



Senior Level Motor Control Engineer

Job description

You have hands-on experience in BLDC motor control and designing firmware utilizing C and assembly-language programming. You have experience interfacing with serial communications peripherals in real-time systems. You are able to perform system validation and testing for motor control applications. The ability to test and debug existing applications, as well as write new code is the key for this role.

****Positions are available in both El Segundo, CA and Andover, MA locations****

Our global team, with over 50,000 employees, works to improve energy efficiency, enables new mobility concepts and provides for security in our digital age. With our innovative semiconductors and system solutions we contribute to a more sustainable future.

The Senior Motor Control Engineer role is part of Infineon's DC/DC Software R&D team. This team supports architecture, design and development of software and firmware for a family of power conversion, audio and motor control and drive products for the Power and Sensor Systems (PSS) division. The primary responsibilities of this role are algorithm and embedded firmware design for BLDC motor control applications.

The motor control firmware performs real-time control of a BLDC motors using a FLASH-programmable MCU. This includes development of control and drive algorithms, firmware design as well as communication through a serial interface.

In your new role you will:

- **Create control algorithms for battery-powered BLDC motor applications**
- Develop real-time **control system firmware** for **BLDC motors** using both 6-step and vectored control algorithms
- Design **Mixed-signal firmware** using **C and some assembly code** for **microcontroller-based ICs**
- Contribute new ideas **embedded firmware development** and write proposals for new features
- Create documentation of **embedded firmware designs** for **controller products** through feature definition, user guides and white papers
- Lead design and code reviews to identify the potential issues early in the development life cycle
- Work closely with customer-facing organizations to help **define and prioritize the IP backlog for motor control**

At a glance

Location:

Job ID: **355236**

Start date: **Jul 18, 2022**

Entry level: **5+ years**

Type: **Full time**

Contract: **Permanent**

Apply to this position online by following the URL and entering the Job ID in our job search:

Job ID: **355236**

www.infineon.com/jobs

Profile



You are a strong team player that hones the ability to effectively multi-task, manage priorities and solve technical problems independently. Your strong agility lends well to being flexible and responsive within a large, global organization.

You are best equipped for this task if you have:

- **BS Electrical Engineering, MSCS preferred** with an emphasis in **motor control theory**
- Minimum of **6-10 years of experience** in writing **mixed-signal embedded firmware**
- Experience with 6-step and **Field Oriented Control (FOC) algorithms**
- Experience with both sensed and sensorless topologies for 3-phase inverters
- Experience with both **trapezoidal and sinusoidal drive techniques**
- Familiar with serial communications protocols such as **UART, SPI and SWD**
- Lab skills to **debug Software and firmware** communication with hardware circuits
- Good at developing relationships with internal and external engineering community
- Are self-learning, self-disciplined, and a **good team player**
- Good communication skills in both verbal and written English
- Are highly motivated, energetic and enthusiastic

Additional/Desirable Skills:

- Application Knowledge of **BLDC Motor Control** and Drive Techniques
- Experience with **sensorless speed** and position estimators
- Experience with **LIN or CAN based peripherals** and protocols
- Version control systems such as **GIT or BitBucket**
- Debugger proficiency using **JTAG and SWD debuggers**
- Bug tracking system such as **JIRA**

Infineon **Power & Sensor Systems (PSS)** semiconductors play a vital role in enabling intelligent power management, smart sensitivity as well as fast and reliable data processing in an increasingly digitalized world.

Our leading-edge power devices make chargers, adapters, power tools and lighting systems smarter, smaller, lighter and more energy-efficient. Our trusted sensors increase the context sensitivity of “things” and systems such as HMI, and our RF chips power fast and reliable data communication.

– We drive leading-edge power management, sensing and data transfer capabilities –

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Why Us

Part of your life. Part of tomorrow.

Infineon is a world leader in semiconductor solutions that make life easier, safer, and greener. Our solutions for efficient energy management, smart mobility, and secure, seamless communications link the real and the digital world.

Infineon Technologies Americas Corp. is an equal opportunity employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex (including pregnancy, childbirth, or related medical conditions), gender identity, national origin, ancestry, citizenship, age, physical or mental disability, legally protected medical condition, family care status, military or veteran status, marital status, domestic partner status, sexual orientation, or any other basis protected by local, state, or federal laws. Applicants with questions about access or requiring a



reasonable accommodation for any part of the application or hiring process should contact the Talent Network by phone at (408) 503-2194.

Employment at Infineon is contingent upon proof of your legal right to work in the United States under applicable law, verification of satisfactory references and successful completion of a background check and drug test, and signing all your onboarding documents .

In some instances, if applicable, U.S. export control laws require that Infineon obtain a U.S. government export license prior to releasing technologies to certain persons. This offer is contingent upon Infineon's ability to satisfy these export control laws as related to your employment and anticipated job activities. The decision whether or not to submit and/or pursue an export license to satisfy this contingency, if applicable, shall be at Infineon's sole discretion.

IMPORTANT NOTICE :

Infineon is requiring all new U.S. employees and contractors to be fully vaccinated against COVID-19. Full vaccination is defined as two weeks after both doses of a two-dose vaccine or two weeks since a single-dose vaccine has been administered. Anyone unable to be vaccinated, either because of a sincerely held religious belief or a medical condition or disability that prevents them from being vaccinated, can request a reasonable accommodation.

Infineon Technologies takes data privacy and identity theft very seriously. As such, we do not request personally-identifiable information (PII) from applicants over the internet or electronically. Please kindly refrain from disclosing your PII electronically during the application process or to unauthorized websites that may purport to be Infineon or any of our affiliates.

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