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Control Systems Software Engineer / NB50453173

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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 30 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.
At Oak Ridge National Laboratory, the control system group supports the successful operation of the Spallation Neutron Source. To learn more about Neutron Sciences at ORNL go to: http://neutrons.ornl.gov.

We develop, install, maintain and extend software for the SNS accelerator and beam lines to increase availability, improve experiment automation, and to allow efficient scientific data acquisition. We aim to provide 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

-- The selected candidate will participate in the research, development, installation, maintenance and extension of control system software tools.
-- Collaborative development is emphasized, sharing software with other accelerator and large experimental physics sites.
-- When tasked to solve a specific problem, based on local requirement, you strive to generalize, investigate existing tools for possible adaptation, or design and develop required new tools such that others can share their development and ultimately maintenance.
-- Participate in the design, development and maintenance of Java-based user interface and service framework, SNS accelerator and beam line control system based on Linux, domain-specific languages, and Python, Drivers for integrating new devices into the control system, typically in C/C++.
-- Works in coordination with local colleagues as well as remote collaborators, utilizing distributed software repositories.

Qualifications Required

A Master’s degree in Computer Science, Electrical Engineering or related with 0 to 4 years of experience; Must have demonstrated experience in Java, C++, or Python.
-- Experience level: 0-4 years.
-- At least one of the following: Java, C++, Python.
-- Multithreaded programming.

-- Network programming with TCP sockets.
-- Must be able to work independently as well as within a team, and be proficient in oral as well as written communication.
-- The ideal candidate combines software development expertise with an understanding of scientific control systems, for example control and data acquisition with laboratory test & measurement equipment, PLCs, or embedded devices.

Qualifications Desired:
A Ph.D. in Computer Science, Electrical Engineering or related field is preferred.
-- User interface development (preferably Eclipse RCP).
-- Distributed software repositories (git).
-- Test-driven development.
-- Continuous integration (Hudson/Jenkins).
-- Web development (Tomcat, JSP, Javascript, REST, Websocket).
-- Databases, relational (Oracle, MySQL) as well as NoSQL (MongoDb).
-- Communication protocols (JMS, LDAP).
-- Linux.

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.

If you have trouble applying for a position, please email ORNLRecruiting@ornl.gov.

Notice: If the position requires a Security Clearance, reviews and tests for the absence of any illegal drug as defined in 10 CFR 707.4 will be conducted by the employer and a background investigation by the Federal government may be required to obtain an access authorization prior to employment and subsequent reinvestigations may be required.

If the position is covered by the Counterintelligence Evaluation Program regulations at 10 CFR 709, a counterintelligence evaluation may include a counterintelligence-scope polygraph examination.

ORNL is an equal opportunity employer. All qualified applicants, including individuals with disabilities and protected veterans, are encouraged to apply. UT-Battelle is an E-Verify Employer.