

Job Description – Embedded Systems Engineer

The Candidate should be an experienced, detail-oriented individual to join our team and work in a Image-Guided Surgery Robotic environment. The Image-Guided Therapy Group of ARTORG Center for Biomedical Engineering Research of the University of Bern together with the Department of Neurosurgery of the University Hospital, Inselspital Bern is working on a collaborative project for pre-operative training of microsurgical procedures. Technology readiness level TRL 2 to TRL 4 is underway and we are currently validating the prototype with the neurosurgeons in Inselspital Bern with a focus towards TRL 5 to TRL 8. The candidate is expected to have a strong ability to analyze and understand an electronics system. The candidate shall perform full Embedded systems development within a multidisciplinary team environment. Their duties are related to research, design, development, implementation, testing, debugging, modifying.

Tools and Languages: PCB Design - Eagle/Altium, Circuit Simulation, LabVIEW and commendable knowledge in Embedded C Programming, wireless protocols, Sound knowledge in microcontrollers, peripherals, and SoCs.

Roles and Responsibilities:

- Design and develop embedded electronic products for Healthcare applications.
- Performing all aspects of design, development, implementation, testing of hardware and software for embedded systems.
- Work on analyzing the requirements, developing detailed hardware specifications, circuit design.
- Take responsibility for the design and overall quality of the hardware.
- Analyze worst-case conditions, circuit simulation, hardware realization, Design and Review PCB, prototyping coordination, testing of boards and design validation.
- Maintain engineering documents to meet quality system requirements.
- Interface with hardware design and development
- Interaction with customers and other internal teams such as software and mechanical engineering for project management, product validation, and manufacturing support

Minimum requirements to working experience:

- Minimum of 2 years of experience in PCB designing, circuit development and embedded field
- Expertise in C++/C programming skills
- Experience in developing embedded software for various micro controllers
- Expertise in Embedded kernels, bootloaders, system software libraries and device drivers
- Experience in detailed analysis, feasibility studies, performance analysis and prototyping, use of different protocol analyzer tools
- Ability to understand requirements and translate them into suitable solution architecture.
- Experience testing control electronics and micro-motor, assembly and peripherals
- Knowledge in embedded systems design with preemptive, multitasking real-time operating systems
- Familiarity with software configuration management tools, defect tracking tools, and peer review
- Adequate knowledge of reading schematics and data sheets for components



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- Ability to read and interpret engineering drawings
- Ability to apply principles of logical or scientific thinking to a wide range of intellectual and practical problems.
- Ability to deal with nonverbal symbolism (formulas, scientific equations, graphs, etc.,) in its most difficult phases.

Application (Single PDF) should consist of:

1. Letter of Motivation (1-page, font size 10) [Format- About me, Past and Motivation, How I fit for the role?]
2. CV (Academic Track Record, Professional Experience)
3. Any other supporting documents

Send applications to fredrick.joseph@artorg.unibe.ch