Bradley W. Merrill

Mechanical Engineer — Full Stack Developer

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SUMMARY

Results-driven engineer with 10+ years of experience combining mechanical design and software engineering expertise. Specializes in full-stack development, hardware solutions, and emerging technologies including blockchain, automation, and machine learning. Proven track record of delivering customer-focused solutions while ensuring compliance with international standards.

PROFESSIONAL EXPERIENCE

Nuvera Fuel Cells — Electromechanical Design Engineer — 2023-2024 — Billerica, MA

- Led high-voltage fuel cell system compliance testing, improving insulation resistance in humid conditions
- Developed ISO-compliant work instructions and high-voltage testing methodologies
- Implemented IQ/OQ/PQ protocols for new equipment validation
- Streamlined assembly processes through cross-functional team collaboration

Aved Electronics — Electromechanical Engineer — 2022-2023 — Billerica, MA

- Designed automation and vision inspection systems, generating $100K+ annual savings
- Engineered mechanical jigs and fixtures to optimize production workflows
- Implemented Keyence AI vision systems for laser weld inspection, achieving 0% scrap rate
- Led Six Sigma process improvement initiatives

Desktop Metal — Contract Engineer — 2021-2022 — Burlington, MA

- Optimized additive manufacturing processes and 3D printing production workflows
- Reduced prototype development time and costs through process improvements

ASM NEXX — Mechanical Engineer III — 2019-2020 — Billerica, MA

- Managed additive manufacturing operations, focusing on complex semiconductor components
- Designed and scaled 3D-printed parts including air knives for high-performance systems

Amphenol TCS — Product Engineer — 2013-2018 — Nashua, NH

- Led development of Xcede and X2 high-speed differential pair connector platforms
- Designed injection molds, pneumatic presses, and stamping dies
- Conducted qualification testing and managed international manufacturing optimization

TECHNICAL EXPERTISE

- Programming: Python, Rust, Java, C++, LabVIEW
- Web Development: Full-stack (HTML, CSS, JavaScript, Node.js, React, SQL)
- Blockchain: Smart contracts, Solidity, Rust for Solana

- Engineering Software: Creo, SolidWorks, AutoCAD, Windchill, Keyence Vision Systems

- Machine Learning: AI vision systems, pattern analysis

- Hardware: Custom PC builds, GPU mining rigs, robotics

- Standards: ISO, GBT, ANSI, ASME

EDUCATION

Worcester Polytechnic Institute
B.S. Mechanical Engineering, 2013
GPA: 3.4, High Distinction

CERTIFICATIONS & AWARDS

- Certified SolidWorks Associate (CSWA)

- ESET Cyber Security Awareness Training

- Henry Strage Innovation Award, 1st Place

- Sean Gleason Memorial Award

NOTABLE PROJECTS

- AI Vision System: Developed defect detection system for laser welds ($100K monthly savings)

- Femto Connector: Created high-performance connector meeting Telcordia standards

- Blockchain Development: Built Solana-based applications and derived legacy Bitcoin private keys