Job Title: Senior Embedded Engineer

Location: Provo, Utah (Hybrid/Remote options available)

About Us:

At Inertial Sense we're on a mission to create intelligent navigation systems that have a real-world impact. As a small, agile team, we thrive on innovation, collaboration, and a sense of fun. If you're passionate about embedded systems, sensor fusion, and solving challenging problems, we'd love for you to join us as we continue to grow and make a difference.

Your Mission:

As a Senior Embedded Engineer at Inertial Sense, you'll have the opportunity to shape the future of our inertial navigation systems. You will contribute to the design and development of software solutions that are efficient, reliable, and scalable. Your deep understanding of software architecture, along with your expertise in C++ and low-level protocols, will help drive the performance and innovation of our products.

What You'll Do:

- **Develop & Design:** You'll play a key role in designing and building software systems that are both efficient and maintainable. Your solutions will be built on strong design principles, ensuring reliability and scalability for the long term.

- **C/C++ Development:** Write clean, high-performance C and C++ code for embedded systems. Your code will be efficient and effective, optimizing resource usage without compromising readability or scalability.

- **Low-Level Protocols:** You will work with communication protocols like UART, SPI, I2C, and CAN to ensure seamless data exchange between sensors, microcontrollers, and other embedded systems.

- **Sensor Fusion:** Assist with implementation and optimization of sensor fusion algorithms, including Extended Kalman Filters (EKF), to seamlessly integrate data from accelerometers, gyroscopes, and magnetometers for precise position and orientation estimates.

- **Cross-Platform SDKs & APIs:** Develop APIs and SDK components for multi-platform environments, focusing on Windows, Linux, and embedded systems like Arduino and PlatformIO.

- **RTOS Expertise:** You'll leverage The Zephyr Project real-time OS to ensure our systems meet demanding real-time performance standards.

- **Testing & Validation:** You will help design and implement tests that validate system performance, ensuring our products perform as expected in real-world conditions.

- **Collaboration & Mentorship:** Collaborate with our talented team, guiding and mentoring junior engineers while learning and growing together in a supportive environment.

What You Bring:

- **Solid Software Engineering Practices:** You have a strong foundation in software architecture and a passion for building maintainable, scalable systems. You're comfortable applying design patterns, like those from Gang of Four, to solve complex challenges.

- **Problem-Solver's Mentality:** You love tackling tough problems and are driven to think outside the box to find creative solutions. Your "hacker mentality" keeps you curious and excited about overcoming obstacles.

- **Adaptable & Self-Driven**: You thrive in a dynamic environment, wearing multiple hats as needed. You manage your time effectively, switch gears seamlessly, and stay motivated to drive projects forward with minimal oversight.

Your Technical Skills:

- Proficiency in C and C++ (including the latest standards, like C++11 and beyond).

- Experience with low-level communication protocols such as UART, SPI, I2C, and CAN.

- Experience in sensor fusion and implementing Extended Kalman Filters (EKF).

- Familiarity with real-time operating systems (RTOS), especially The Zephyr Project.

- Comfortable working in multi-platform environments, including Windows, Linux, and embedded systems (e.g., Arduino, PlatformIO).

- Solid understanding of software design principles and common design patterns (e.g., Gang-of-Four).

Nice-to-Haves:

- Experience with hardware-in-the-loop (HIL) testing.

- Familiarity with additional sensor technologies like GNSS or visual odometry.

Why Inertial Sense?

- **Innovative Projects:** Contribute to cutting-edge inertial navigation technologies in a close-knit, collaborative team.

- **Flexibility:** Enjoy the benefits of hybrid/remote work options, giving you the flexibility to balance work and life.

- **Competitive Benefits:** We offer a comprehensive benefits package, including health, dental, and vision insurance, a 401(k) plan with company matching, and more.

Ready to Join the Team?

If you're an embedded systems engineer who thrives on innovation and collaboration, we'd love to hear from you. To apply, please send your resume and a brief introduction to info@inertialsense.com. We look forward to exploring how you can help us navigate the future of inertial systems!