

# CODY BADGER

c@codycardbadger.com  
(415) 409-9362  
linkedin.com/in/codybadger/

Senior Mechanical Engineer with 15+ years of experience in vehicle and hardware testing, mechanical system validation, and robotic product development. Proven ability to lead cross-functional engineering teams and deliver reliable systems in EV, AV, and aerospace applications. Passionate about solving complex engineering problems at the intersection of mechanics, electronics, and data.

## Select Professional Experience

### Engineering Consultant (May 2025 - Current)

*Developing hardware and software to control large-scale environmental control for an early-stage agriculture startup.*

### Senior Hardware Test Engineer, Reliability II - Cruise (San Francisco, CA, April 2022 - April 2025)

*Cruise built advanced self-driving vehicles, was bought by GM and shut down in 2025.*

- Planned and executed hardware reliability tests on compute, sensor, robotics, and cargo systems and components
- Computed tests included chip (including custom silicon), component, board, system, level tests
- Assisted with mechanical design of wheelchair access vehicles and test fixtures
- Cross-functional FMEA work with reliability, design, manufacturing, failure analysis teams

### Powertrain Test Engineer - Zero Motorcycles (Scotts Valley, CA, February 2021 - March 2022)

*Zero Motorcycles is a global leader in electric motorcycles who partnered with Polaris to bring Zero powertrain technology to Polaris powersport vehicles*

- Initiated and led validation efforts on the Zero + Polaris partnership
- Coordinated with Polaris engineering teams in order to plan, execute, and analyze EV powertrain validation tests that met Polaris validation needs
- Executed powertrain tests for EV battery pack, chargers, motor, controllers, BMS
- Reviewed environmental, mechanical, thermal test specifications
- Managed and participated in DFMEAs and DVP&Rs for various powertrain systems

### Lead Reliability Test Engineer - Loon (Mountain View, CA, August 2018 - April 2021)

*Loon developed essential components of a cell tower and redesigned them to be light and durable enough to be carried by a balloon at a 60,000 foot elevation, on the edge of space*

- I managed the hardware reliability test lab team responsible for aerospace systems validation and participated both as an independent contributor (IC) and team lead
- As a team lead, I oversaw all up to 50 live tests and ensured the team's workload was properly distributed based on individual schedule and expertise. Additionally, performed lab manager duties
- As an IC, I set up, maintained, monitored, and analyzed between 5 and 15 tests at any given time. I programmed the environmental chamber, wrote/edited test scripts, built data visualization and alerts

### Vehicle Reliability Test Engineer - Tesla Motors (Fremont, CA, October 2012 – April 2013)

- Conducted pre-production endurance durability tests on Model S mule vehicle builds
- Daily reporting to engineering teams with a goal to find immediate resolution on vehicle, system, and component level issues
- Loading from road input, drivetrain & environmental cycling were balanced to simulate full life

### Product Validation Test Engineer II - Case New Holland (Burr Ridge, IL, August 2011 – October 2012)

- Design, setup, execute & report on structural, drive train, and vibration tests on heavy equipment vehicles
- Test data analysis and reporting of structural damage, life estimates, and vibration limits

Please refer to my [LinkedIn](#) profile to review my complete professional experience

## Competencies

### Engineering & Analysis

Hardware Design  
Reliability Testing  
Failure Analysis  
Component/System FMEA  
Structural/Life Testing  
Test Standards & Protocols  
Data Acquisition  
Vibration/Environmental Test  
Mechanical/Electrical Debug

### Design & Development Tools

CAD: SolidWorks, NX, Onshape  
Simulation: MATLAB, JMP  
Programming: Python, C/C++  
Data Management

### Hardware & Electronics

Power Electronics (LV/HV)  
PCB/Chip/Component Testing  
Sensor Integration  
Test Equipment

### AI & Software Development

AI Workflows  
Embedded Systems Integration  
API Development  
Software/Script Debugging  
Test Automation  
Cloud Tools: GCP, Looker, BQ

### Project & Team Leadership

Cross-functional Collaboration  
Test Lab Management  
Vendor Coordination  
Team Management  
Technical Documentation  
Process Improvement

### Languages

English (Fluent)  
Spanish (Profesh Proficiency)

## Education

### Mechanical Engineering

MSME, UCLA  
BSME, UCLA

## At home, I like to

All of the above ↴ plus this ↴  
camp, swim, photograph, cook,  
basketball, drive, hike, music,  
bicycle, organize, family, tinker,  
garden, ski, learn, volleyball,  
fish, spreadsheets,  
restorations, golf, surf, and  
more.