

ECOCAR

INNOVATION CHALLENGE

DRIVING THE FUTURE

Propulsion Controls and Modeling Lead

About the Competition: The EcoCAR Innovation Challenge is a four-year collegiate engineering competition in which university teams develop intelligent and energy-efficient vehicle technologies using advanced controls, electrified propulsion, automation, artificial intelligence, and industry-standard development processes.

Mississippi State University will compete in the General Motors track using a 2026 Chevrolet Blazer SS Police Edition EV. Students will contribute to the design, integration, and validation of advanced propulsion, electrical, controls, and autonomous vehicle systems.

Overview: This posting is for a fully funded graduate research assistant position (or hourly undergraduate for well-qualified candidate) to serve as the Propulsion Controls and Modeling (PCM) Lead for the MSU EcoCAR Team. The PCM Lead will be responsible for leading propulsion system architecture development, requirements and software architecture development, controls and calibration. Motivated applicants with strong learning ability are encouraged to apply, even if all preferred qualifications are not met.

Hours: 20 hours/week, greater availability while approaching deliverable deadlines and during travel expected

Benefits:

- Graduate students
 - Full tuition exemption, ~\$2000/month stipend, and health insurance reimbursement
- Undergraduate students
 - Hourly pay
- Access to industry hardware, software, and tools
- Mentorship and training from industry engineers, faculty, and other students
- Increased job opportunities
- Travel to workshops and competitions

Skills and Qualifications:

- MATLAB/Simulink, C/C++, CAPL
- Software Development Lifecycle
- Version control with GitHub/GitLab & CI/CD
- Feedback control and rule-based control
- Leadership and team management
- Data processing and evaluation
- Technical writing

- Vector CANoe/CANalyzer, and CAN protocol
- dSPACE software

Requirements:

- Currently accepted/enrolled in an engineering program at MSU for FALL 2026
 - Must be available until May 2027 (minimum)
- Majoring in Electrical and Computer Engineering, Computer Science Engineering, Software Engineering, or related field

Job Description:

- Report to Project Manager
- Lead PCM subteam
 - Recruit and train sub-team members
 - Lead execution and planning of PCM subteam activities
 - Manage deliverable progress and deadlines
 - Organize subteam meetings and team-building activities
- Lead and contribute to technical papers and technical presentations

Interested candidates should apply soon [here](#) to allow onboarding with the start of the semester. If you have any questions, please send an email to jeball@ece.msstate.edu.