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Job Posting Title

Control System Software Engineer-NB50379430

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Purpose

The Neutron Sciences Directorate (NScD) at Oak Ridge National Laboratory (ORNL) operates the High Flux Isotope Reactor (HFIR), the United States' highest flux reactor based neutron source, and the Spallation Neutron Source (SNS), the world's most intense pulsed accelerator based neutron source. Together these facilities operate 24 instruments for neutron scattering research, each year carrying out in excess of 1,000 experiments in the physical, chemical, materials, biological and medical sciences for more than 3,000 visiting scientists. HFIR also provides unique facilities for isotope production and neutron irradiation. To learn more about Neutron Sciences at ORNL go to: http://neutrons.ornl.gov.

The Control System Software Engineer develops control system software tools for the Spallation Neutron Source (SNS) accelerator and beam lines to increase availability, improve experiment automation, and to allow efficient data acquisition. This role provides control room operators, beam line scientists, and visiting beam line users with superior software for graphical operator interfaces, alarm handling, and experiment automation within a large-scale distributed control system infrastructure.

Major Duties/Responsibilities

- Develop strategies for transitioning operational but outdated tools to new technologies
- Advance the integration of new and existing tools to allow seamless use and data transfer between applications
- Participates in design, development and maintenance of Control System Studio for the SNS
- Participates in design, deployment and maintenance of beam line control system installations and updates
- Participates in maintenance and improvement of accelerator control system tools
- Collaborates with other sites to allow shared development
- Supports special assignments as requested by Controls Group Leader
- Ensures and monitors compliance with environment, safety, health, and quality program requirements
- Promptly identifies ESH and QA issues and communicates them to project and division management, ESH and QA contacts, and/or subcontractor contacts as appropriate
- Maintains a strong commitment to the implementation and perpetuation of professional values, ethics and safety

Qualifications Required

Ideal candidate combines strong software development expertise with an understanding of scientific control systems. Requires B.S. in engineering, computer science or related field combined with at least 5 years of experience of collaborative development for distributed software applications, or an equivalent combination of education and experience. Advanced degree is strongly preferred. Must have demonstrated knowledge of Java or C++, ideally both, being devoted to code

integrity and high quality software architecture. Must have demonstrated experience in the field of accelerator or experiment control systems or an equivalent at a scientific research facility. Must be familiar with multithreaded and distributed application architectures, user interface development, object-oriented analysis and design, test-driven development, relational databases (Oracle, MySQL), communication technologies (TCP/IP, JMS, LDAP), distributed repositories (GIT, Mercurial), Windows as well as Unix platforms.

QUALIFICATIONS DESIRED:
- Knowledge of Eclipse (RCP, SWT, GEF, RAP), EPICS, Control System Studio
- Java (core, concurrent, ant)
- Web development (Tomcat, JSP, Javascript, REST, Websocket)
- Hudson/Jenkins
- Python
- Low-level control system programming (device drivers)

Work Directions and Interfaces

Reports to Software System Tools Team Leader in the Controls Group. Works closely with members of Data Operations and Accelerator, Instrument and Target Operations. Collaborates with control system experts at other facilities and from the user community. Possess strong commitment to team environment dynamics with the ability to contribute expertise and follow leadership directives at appropriate times as well as work independently.

This position will remain open for a minimum of 5 days after which it will close when a qualified candidate is identified and/or hired.

We accept Word(.doc, .docx), Excel(.xls, .xlsx), PowerPoint(.ppt, .pptx), Adobe(.pdf), Rich Text Format(.rtf), HTML(.htm, .hmtl) and text files(.txt) up to 2MB in size. Resumes from third party vendors will not be accepted; these resumes will be deleted and the candidates submitted will not be considered for employment.

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