

Salvatore Bonsma

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EDUCATION

University of Washington, B.S. in Computer Science Expected June 2028
North Seattle College Oct 2024 – Jun 2026
Running Start / College Dual Credit — GPA: 3.99
Coursework: Calculus, English Composition, American History

EXPERIENCE

Programming Lead — Hawaiian Kids Robotics, Team #359 (Waialua, HI · Remote) May 2025 – May 2026
4 years of competitive robotics; lead software contributor on a nationally competitive team.

- Rearchitected the team's robot software around industry-standard patterns; built a physics-based simulation environment for developing subsystems before hardware exists, and a logging + log-replay pipeline that reproduces bugs and tests fixes against recorded match data.
- Built a real-time, pub/sub-based live-tuning system that lets the team adjust nearly any robot parameter without redeploying, including an in-match calibration tool used by the operator from the control dashboard.
- Designed a five-camera fiducial-marker pose-estimation pipeline with custom outlier filtering, fused with wheel-encoder odometry for a smooth, accurate 360° robot position estimate robust to slip and noise.
- Implemented modular autonomous routines and a custom point-to-point motion controller using profiled-PID translation and rotation for high-precision positioning, plus a two-button driver scheme that automates target selection, mechanism spin-up, and aiming based on the robot's field position.

Founder & Developer — Pulse Aug 2024 – Mar 2026

- Founded and built Pulse, a real-time web platform for the competitive robotics community, using Next.js and WebSockets.
- Owned the full product lifecycle end-to-end: UI/UX design, front-end application logic, back-end services, and deployment.

Founder & Author — Learn Rust (learnrust.net) 2026 – Present

- Founded and authored Learn Rust, a free 26-chapter course modeled on learncpp.com that teaches Rust from first principles through ownership, traits, generics, async, smart pointers, and unsafe/FFI; every code example is machine-verified to compile and run against the current Rust toolchain before publication.

Discovery Corps — Pacific Science Center Jun 2023 – Aug 2024

- Facilitated interactive STEM exhibits and educational programming for museum visitors of all ages.

Co-Founder & Technical Officer — InnovatED (getinnovated.org) Jun 2023 – Aug 2025

- Co-founded a 501(c)(3) nonprofit focused on STEM educational equity; built the systems that distributed custom PCB kits free to low-income households.

Electrical Engineering Mentee — ACE Mentor Program of America Nov 2022 – May 2026

- Selected for ACE, an after-school program that pairs high school students with practicing professionals in architecture, construction, and engineering; mentored on the electrical engineering track over multiple project cycles.

AWARDS

- Innovation in Control Award (×2) — Recognized for robot software and control-system design; FIRST Robotics regional events, 2026.
- Autonomous Award — Recognized for autonomous-mode design and execution; FIRST Robotics regional event, 2026.

SKILLS

Languages: Java, TypeScript / JavaScript, C, C++, Rust

Frameworks & Tools: Next.js, WebSockets, Git, Onshape (CAD)

Domains: Full-Stack Web Development, Robotics & Control Systems, Computer Vision, Autonomous & Real-Time Systems, Technical Writing, UI/UX Design