

EE/CprE 4920 – sdmay25-26

Status Report 6

4/4/2025 - 4/17/2025

Cost-Effective and Easily Configurable High Voltage Motor Controllers for Automotive Use

PRISUM Solar Car Club, Jonah Frosch

Nathan Neihart, Cheng Huang

Summary

New board revisions have arrived and are being assembled and tested. Software work continues to smoothen out the spinning of the motor and current control. This needs to be finished up quickly so more of our time can be put into our final design document, poster, and presentation. Meeting with a TA confirmed this.

Accomplishments

New power board revision built – Jonah

- Ordered and parts shipped in
- Assembled and already used in testing

New logic board revision – Marek

- Assembled and ready for testing

Pending Issues

HALL Sensor Offset requires position interpolation, initial software tests did not pass

Current control is partially implemented on a separate board, still not implemented on new rev

Individual Contributions

Member	Contributions	Period Hours	Cumulative Hours
Gavin Patel	Updated design doc and text UI	4	92
Bryce Rega	Wrote motor position interpolation tests	8	122
Marek Jablonski	Updated logic board, ordered new revision	17	125
Jonah Frosch	Assembled and ordered Logic / Driver board	21	132
Long Yu	Will be assembling rev 2 board	4	73

Plans for next reporting period

Motor controller software is complete enough for demonstration (current control included)

New board revisions are tested and functional

Command line interface works to send CAN commands to controller

Advisor Meeting Summary

We discussed current progress on the project and got good feedback about our current board revision, will discuss results with our Advisor once we have the board assembled and more tests run.