PROTOINNOVATIONS

Job Title
Senior Robotics Software Engineer

Job Purpose
ProtoInnovations is developing the next generation of autonomous robotic systems for the lunar surface and beyond. We are seeking ambitious, talented, and innovative individuals. As a critical part of this small company, you will be pushed to your intellectual and creative limits as we develop cutting-edge space robotics technologies.

Job Duties and Responsibilities
As a Senior Robotics Software Engineer, you will contribute to many areas with a focus on modern software development including software conceptualization, software requirements elicitation, software architecture creation, detailed software design, and implementation. You will be expected to be the subject matter expert in some of the crucial software areas at ProtoInnovations. Specific areas of software development include flight software, embedded software, simulation software, Continuous Integration and Continuous Delivery (CI/CD) infrastructure, and software algorithms optimization. You will leverage simulation and physical prototypes to test your software. Your work will mostly take place at ProtoInnovations' physical location in Pittsburgh, PA with some remote work flexibility as work allows. While working here you will be given a great deal of freedom and autonomy with the expectation that this will allow you maintain a work/life balance while still providing significant contributions to the company mission. Some learning on the job is expected because of the nature of what we do at ProtoInnovations, but you will be expected to hit the ground running and start contributing immediately.

Required Qualifications

Character traits
ProtoInnovations is only as good as its people. It is a requirement to have the following personal traits:

- Open and honest
- A team player and independent thinker
- Excited about learning new things
- Always looking to improve
- A good multi-tasker

Education

- M.S. in a STEM field from an accredited university
    - A B.S. with additional work experience may substitute for an M.S.
- Ph.D. may also be desirable depending on the focus

Experience

- 5+ years of work experience in industry
- Ph.D. lab experience may substitute for lack of work experience

Technical Skills

- Basic knowledge of:
    - Cyber-physical systems
    - Electronics and electrical engineering principles
    - Mechanisms and mechanical engineering principles
    - Signal and data processing
- Familiarity with all of the following:
    - Robotics and mechatronics
    - Software fundamentals
        - Linux
        - Version control (Git/Github/Bitbucket)
        - Test-driven development (TDD)

    - Software tools, middleware, and programming languages
        - Robot Operating System (ROS) 1 and/or 2
        - Python
        - C++
    - Software design patterns, architectures, and implementations in Python and C++
- Additional, focus and knowledge of at least one or more of the following:
    - Software optimization and modularization
    - Robotics simulation environments
    - CI/CD implementations for R&D software and robotics
    - Software development for real-time systems
    - Robotic mobility systems and terramechanics software
- Bonus, experience with:
    - Flight software development experience, e.g., core Flight System and core Flight Executive (cFS and cFE), SpaceROS
    - Flight software architectures
    - Real-Time Operating systems, e.g., VxWorks