

Tyler Brooks

Automotive Engineer | EV Powertrain & Vehicle Systems

Troy, MI

(248) 555-0158

tyler.brooks@email.com

linkedin.com/in/tylerbrooks-auto

PROFILE

Automotive Engineer with 3.5 years of experience at an OEM Tier-1 supplier developing EV powertrain and vehicle-systems components from concept through SOP. Contributed to programs shipping 450K units annually, improved inverter thermal performance by 12%, and closed 200+ validation issues before launch. Skilled in MATLAB/Simulink, CAN-based testing, DVP&R, and functional safety (ISO 26262).

SKILLS

Vehicle & Powertrain: EV Powertrain, Inverters & Motors, Battery Thermal Management, Vehicle Dynamics, NVH Basics, Calibration, Requirements Management (DOORS)

Validation & Testing: DVP&R, HIL/SIL Testing, CAN/LIN Diagnostics (CANalyzer, CANape), Durability & Environmental Testing, Data Analysis, FMEA, 8D

Tools & Standards: MATLAB/Simulink, CATIA V5, ANSYS, Python, Teamcenter, JIRA, ISO 26262, ASPICE, IATF 16949, APQP/PPAP

EXPERIENCE

Powertrain Systems Engineer

Jun 2023 – Present

Motor City Mobility Systems — Troy, MI

- Develop and validate EV traction-inverter and thermal-management subsystems for a program shipping 450K units per year to 2 OEM customers.
- Improved inverter thermal performance by 12% through coolant-flow redesign validated with ANSYS CFD and bench testing, enabling a 4% power-density gain.
- Built Simulink models and HIL test cases (350+) that identified 200+ defects before vehicle integration, avoiding an estimated \$1.1M in late-stage changes.
- Own DVP&R for 5 components and led 8D responses to 3 customer issues with closure in under 30 days.
- Support ISO 26262 ASIL-C safety analysis (FMEA, FTA) and requirements traceability in DOORS.

Vehicle Test & Validation Engineer

Jul 2022 – May 2023

Great Lakes Vehicle Engineering — Dearborn, MI

- Planned and executed durability, thermal, and environmental testing on 6 vehicle components, completing 40,000+ test hours.
- Collected and analyzed CAN data with CANalyzer and Python, identifying root causes of intermittent faults that reduced warranty claims by 15%.
- Wrote test procedures and reports for OEM review with 100% on-time delivery.
- Supported 3 prototype builds and launch readiness, coordinating suppliers and plant engineers.

MOTORSPORTS

Powertrain Lead, Formula SAE Electric (University of Michigan) — designed 80 kW drivetrain; team finished top 10 internationally.

EDUCATION

Bachelor of Science in Mechanical Engineering

University of Michigan — Ann Arbor, MI

2022 | GPA 3.6

CERTIFICATIONS

- Engineer in Training (EIT), State of Michigan
- ISO 26262 Functional Safety Foundation (TÜV)
- SAE International Member
- Six Sigma Yellow Belt