Firmware/Software Engineer
Cleveland, OH
Competitive Employment Package Offered

The **Firmware/Software Engineer** is responsible for the design and implementation of embedded systems and IoT connectivity for a wide range of consumer and medical products. All programs have the goal of commercialization and require this person to manage and direct contract manufacturers up to and including the product launch. Secondary responsibility is to assist in the completion of engineering tasks as identified by the lead engineer or program manager on the team.

Firmware/Software Engineer Responsibilities:
- Collaborate with engineers, developers and designers in other disciplines
- Create and manage relationships and projects with hardware and software development partners.
- Own the Software/Firmware design including the architecture, creation of requirements, specifications and implementation from prototype to production.
- Electronics hardware design with emphasis on microcontrollers, microprocessors, wireless radio modules (BLE, WiFi, Cellular), sensors and motion control.
- IoT architecture for entire firmware/software stack from local device to the cloud.
- Integration of new or existing products with IoT platforms such as AWS, Azure and Google Cloud
- Integration with home automation platforms such as Amazon Alexa, Google Assistant, Apple HomeKit and others.
- Planning and implementation for connected device security and OTA Firmware/Software Updates.
- Communicating expertise and company capabilities to prospective clients of technical and non-technical background.

Firmware/Software Engineer Requirements:
- BS degree in Electrical Engineering, Computer Engineering, Computer Science or Software Development. MS degree in related technical field preferred.
- 5-10+ years relevant experience.
- Extensive experience with microcontroller system design, specification and firmware/software development.
- IoT system design experience and deep working knowledge or the IoT hardware/firmware/software ecosystem.
- Project planning and project leadership skills and experience.
- Experience collaborating and managing outside software, electronics and design resources.
- Proficiency in C, Java, and Python programming language.
- Experience with ARM-core processors.
- Hardware and Firmware experience with at least one other microcontroller platform such as Microchip PIC, 8051, Atmel, TI MSP430.
- Bluetooth, WiFi and Cellular connectivity expertise.

- Experience specifying and utilizing APIs, SDKs and Open Source Libraries.
- Experience with secure OTA updates and other connected device security techniques.
- Experience with IoT platforms such as AWS IoT.
- Experience developing for an RTOS and Linux OS.
- Digital Protocol design and troubleshooting: I2C, SPI, USB, RS-232, RS-485, UARTs, CANbus, MODbus, LIN, etc..
- Rapid prototyping of working hardware/firmware prototypes using manufacturer evaluation boards, raspberry Pi, Ardruino, BeagleBone or similar.
- Expertise in interpreting product requirements, defining specifications, schematic design, PCB layout, prototyping, production design, fabrication and testing of electronic prototype assemblies.
- Working knowledge of operating principles of electric motors, actuators, sensors, displays and other transducers.
- Good understanding of high-speed signal integrity.
- Excellent analytical and technical skills.
- Experience working within a multi-disciplinary team environment.
- Excellent interpersonal, verbal and written communication skills.

Firmware/Software Engineer Preferred Qualifications:
- 8+ years relevant career experience.
- Consultancy experience with at least one prior employer.
- Expertise in complex PCB design and layout.
- Mobile App development.
- Experience with HL7 and/or FHIR (Fast Healthcare Interoperability Resources) for integrating healthcare data/images with EHR(electronic health record).
- Experience with formal software development process (such as Agile).
- Software Languages: Assembly Language, PHP. C++, Lua, Node, JS.
- Experience with network protocols HTTPS, XMPP, MQTT, BLE, JSON, XML, REST API's.
- Experience with network security techniques, TLS, Authentication, Public Key Cryptography, Encryption, and Secure Firmware Updates.
- Windows and Mac application development.
- Experience with Machine Learning and AI.
- Experience with Image Processing.
- Knowledge of wireless protocols related to autonomous roadways including DSRC & 5G C-V2X.
- Experience with MatLab, Mathematica, LabView.
- Experience with Optoelectronics.
- Experience in FPGA, VHDL coding and DSP design.
- Expert user in one or more EDA/ECAD tools suite (e.g. Altium, Cadence, Eagle, Mentor).
- Industrial Control Systems Programming.
- Design or programming of Automated Test Equipment or other specialty electronics fields.