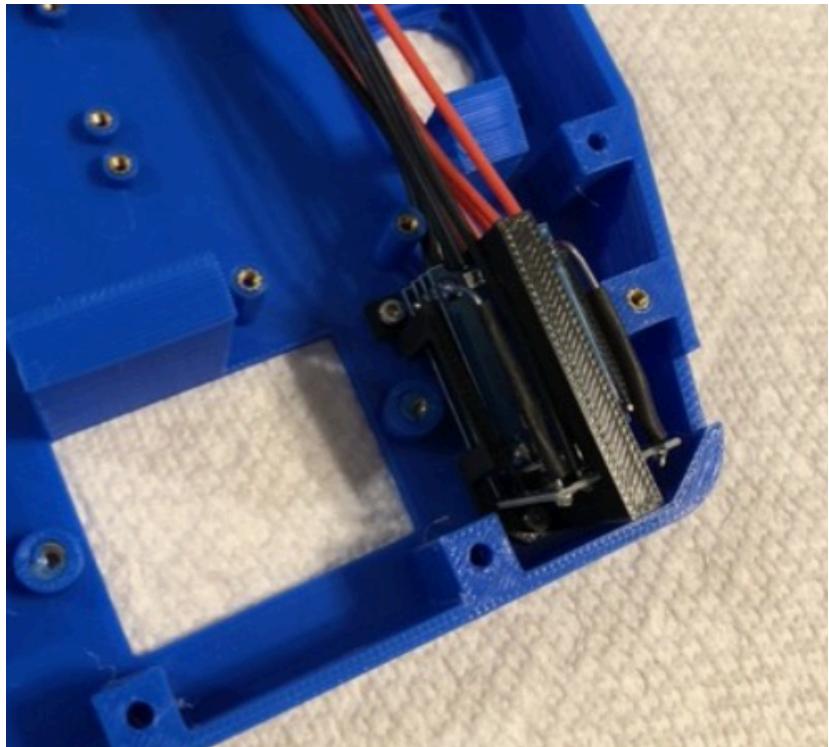
Attach heat shrink to the remaining wires and insert through the last open holes on the vertical BMS module and solder.



Another angle.



Finished BMS modules inserted in BMS holder. Now is a good time to plug the batteries in and connect to wall charger to ensure everything works properly. All the lights should be either red, blue, or a combination of the two.



You may now install the BMS holder in the back plate of the robot.



Installed BMS from another angle.