SIA

JOB TITLE: Robotics Software Engineer

LOCATION: Pittsburg, Pennsylvania

EMPLOYER: SIA Solutions, LLC

DEPARTMENT: Asset Management

REPORTS TO: Job Bedford

EFFECTIVE DATE: 5/1/2020

SUMMARY:
Since 2016, SIA Solutions has been working with the National Robotics Engineering Center (NREC) of Carnegie Mellon University on the design of a Concrete Mat Laying Robotics System for use in the marine industry by the U.S. Army Corps of Engineers. In 2020, the project is advancing from design and testing to full-scale production and implementation.

SIA seeks a Software Engineer to design, test, implement, and maintain proprietary software for robotic control and automation of the Mat Laying Robotics System, one of the largest mobile robotic systems in the world. The Software Engineer is responsible for troubleshooting systems problems and issues and identifying ways to improve existing applications.

The job will be performed in Pittsburg, PA and transition to onsite work at a shipyard in Mississippi or Louisiana. Extensive travel is anticipated for this job.

DUTIES AND RESPONSIBILITIES:
- Develop and maintain the sensing, actuation, localization, and mapping capabilities of robotic platforms for reliable performance at scale in unknown and dynamic environments.
- Develop and maintain a high-level API to the robot's hardware functions that makes programming both the real and simulated robots as easy as possible.
- Complete full software life cycle testing, verification and validation including field testing and performance assessment of robotics software.
- Analyze software to diagnose and resolve software problems, coordinate installation of software systems, and develop and direct software system testing procedures, programming and documentation.
- Work closely with commercial clients/customers concerning development and maintenance of software system to meet their needs.
- Mentor and provide guidance on technical issues to less experienced team members and share existing skills through formal and informal methods.
- Work within Scrum/agile development team sprints with deliverables and demonstration of results.
- Debug and determine root causes for customer issues in the field and clearly communicate resolutions and workarounds to both customers and the internal team.

SUPERVISORY RESPONSIBILITIES:
- This job has no supervisory responsibilities.

QUALIFICATIONS:
- Legally authorized to work in the United States
- **Education**: Bachelor's Degree in Engineering, Computer Science, Math or a related area. Master's Degree preferred.
- **Experience:** At least 5 – 10 years of related experience
- Exceptional software engineering and programing background, with experience developing on teams and keeping on schedule
- Extremely strong C/C++ development, testing, and debugging skills in Linux environment
- Strong experience with development tools such as the following: git, any code review tool, continuous integration, etc.
- Experience with ROS, React, Python, or integration development is a plus
- 2+ years Software QA/QC experience
- 1+ year Automated Testing experience
- 1+ year Data Analysis and Reporting experience (Excel)
- Experience developing PLC code (preferably structured text) and debugging is a plus
- General understanding of:
  - Statistics
  - Quality Assurance and Quality Control
  - Software Engineering
  - Process and Process Improvement
- Advanced knowledge of application, data and infrastructure architecture disciplines
- Understanding of architecture and design across all systems
- Experience with building APIs and adhere to the best coding practices with good knowledge of design patterns.
- Experience with build automation technologies like Maven, Jenkins, etc. and version control tools like Git or Subversion are desirable.

PHYSICAL DEMANDS AND WORK ENVIRONMENT:
- Occasionally required to stand, walk
- Frequently required to sit
- Continually required to talk or hear
- While performing the duties of this job, the noise level in the work environment is usually moderate
- The employee must occasionally lift and /or move up to 10 pounds
- Additional remarks regarding work environment:
  - Travel required up to 40% of time.

The above is intended to describe the general content of and requirements for the performance of this job. It is not to be construed as an exhaustive statement of duties, responsibilities or physical requirements. Nothing in this job description restricts management's right to assign or reassign duties and responsibilities to this job at any time. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.