

Daniel Bushong

Principal Software Engineer

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PROFESSIONAL SUMMARY

Principal Software Engineer and Engineering Lead with 10+ years of experience designing and operating large-scale, distributed software systems spanning automation, data infrastructure, and real-time control. Proven record of architecting production-grade platforms integrating hardware telemetry, simulation, analytics, and operator-facing software in high-consequence environments. Experienced in building containerized and non-containerized web applications as well as Electron-based desktop applications, often under constraints including air-gapped networks, on-prem infrastructure, safety requirements, and classified program boundaries.

CORE TECHNICAL EXPERTISE

- Distributed systems architecture; event-driven messaging; real-time telemetry pipelines
- Backend services: Node.js, Python; REST and message-based APIs
- Application development: modern JavaScript; non-containerized web applications; Electron desktop applications
- Data systems: time-series and relational databases; schema and pipeline design
- Infrastructure: Linux servers; containerization; on-prem and air-gapped deployments
- Automation and controls software: closed-loop feedback systems; simulation-to-production parity

PROFESSIONAL EXPERIENCE

X-Bow Systems — Engineering Lead / Principal Software Engineer (2023–Present)

Descriptions are intentionally generalized due to classified program work.

- Architect and technical owner of a multi-tier distributed software platform supporting advanced manufacturing, automation, and test operations.
- Designed and operated real-time telemetry and control pipelines enabling monitoring, simulation, and operator interaction with complex physical systems.
- Built containerized services alongside standalone web and Electron desktop applications based on deployment and security constraints.
- Deployed and supported software across on-prem and air-gapped environments while serving as a technical bridge between controls, manufacturing, and software teams.

United Healthcare — Software Engineer (2021–2023)

- Developed and maintained full-stack applications supporting large-scale internal automation and data workflows.
- Improved system reliability and performance in a regulated enterprise environment.

GetTrashedSD — Founder / Director / Software Engineer (2019–2020)

- Founded and led a technology-driven environmental nonprofit organization.
- Designed and built custom software for volunteer coordination and event logistics.
- Organized the largest beach cleanup event in California state history.

SolarCity — Field Energy Specialist (2015–2018)

- Supported renewable energy installations and customer-facing technical operations.

- Developed early experience interfacing software systems with real-world hardware and logistics.

EDUCATION

Towson University — Bachelor of Science, Management

University of Texas at Austin — Full Stack Software Engineering Certificate