



Prototype & Production

SYSTEMS INCORPORATED

Electrical Controls Engineer

DESCRIPTION

Opportunities at PPSI:

PPSI is a mechatronics company with a wide variety of opportunities ranging from entry-level to highly experienced (see opportunities summary). This page describes an ideal candidate. Salaries will be commensurate with experience and performance and individuals at all levels are encouraged to apply.

Summary:

This individual will participate in engineering activities focusing on designing, developing, programming and debugging high speed single pass inkjet printing systems. The inkjet printing system is comprised of a host PC with a collection of intelligent embedded subsystems. These include imaging, ink supply recirculation systems, motion sensing, and multi-processor automated motor control systems that operate in synchronicity. This individual will work primarily on the embedded subsystems. The position is 75% software/firmware and 25% hardware.

Duties will include:

- Responsible for understanding, debugging and influencing the entire system including software, embedded code, hardware, interfaces and electro-mechanical systems
- Expected to use and is given considerable latitude for discretion, independent judgment and self-directed time management
- Engineering and programming real-time embedded systems, including developing detailed requirements, design specifications, manual testing, verification and validation
- Developing fixtures, assembly instructions, and procedures for machine assembly.
- Categorizing and prioritizing bug reports / feature requests / complaints in accordance with company guidelines and use the data to influence design changes and bug fixes
- Providing technical information concerning implementation alternatives and assess advantages and limitations.

POSITION REQUIREMENTS

Education/Experience:

- Bachelor's Degree in Computer Engineering, Computer Science, Electrical Engineering or equivalent required, Master's Degree preferred

Candidate Qualities:

- Demonstrate strong product ownership and accountability.
- Strong analytical and problem-solving skills.
- Able to communicate effectively, both verbally and in writing
- Ability to work both individually and as part of a multidisciplinary team
- Self Directed

Required Skills/Experience:

- Experience using C#.NET to communicate with physical hardware
- Experience with Microcontrollers and development of embedded software [PIC MCU, C]



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- Experience with Beaglebone hardware
- Experience with Python development in an embedded environment
- Experience with PLC programming [DirectLogic, Yaskawa, RSLogix]
- Knowledge of TCP/IP, SPI, I2C, USB, EIA-422, EIA-485 standards
- Familiar with Mercurial, GIT, and SVN source control systems

Preferred Skills/Experience:

- Exposure to hardware design such as microprocessors, memories, displays, digital and analog interfaces, power supply circuits, motor control, and image sensors.
- Agile test driven development methodologies to test and integrate your code using automation frameworks
- Familiarity with embedded Linux OS, basic web interfaces, I/O, etc.
- Experience with motion controls and the development of multi-axis machine motion profiles is highly desirable
- Familiarity with standard electronics lab equipment such as oscilloscopes, DVMs, logic analyzers, simulators, etc.
- Proficiency with equipment/devices utilizing a variety of microcontrollers/microprocessors (PIC, ARM, Intel Atom, 8051)
- Strong understanding of networking and communication protocols as well as signal and image processing
- Practical experience with communication and networking protocols (I²C, RS-232, RS-485, etc.)
- Experience operating within, and developing, SOPs, methods, processes, best practices and influencing the way work gets done is highly desirable
- Ability to influence others in the adoption of new technologies, processes, concepts and approaches is highly desirable (ability to “sell and idea”)

ABOUT THE ORGANIZATION

PPSI has been in business as a custom automation solution since 1991, primarily working on highly custom and technical machines for companies like 3M and Siemens. Recently, PPSI has seen a large demand for high speed digital inkjet printing systems. PPSI is responding to this market demand by switching from building primarily one-off custom machines to more standard products with less custom design. Because PPSI is a small company that is growing quickly, there are opportunities to make a large impact from day one, with the ability to modify your work to focus on your passion.

Be Extraordinary.

As a key part of a small team, this individual will have direct influence on the success of projects that are core to the business. Successful candidates will thrive on the recognition this provides.

Benefits of Choosing PPSI.

- Close proximity to updown/downtown Minneapolis
- Fun and inviting company culture
- Full health benefits including dental
- Fully vested 401k matching program
- Higher and market wages
- Opportunity to work on the worlds finest digital inkjet printers and other cutting edge custom automation