

## **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