Job Position: Sr. Electrical Engineer – Hardware and Embedded Systems

Job Description

X-wave Innovations, Inc. (XII) is a Research and Development (R&D) firm headquartered in Gaithersburg, Maryland. We conduct state-of-the-art research and product development in the fast-evolving areas of Sensor Technologies, Ultrasound, Nondestructive Evaluation and Power Electronics. We are looking for a self-motivated Sr. Electrical Engineer with experience in FPGA and DSP based high-speed ADC hardware and firmware system design and development. Passionate, self-driven, good writing/communication skills, as well as excellent work ethics and attention to details are expected. **US citizen or Permanent Resident is preferred.**

Qualifications:

- B.S. or higher degrees with 10+ years of experience in embedded hardware and firmware design and development
- Proficiency at requirement gathering and analysis, providing system-level hardware & software design, and documenting flowcharts, layout, diagrams, etc. of the design
- Proficiency in high-speed hardware/firmware development with FPGA, DSP, ADC, DAC, etc.
- Using Vivado and Xilinx SDK for Zynq (FPGA + Arm core) system experience is a plus. MicroZed XC7Z020 experience desired.
- Experience with ADC >500MSPS and related FPGA circuitry is a plus. TI 12-bit ADS5463 experience preferred. Experience with algorithms for high-speed data transfer from FPGA to Arm or computer with DMA proxy and AXI interface preferred.
- Proficiency in analog front-end signal conditioning circuits design for sensors/transducers, including instrumentation amplifiers, operational amplifiers, and EMI robust measurements.
- Experience with low noise weak signal <10mV amplification is a plus.
- Experience in wireless IC firmware development, including Tx/Rx control and exposure to other IoT networking protocols (e.g. Bluetooth, BLE, Zigbee, Wi-Fi)
- Troubleshooting skills for wired and wireless devices, RF systems from embedded systems down to hardware level (using tools such as emulators, spectrum analyzers, and oscilloscopes)
- Solid experience in implementing the protocols: I2C, SPI, PCI, PCIe, USB, LVDS, Ethernet
- Proficiency in Altium designer and/or OrCAD

Job Duties

- Design and develop embedded hardware and firmware system for wired and wireless sensor/ network devices and instrument
- Supervise middle level embedded hardware and firmware engineers
- Develop project plans, identify key milestones, risks, and develop time estimates for each milestone to complete the project
- Document technical report and write proposals

Education

- B.S. and higher degrees in EE or related.

We offer competitive salary along with a full benefit package (e.g., medical/dental/vision insurance, 401K, profit-sharing, paid holidays, vacation, etc.). XII is an EEO/AA employer.