



Description: Embedded Software/Firmware Internship/Co-op

Job Purpose: As a part-time Embedded Software/Firmware Engineer at ANZE Suspension, you will lead the full-stack development of embedded systems, integrating hardware, firmware, and software to create innovative solutions for the motorsports sector. Your role will involve the entire development lifecycle, including planning, coding, testing, and documentation for data acquisition and processing systems, as well as IoT devices in sports cars, drag racing, and autocross.

Core Responsibilities

- **Firmware/Driver Development:** Participate in the design, development, and testing of firmware and device drivers in C/C++ for current and upcoming IoT and data acquisition devices.
- **IoT Enhancements:** Improve IoT capabilities by efficiently incorporating BLE, Wi-Fi, and other communication protocols into devices.
- **Testing and Validation:** Conduct thorough testing and validation of firmware, software and hardware to ensure reliability and performance under high-stress conditions.
- **Software Integration:** Develop and implement software solutions for application development on Android and iOS platforms.
- **Debugging:** Utilize debugging tools and techniques to identify and resolve firmware and hardware issues, enhancing overall system functionality.
- **Data Acquisition:** Assist in implementing data acquisition systems to ensure accurate collection and processing of data from sensors and devices.
- **Documentation:** Create and maintain comprehensive documentation for firmware design processes, testing procedures, and user manuals.

Qualifications

- **Programming Skills:** Proficient in C/C++ programming for embedded systems and firmware development.
- **Mobile Application Development:** Experience with Flutter and Android Studio for cross-platform mobile application development, including UI/UX design and app architecture.
- **Real-Time Operating Systems:** Knowledge of FreeRTOS for real-time operating system implementation in embedded applications.
- **Microcontroller Expertise:** Familiarity with ESP32 and STM32 microcontrollers for hardware integration and firmware development.
- **Platform Development:** Proficient in using ESP-IDF for developing applications on ESP32 platforms.
- **Communication Protocols:** Understanding of communication protocols such as I2C, SPI, Wi-Fi, and BLE for effective device connectivity and data exchange.
- **Troubleshooting Skills:** Strong troubleshooting skills for debugging software and hardware issues in embedded systems.
- **Adaptability:** Willingness to learn and adapt to new technologies and methodologies in a fast-paced environment.
- **Version Control:** Experience with version control systems (e.g., Git) for managing code changes and collaboration.

Educational Background

- Pursuing a degree in Electrical Engineering, Computer Engineering, Computer Science or a related field, with coursework or projects relevant to embedded systems, electronics, or signal processing.

Angelo Zarra
President