

Software Applications Engineer

Essential Duties and Responsibilities:

- ✓ Work directly with the Cyber infrastructure team to formulate a design capable of meeting the data production requirements for all instrumentation platform data
- ✓ Work with the Data Products and Science teams in developing data transformation algorithms and Algorithm Theoretical Basis Documents
- ✓ Implement mathematical models and algorithms into production level code, making recommendations for the most efficient approach to producing complex ecological models
- ✓ Create new or modify existing scientific code, and build a library of reusable code modules and executables that can be combined, scheduled, and executed by an automated workflow manager on a High Performance Computing Cluster
- ✓ Create executables that will support the highly varied instrumentation platforms, scientific data production workflows, and the delivery of data products to Science and Education Portals
- ✓ Create designs to support the development of high-quality, robust, production level code and technology while minimizing development and production support costs
- ✓ Select and test commercially available off-the-shelf (COTS) and open source solutions, and develop prototype solutions to validate designs being proposed

Education:

- ✓ MS in Applied Mathematics, Physics, Engineering, or Computer Science

Required Experience:

- ✓ 8-10 years experience with scientific software development teams
- ✓ Strong knowledge of numerical processing and applied mathematics
- ✓ Expert level knowledge and experience with various application technologies and languages to include at least C, C++, R, and FORTRAN
- ✓ Experience in large scale, high performance scientific computing utilizing workflow and process management infrastructure software, common services, high volume data bases and data storage systems, compute farms and distributed computing

Preferred Experience:

- ✓ Experience working in a start up environment
- ✓ Some experience with sensor hardware/software interfaces
- ✓ Experience with scientific modeling and visualization techniques and standards
- ✓ Significant experience in successful scientific application development with particular emphasis in designing and developing scientific data collection, data production, data analysis, modeling, and data publishing solutions

Skills and Abilities:

- ✓ Experienced highly-motivated individual with the ability to take charge
- ✓ Ability to communicate and present clearly and effectively to a diverse range of audiences, including Senior Management, general employee population, scientists and academia

- ✓ Ability to solve complex problems by applying experience, judgment, and creativity to both short- and long-term challenge
- ✓ Ability to stay on tight schedules while meeting budgetary requirements in a high-pressure environment
- ✓ Ability to work independently with little direction and/or supervision and in a team environment