



Senior Electrical Engineer
LOCATION: Bedford, MA

Come join us!

Vivonics, Inc. is a biomedical engineering technology development firm that creates innovative solutions to important unmet needs in human health and performance and advances those technologies from the initial concept to viable products. Our primary focus areas are physiological monitoring, wearable and non-contact sensors, advanced signal processing, diagnostics, decision support and wearable non-invasive electrical stimulation devices.

POSITION DESCRIPTION

The Senior Electrical Engineer leverages a diverse set of technical skills and develops system architectures to execute the vision of the Business Development team. In this role, you will partner with the Principal Investigators and Project Managers to develop and achieve the technical approach.

In this position, you will be responsible for conceptualizing system architectures (hardware, communications, and software) to provide solutions to problems in human health and performance as well as identifying user requirements and translating those requirements into design specifications. You will lead the design, prototyping, verification, and realization of Vivonics hardware systems and individual components, including conducting design reviews.

Individual technical effort will include designing, creating electrical schematics and overseeing PCB layouts for low-power miniaturized analog and digital systems and producing the design documentation in compliance with Vivonics Quality Management System. You may also be required to create the firmware architecture and implement or oversee the firmware design, while working with multidisciplinary teams to deliver device solutions for use in clinical research and commercial applications.

Additional responsibilities include mentoring junior staff to support design, implementation, and testing activities. You will participate in meetings, demonstrations and presentations with team members and sponsors and communicate ideas and engineering concepts to all disciplines, including helping in the preparation of monthly and quarterly technical reports. You will also support Business Development by contributing to project proposals and project planning. Some domestic travel may be required (~5% of the time).

DESCRIPTION OF QUALIFICATIONS

The ideal candidate should possess a comprehensive skill set and extensive experience in circuit design, simulation, and schematic capture. This role demands a hands-on expert who can not only excel in core electronics design implementation and testing but also has familiarity with firmware development.

Additionally, the candidate should demonstrate strong communication and project management abilities, as the role involves working with and leading in-house or contracted software developers. The Senior Electrical Engineer will play a pivotal role in architecting the entire hardware and software system, therefore the ability to comprehend the broader context of electronics design within a larger system, incorporating diagnostic and analytic software, is crucial.

Overall, the ideal candidate for this role should bring a blend of technical expertise, communication and project management skills, and a holistic understanding of the integration between hardware and software components in complex systems.



BASIC REQUIREMENTS

- BS in Electrical Engineering (EE), Systems Engineering, or Biomedical Engineering with EE minor
- 5-10 years of relevant work experience
- Expert at digital and analog circuit design, simulation and schematic capture
- Experience with sensor signal conditioning and data acquisition
- Familiarity with embedded firmware (C preferred)
- Familiarity with system level design and functional partitioning

ADDITIONAL DESIRABLE SKILLS (not all required)

- Advanced degree MS / PhD
- Experience with biometric and physiological sensors, including near-infrared (NIRS) and optical-based systems
- Experience integrating data communication capabilities such as Bluetooth, Bluetooth LE, Ultra-wide Band, and NFC
- Experience managing noise and maintaining signal integrity
- Experience with low-power, miniaturized designs (battery operation)
-
- Knowledge of programming languages such as C/C++, MATLAB, and LabVIEW
- Experience with PCB layout (CircuitStudio/Altium preferred)
- Familiarity with human factors and usability engineering
- Familiarity with Mechanical CAD (SolidWorks or Onshape preferred)
- Working understanding of the application of risk management to medical device development
- Experience with medical product development under ISO 13485, ISO 14971, ISO 62304, ISO 60601 and FDA QSR.

To be considered for this opportunity, please send your resume to resumes@vivonics.com.

Vivonics is an equal opportunity employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability or veteran status.

Principals only. No recruiters please.