



Digital Control Designer/Programmer

JOB DESCRIPTION

Job ID#: 2019-064B+C
Regular/Temp: Temp/Temp to Hire
Full-Time/Part-Time: Full-Time
Submit Reply and Resume to: CMEHR@custom-mfg-eng.com

MUST complete online assessment before consideration: <https://assess.predictiveindex.com/mGANJ>

Job Summary: We have an exciting opportunity for individual has proven experience in the design and layout of digital/microcontroller circuits, software programming of these circuits, and has strong C programming expertise and application of various embedded development hardware kits and boards. Position supports new product developments or product upgrades and some experience and understanding of power electronics, signaling, processing and control loops will be important to the power conversion hardware development team to expand CME's products & services.

DUTIES AND RESPONSIBILITIES

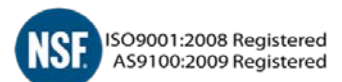
- Works independently to solve problems bringing solution options for issue resolution
- **Design, develop, implement, debug and maintain embedded real-time software and control algorithms for power conversion functions based upon careful math modeling techniques for optimum performance and in compliance with product specifications**
- Excellent organizational skills, detail oriented
- Firmware development for a new or existing advanced power conversion products (especially inverters and DC/DC and AC/DC converters) aimed at high reliability military and industrial applications such as micro/nano grids
- Develop documentation and test plans for software
- Develop standard and custom communication protocols for new systems, if required
- Use software/firmware tasks and other systems and assignments as required
- Ability to Multi-Task and Meet Deadlines

JOB QUALIFICATIONS

- Microcontroller or embedded basics
- C language programming with emphasis on real-time concepts
- Embedded software programming/de-bugging skills
- Ability to investigate, debug and modify existing MSP430 firmware code for existing power supplies
- Development of new Microcontrollers and Digital Signal Controllers, leveraging reference design products/evaluation kits such as Texas Instruments (e.g., TI C2000 real-time control MCU,



We Love to Design and Build!



controlCARD and controlSUITE, and TIDA-XXXXX & TIDM-XXXX type or other similar reference designs). Other experience sought includes experience with MSP430 and/or TMS320F28xxx and technologies for high reliability power systems

- Experience developing MCU solutions for power conversion hardware development team
 - Other skills of value include C++, Java, and abilities to develop custom GUIs or controls for custom test equipment or simulation test beds.
 - Ability to work independently *and* collaborate with teams.
 - Enthusiasm for CME's clients (internal & external) and their missions.
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- Must possess 3-5 years of progressive hardware and software background, including experience in:
 - Control system/MCU programming environment for power converters/inverters, converters, and intelligent power control modules, etc.
 - Analog and digital electronics circuits
 - C programming plus other languages
 - Computer models of control systems and ability to convert them into algorithms
 - Writing low level device drivers (ADC, PWM, Timers, SPI, SCI, UART, CAN, etc.).
 - Strong analytical and problem-solving skills
 - Good communication and interpersonal skills to enable effective interface with internal professionals; strong written and verbal skills
 - The ability to work independently or in a team environment

MINIMUM REQUIREMENTS NEEDED:

- BSEE, BSCS, or equivalent degree such as computer or information science, mathematics or physical sciences
- Positions with CME require access to controlled goods and technologies subject to the International Traffic in Arms Regulations or the Export Administration Regulations. Applicants for these positions need to be "U.S. Persons," as defined in these regulations. Generally, a "U.S. Person" is a U.S. citizen, lawful permanent resident, or an individual who has been admitted as a refugee or granted asylum.

Position Detail:

Position supports new product developments or product upgrades and some experience and understanding of power electronics, signaling, processing and control loops will be important to the power conversion hardware development team. Proven experience using TI development hardware kits and boards and associated software tools is important. Candidate has a basic understanding of Power Conversion, Power Electronics, Switch-Mode Power Supply hardware/controls and Communications. Experience in Modbus, TCP/IP, HTTP and SNMP protocols a plus. You should be a team player with attitude and disciplined focus to rapidly support design projects in a high velocity, dynamic environment.

Travel Percentage Required: None expected at this time.

An award winning Tampa Bay small business for two decades, Custom Manufacturing & Engineering, Inc. (CME®) delivers Engineering, manufacturing, test, and calibration/repair services to Government and

Industry. Join us at CME, where one can "Use Our Expertise to Design & Build Your Solutions" CME's culture is embodied by Core Values that are focused on: Serving the customer while protecting CME, delivering quality products and services as required, solving problems, working with energy and passion, and encouraging and developing employees that challenge themselves.

As a strong supporter of Science, Technology, Engineering and Math (STEM) and other select charitable initiatives, CME promotes and encourages employee community support to nonprofit organizations or educational institutions, especially for mentoring and school/student support. Most of CME's products and services are focused on the development and manufacturing of energy efficient and sustainable products such as more efficient power supplies, intelligent power distribution units, energy saving solar panels, and other electronic systems, end products, or components. (www.custom-mfg-eng.com).

CME is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, pregnancy, sexual orientation, gender identity, national origin, age, protected veteran status, or disability status.

*As a U.S. defense contractor CME is also subject to additional rules and regulations regarding the hiring of foreign persons. **In compliance with U.S. federal law, all persons hired will be required to verify identity and eligibility to work in the United States; CME cannot accept any person for employment who does not meet employment eligibility requirements, E-Verify verification, and/or is in the U.S. under a student (F1 and/or OPT, J1, or M1) and/or temporary work visa.** For the purposes of clarification, the I-9 defines eligibility of an employee as a: U.S. citizen, permanent resident card or alien registration card (Form I-551), a person with a temporary I-551 stamp on their passport or U.S. immigrant visa, and/or passport from the Federated States of Micronesia (FSM) or Republic of the Marshall Islands (RMI) with Forms I-94 or I-94A indicating nonimmigrant admissions under Compact of Free Association between the U.S. and FSM or RMI.*

Removal Date: 01-November-2019