

IntervalZero

Job Posting – Waltham, Massachusetts

Senior/Principal Software Engineer — Systems and Processor Architecture

About IntervalZero

IntervalZero is committed to reinventing how Industrial Control Systems are developed, deployed, and managed. With decades of real-time software innovation and a global customer base across automation, medical, aerospace, test and measurement, and advanced manufacturing, we have consistently delivered deterministic performance and engineering excellence.

Today, we are extending that legacy into the next era of industrial computing. MaxRT wRTOS™ unifies our real-time and automation technologies into a single platform designed to meet the demands of cyber resilience, IT/OT integration, and cloud-orchestrated control.

Headquartered along the Boston technology corridor, IntervalZero is relentlessly focused on its customers, and we share their pursuit of excellence. We partner closely with machine builders and OEMs to help them transition from operational disruption to remote continuity, from labor-intensive patching to centralized automation, and from compliance risk to built-in resilience. Our focus remains constant: deliver the software foundation that allows our customers to innovate with confidence in a rapidly changing world.

About this Position

We are looking for a Senior or Principal Software Engineer to join our core engineering team and work on low-level system software, including processor configuration, real-time subsystems, and platform-level architecture. This is a hands-on role for engineers who enjoy working close to the hardware and solving complex systems problems.

In this role, you will design and implement low-level subsystems that interact directly with modern processors and operating system internals. You will be responsible for configuring

processors, optimizing real-time behavior, and contributing to the architecture of high-performance systems used in demanding, safety-critical environments.

At the Principal level, this role also includes technical leadership, architectural decision-making, and mentoring other engineers.

Key Responsibilities

- Design and develop low-level system software, including kernel-adjacent subsystems and platform services.
- Work directly with processor architecture and configuration, including:
 - CPU initialization and configuration.
 - Interrupts, timers, and memory management (MMU, caching).
 - Multi-core and multi-processor systems.
- Implement and optimize real-time and deterministic execution paths.
- Analyze system performance, latency, and reliability issues at the hardware/software boundary.
- Collaborate with hardware vendors, silicon documentation, and reference platforms.
- Contribute to system architecture decisions and long-term technical direction.
- Review code and design documents; promote best practices in systems programming.
- (Principal level) Mentor senior engineers and provide technical leadership across teams.

Qualifications

Required

- 8+ years of experience (Senior) or 12+ years (Principal) in **systems-level software development**.
- Expert-level proficiency in **C and C++**.
- Strong experience with **low-level OS or kernel-adjacent development**.
- Deep understanding of:
 - Processor architecture (x86 and/or ARM preferred).
 - Boot processes and hardware initialization.
 - Interrupt handling, scheduling, and synchronization.
- Experience with **multi-core, real-time, or embedded systems**.
- Ability to read and work from processor datasheets, chipset documentation, and specifications.
- Strong debugging skills using low-level tools (JTAG, debuggers, performance profilers).

- Excellent problem-solving and communication skills.
- Needs to be within driving distance of our Waltham, MA office.

Preferred

- Experience with **real-time operating systems** or deterministic systems.
- Background in **embedded, industrial, aerospace, defense, or safety-critical systems**.
- Familiarity with Windows internals or hybrid RTOS/Windows environments.
- Familiarity with Linux.
- Experience with BSP development or hardware bring-up.
- Knowledge of virtualization, hypervisors, or partitioned systems.
- Prior experience influencing architecture at a system or platform level.

Perks and Benefits

- Health, Dental, and 401(k) with an employer match of 25% up to 8% of total compensation.
- Accrue up to 3 weeks PTO annually to start, with additional PTO accruing every year at the company, up to 5 weeks after 10 years.
- 12 Paid Federal Holidays off and one floating Holiday per year.
- Hybrid work environment, with employees in the office on Tuesday and Thursday.
- Flexible working hours.

Interested? Email careers@intervalzero.com