
FORWARD DEPLOYED ENGINEER | FULL-STACK & OPERATIONAL SOFTWARE

Available for full-time onsite work, relocation, and travel.

Full-stack development: TypeScript, React, Python, FastAPI, Rust, PostgreSQL, SQL, and REST APIs; operator interfaces, data services, and constraint-based planning.

Deployment & reliability: Docker, AWS, Linux, Git, and Nix; authentication, authorization, audit logging, troubleshooting, validation, and reproducible test environments.

Customer-facing delivery: Operational discovery, requirements translation, workflow automation, engineering tradeoffs, technical documentation, and nontechnical-user training.

Professional Experience

Shipyard Operations Software

03/2026 - Present

O3 World Wide | Customer-facing planning software

- Designed, built, and deployed shipyard-planning software connecting installation tasks, parts, personnel, and shared equipment in a PostgreSQL ontology, with Rust and Python/FastAPI services and a React/TypeScript operator interface.
- Translated installation sequences and resource constraints into executable scheduling logic using OR-Tools CP-SAT; integrated operational-data and OPC-UA adapters, role-based access, event history, and reviewable audit records.
- When planners requested late-part and equipment delays in their plans, extended the dependency model and scheduler; replayed historical schedule delays to validate revised behavior before release.

Ibrium Studios

09/2025 - 05/2026

Embedded Systems Engineer | Disney contract

- Worked directly with production stakeholders to translate creative requirements into a multi-axis robotic system spanning custom boards, ARM Cortex-M firmware, CAN actuators, and digital-twin registration.
- Built AWS-backed production asset and cost-management workflows; revised automated cleanup and idle-resource shutdown around ownership and active-session checks to protect concurrent animation work, testing active and inactive scenarios before deployment.
- Resolved intermittent control latency using a logic analyzer to isolate a control-loop deadline overrun; moved scheduling to a fixed-rate timer interrupt and revalidated the motion sequence.
- Delivered integrated controls under a fixed production deadline; documented procedures, explained system behavior, and trained nontechnical production crews.

MedBWS

05/2020 - 06/2023

Automation Lead | Pharmaceutical workflow software

- Built and supported a computer-vision and Swift iOS workflow for pharmaceutical identification and disposal, deployed across hospitals in a HIPAA-compliant environment.
- Translated operational requirements into Java application logic, SQL validation, authorization controls, protected data handling, and audit logging; surfaced conflicting information for review.
- Connected facilities, drivers, and pickup windows with route-cost prediction and constrained planning to support operational scheduling.

Engineering Software and Additional Experience

AI-Assisted Aircraft Design Tool

02/2026 - Present

AEROS | O3 World Wide aircraft development program

- Worked alongside aerospace engineers to translate coupled blended-wing-body design requirements into a repeatable Python workflow connecting geometry, aerodynamic and structural solvers, and flutter assessment for payload-specific tradeoffs.
- Screened hundreds of variants, advanced three finalists to higher-fidelity analysis, and identified a trade-study design with approximately 24% lower structural mass than baseline.
- Built an event-backed validation chain across analysis handoffs, retained solver artifacts, checked outputs against published references, and flagged uncertain results for specialist review.

Counter-UAS Electronic-Warfare Decision Engine

03/2026 - Present

Independent decision-support software | Simulation and replay

- Built a Haskell signal-processing pipeline for synthetic and recorded IQ data; extracted emitter observations and compared constrained response plans against explicit mission state.
- Preserved plan-scoped evidence and confidence-based abstention so recommendations remained reviewable; evaluated behavior through adversarial scenarios and recorded-input replay.
- Used Nix for reproducible build environments and investigation of software behavior against the inputs and decisions that produced it.

Additional Experience

Tata

12/2025 - 02/2026

Field Researcher and Developer | Apple AR/LiDAR research partnership

Conducted AR/LiDAR research across field sites, traveling throughout the engagement to configure sensors and validate captures. Developed C software and repeatable data-collection protocols for consistent indoor scanning.

Saddleback College Robotics

06/2021 - 06/2023

Co-Software Lead | Mars Rover Team

Built React/TypeScript and Foxglove telemetry and waypoint interfaces; co-led ROS 2 rover field trials and Rust/STM32 integration. Used GitHub reviews, simulation, rosbag replay, and Docker to investigate and regression-test changes.

Technical Skills

Languages: TypeScript, Python, Rust, C, C++, Java, Swift, Haskell, Go

Applications & data: React, FastAPI, PostgreSQL, SQL, REST APIs, role-based access, operational ontologies, and OR-Tools CP-SAT

Delivery & validation: AWS, Docker, Linux, Git, Nix, automated checks, recorded-run replay, documentation, and operator training

Engineering tools: NumPy, SciPy, OpenVSP, CalculiX, ROS 2, ARM Cortex-M, CAN, and logic-analyzer debugging

Coding assessment: CodeSignal Industry Coding Assessment, 600/600, August 2026

Education

Irvine Valley College | Computer Engineering coursework

All A grades in C++, Computer Organization and Assembly, MATLAB, Python, Calculus, Linear Algebra, and Differential Equations. Finalist, CLA Hacks 2023.