Opportunity Title: ORNL User Experience (UX) Developer Post Master's Research Associate
Opportunity Reference Code: ORNL16-78-CSMD

Organization	Oak Ridge National Laboratory (ORNL)
Reference Code	ORNL16-78-CSMD
Description	Oak Ridge National Laboratory (ORNL) invites applications for master's research appointments in User Experience (UX). You will be a part of the Scientific Software Team within the Computer Science Research Group of the Computer Science and Mathematics Division.

This position is part of ORNL's Scientific Software Initiative, which provides scientific software development expertise to the Laboratory, by providing software engineering and development services across the Laboratory in a broad range of areas and topics. The Initiative supports the mission of the Laboratory by creating a community for software professionals at the Laboratory to connect people, projects, and interested parties; by providing software engineering expertise for development, evaluation, quality assurance or other needs; by providing training and continuing education opportunities; by providing fair performance evaluation criteria; by recruiting new software engineering talent; and by mentoring students and young professionals.

The Initiative currently contributes to scientific computing projects in advanced materials, advanced manufacturing and 3D printing, astrophysics, batteries, neutron science, nuclear energy, neuromorphic computing, and quantum computing. It also contributes to pure computer science projects. Initiative members are active in the open source community, including the Eclipse Foundation, and most Initiative projects are available on GitHub.com.

In this role, you will contribute to the development of graphical user interfaces for a number of different projects using multiple technologies, including JavaFX, SWT, Qt and multiple web frameworks including Vaadin and Eclipse Scout.

Major Duties/Responsibilities:

- Simultaneously contribute to software development activities and original research in user experience through experiments under the supervision of an Internal Review Board.
- Work directly with user interface technologies and in designing experiments.
- Provide wireframes and sketches, as well as general UX guidance, to multiple teams and efforts.
- You will also have the opportunity to contribute to publications of your research results in peer-reviewed journals and conference proceedings.
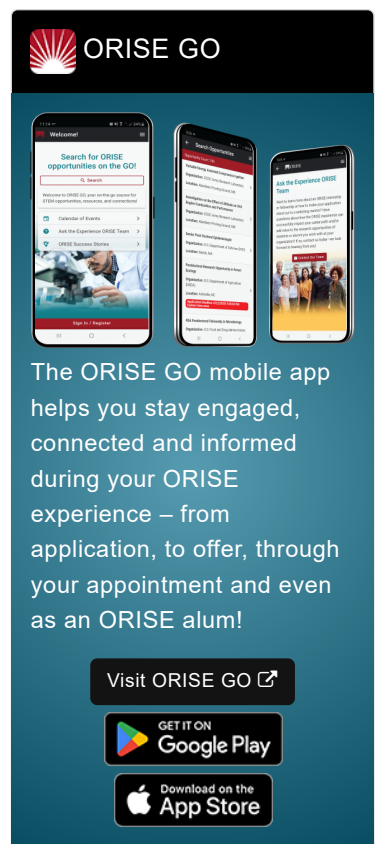
Technical questions may be directed to:
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***Please reference the position title and number when inquiring about this position.

Applicants cannot have received the most recent degree more than five years prior to the date of application and must complete all degree requirements before starting their appointment.

This appointment is offered through the ORNL Postgraduate Research Associates Program and is administered by ORAU through the Oak Ridge Institute for Science and Education (ORISE).

Qualifications Basic Qualifications:

A Master's degree in computer science, computer engineering, mathematics or a related field with previous experience in UX is required.

Preferred Qualifications:

- Significant, hands-on experience working with UI frameworks and excellent development skills, in addition to possessing strong design skills.
- Excellent communication and writing skills, and the ability to work as part of a team in a dynamic group environment as the team meets daily, practices Continuous Integration, collaborates on the source code and has regular deadlines.
- Prior experience developing or contributing to large, complex software systems.
- Experience in multiple languages, including the following: C/C++, Fortran 2003/2009, Java, Perl, Python. Applicants with experience only in Fortran 77/90 will not be considered.
- Experience in high-performance computing, especially, but not limited to hybrid MPI+OpenMP+CUDA environments.
- Activity within the broader open-source software community would be looked upon favorably, but is not required.
- Experience in modern software development methodologies, and in using community frameworks such as PETSc, MOOSE, or Trilinos.
- Regular presentations or tutorials at relevant conferences.
- A track-record in developing detailed documentation in multiple formats.
- Active participation in the development of proposals

Note: Later in the application process, you will be required to submit an open-source code sample that may be used for evaluation purposes. Your code sample should be related in some way to the subject of this post. This code sample must be object-oriented, contain five or more classes, show a sophisticated understanding of the project and be the sole work of the candidate to a very high degree (>95%). Samples in Fortran will not be considered. Ideally the code sample would be made available on GitHub or a similar sharing platform, although submissions by email are fine too.

Eligibility - **Degree:** Master's Degree received within the last 60 month(s).

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Requirements
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Engineering** (1 👁)
  - **Mathematics and Statistics** (10 👁)

Affirmation I certify that I have completed coursework towards a degree in science, technology, engineering, mathematics, or a related field.

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