Evan Butler

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Summary

Graduate Mechanical Engineering Student, aspirations in integration and test. Skilled in mechanical and electrical design, testing, and analysis, with a passion for hands-on troubleshooting and software-driven solutions. 3 month co-op preferred.

Education

Oregon State University | Corvallis, OR Graduating June 2027
Master of Science, Mechanical Engineering / Robotics

Arizona State University | Tempe, AZ Aug. 2021 – May 2025
Bachelor's of Science, Mechanical Engineering *3.50 | Cum Laude*

Experience

PLM / Data Management Intern | Boeing | Mesa, AZ Jun 2025 – Sep. 2025

- Converted 1800-line bash workflow to Python, streamlining code by **34%**, and reducing execution time by **42%**.
- Automated file sorting and handling tasks, **eliminating 4+ man hours** per deliverable.
- Supported creation of site-wide "tool matrix" - detailing data/tool usage across engineering teams/disciplines

Team Lead, Data Acquisition | ASU FSAE | Tempe, AZ Aug 2021 – May 2025

- **Led a 15 member team** to design, manufacture, and integrate a custom electromechanical data acquisition package to measure and log static and dynamic vehicle state information.
- Applied and calibrated strain gauges, accelerometers, and other electronic vehicle instrumentation.
- Re-designed in-wheel assembly to reduce space **footprint by 20%** and increase assembly **rigidity by 90%.**
- Reworked wheel speed sensor/target pairs to utilize VR sensors, **reducing rotating mass by $\frac{1}{4}$lb, and cost by 78%**.
- Designed and integrated low-voltage wiring harness, piloting modular unified CAN architecture
- Wrote and validated embedded software to facilitate user inputs and system diagnosis.
- Adopted standardized design for PCBAs, enabling shared code base between devices.
- Implemented PCB production SOPs to **reduce assembly time by 50%**, and minimize rework.

Integration and Test Intern | Reliable Robotics | Mountain View, CA May 2024 – Aug 2024

- **Supported experimental flight test** operations, including vehicle preflight checkouts, triage, and test engineering roles.
- Led build out of an aircraft representative C208B throttle quadrant to integrate into HIL test bench.
- Organized and sourced **140+ item aBOM** - delivered complete mechanical assembly for integration.
- Analyzed and vetted hardware/software changes for potential impact to aircraft safety and operations.

Projects

NASA LASSIE | *Corvallis, OR* Jun 2025 – Present

- Design and own electromechanical leg proxy, to estimate soil rheology in laboratory and field conditions.
- Support sensor integration, test stand design, and data filtering efforts.

Active ARB Capstone | *Tempe, AZ* Aug 2024 – Jun 2025

- **Led a team of 8** to develop, test, and integrate an actuated blade roll bar onto ASUs FSAE car.
- Executed 8+ test cases to evaluate system performance, uncovering plastic bearing deformation and driving the replacement with stiffer material, achieving **a 300% reduction in error.**
- Spearheaded DFMEA and system engineering strategies for safe, cohesive design.

"Ranger" Electrified 4WD Traction Control Project May 2023 – Sep 2023

- Engineered **traction control system with four electric motors** that allowed for active torque vectoring and real-time manipulation of vehicle dynamics — including commanding and mitigating oversteer.

MV-22B "Osprey" Replication Project May 2021 – Jan 2022

- **Reverse-engineered more than 50** flight, hydraulic, and electric subsystems of the Bell-Boeing MV-22B Osprey.
- **Interviewed USMC VMM-163 pilot** to validate system models; authored technical documentation for 45,000+ users.

Technical Skills

Languages: Python, C/C++, Lua, Bash
Design / Modeling: SOLIDWORKS, NX, Teamcenter, Adobe Inventor, Fusion 360, KiCAD
Developer Tools: Git, JIRA/Confluence/Atlassian, Google Cloud Platform, VS Code, PlatformIO, Arduino, STM32cube
Libraries / Platforms: pandas, os, glob, Matplotlib, STM32, ESP32, Teensy