

**Job Title** – Embedded Software Engineer

**Job Type** – Permanent, Full-time

**Sector** - Manufacturing

**Location** – Basildon, on site or hybrid

**Salary** - Competitive Salary

### The Company

Life Racing has extensive experience in the design, manufacture, development, and support of a broad range of products including engine control units (ECUs), power distribution units (PDUs), display units, integrated paddle shift systems and high reliability wiring harnesses to all levels and variations of motorsport from WRC to 24hr Le Mans.

Life racing offers a range of services to support clients including on site and remote support, complete wiring harness solutions, and custom electronic design. Extensive control systems experience provides the ability to advise on development from a control strategy perspective leading to better performance in shorter timescales.

Life Racing is based on the Essex/London border. Life Racing presents a small, yet exceptionally talented team driven to reach exceptional standards.

### The Opportunity

As an Embedded Software Engineer at Life Racing, you will design and develop real-time embedded software for engine control units (ECUs), data acquisition systems, and vehicle control modules. You will work closely with hardware, calibration, and applications engineers to deliver robust, high-performance solutions used in elite racing environments.

This role requires strong low-level programming skills, real-time system expertise, and a passion for high-performance engineering.

### Key Responsibilities

- Design and implement C/C++ firmware for embedded hard real-time control systems (PowerPC, MIPS)
- Work with real-time operating systems or custom bare metal architectures.
- Develop and maintain communication stacks (CAN, CAN-FD, LIN, Ethernet, SPI, I2C, UART etc)
- Implement and optimise control algorithms for engine management and vehicle systems.
- Support hardware bring-up, board validation, and system integration.
- Perform low-level tests, for example with oscilloscopes.
- Optimise performance, memory footprint, and deterministic timing behaviour.
- Contribute to software architecture, code reviews, and technical documentation.
- Support trackside and customer issue investigations where required.

### Required Qualifications & Experience

- Bachelor's or Master's degree in Electronic Engineering, Computer Engineering, Computer Science, or related discipline
- 5+ years' experience in embedded software development
- Strong proficiency in C (C++ advantageous) including language features typically used for bare-metal programming such as custom link scripts.
- Deep understanding / experience of hard real-time systems programming, interrupts, context priorities, coherency, and low-level hardware interactions such as DMA, memory types other than DRAM
- Appreciation of and experience with revision control, ideally including git
- Experience of analysing and debugging embedded environments

- Solid understanding of software design principles and structured development

#### **Desirable Skills**

- Encryption techniques, key management, cyber-security
- Experience with safety-critical or high-reliability systems
- Basic understanding of real-time sampling (aliasing, filtering)
- Basic understanding of control techniques (for example PID)
- Basic understanding of engine control concepts (injection, ignition, torque)
- Experience in motorsport electronics or high-performance automotive systems
- Vehicle calibration tools and vehicle data analysis
- Familiarity with AUTOSAR concepts
- Experience with model-based design
- Understanding of object-oriented principles (classes, inheritance, dynamic typing etc)
- Experience of AI coding environments
- Experience of parser / compiler creation

#### **Personal Attributes**

- Strong analytical and problem-solving skills
- Ability to work effectively in a fast-paced, collaborative environment.
- Attention to detail and commitment to software quality.
- Self-motivated with strong ownership mindset
- Passion for motorsport and high-performance engineering

#### **Hours of work & Benefits**

40-hour, full-time week, working 8 hours a day Monday – Friday, flexible across the hours of 7.30am to 6.00pm with a 30-minute minimum lunch break. To meet the needs of the role and fast paced nature of the business, the successful candidate will require a flexible approach to working hours.

The role is based on site at the Life Racing unit in Burnt Mills Industrial Estate owing to the training requirements.

Life Racing offer a competitive salary, flexible working hours and a company stakeholder pension scheme.

#### **Application Process & Closing Date:**

If interested, please send your details to: [careers@liferacing.com](mailto:careers@liferacing.com).

Please include:

- a copy of your CV
- a covering email explaining why you are a suitable candidate for the role.
- current salary and salary expectations
- availability to start / notice period.

Closing date: 10<sup>th</sup> April 2026