Opportunity Title: ORNL Remote Sensing Post-Bachelor's Research Associate
Opportunity Reference Code: ORNL20-29-NSET

Organization	Oak Ridge National Laboratory (ORNL)
Reference Code	ORNL20-29-NSET
Description	Oak Ridge National Laboratory (ORNL) is the largest U.S. Department of Energy (DOE) science and energy laboratory, conducting basic and applied research to deliver transformative solutions to compelling problems in energy, environment, and security.

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The candidate will support projects in the Remote Sensing Group within the National Security Emerging Technologies Division (NSET). The NSET Division at ORNL is an internationally-renowned Research and Development (R&D) organization with expertise ranging from remote sensing science, high-performance geo-computing, Geographic Information Systems (GIS), and data science to other key domain sciences. The NSET Division focuses on developing innovative knowledge discovery solutions to solve multi-disciplinary and complex problems for energy, the environment, and national and homeland security missions.
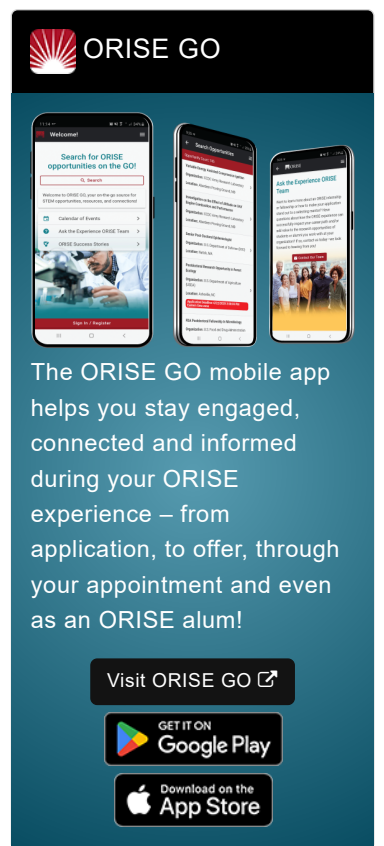
The Remote Sensing Group is looking for a qualified candidate for a Post-Bachelor's Research Associate position to advance R&D efforts in the area of remote sensing science. The position appointment is for one year, with an optional one year extension possible (two year maximum), depending on performance, mutual interest, and available funding. The function of this position is to provide R&D support to a geospatially-focused project spanning a wide variety of scientific domains including computer vision, machine learning, data analytics, and algorithm development. This work requires a background in statistics, computer programming, and mathematics. The successful candidate will work closely with a team to develop innovative approaches and computational solutions that address existing challenges, assist in producing reviewed publications, and present findings at conferences.

Major Duties and Responsibilities:

- Conducting basic and applied research in remote sensing, machine learning, scientific computing, visualization, data fusion, and data provenance with a strong emphasis on image science, algorithm development, prototyping, and validation.
- Developing software based on your remote sensing research.
- Working with NSET researchers to capture, understand, integrate, and implement their requirements in developed algorithms and associated software, as well as contribute to publications.

This position can provide summer research opportunities and/or year-round research opportunities at the ORNL facility.

Qualifications	Candidates should currently be pursuing or recently have completed a bachelor's degree in a discipline in relation to remote sensing (e.g. mathematics, statistics, computer science, data science, or a physical

sciences field).

Preferred Skills:

- Experience in two or more of the following programming languages is required: C/C++, Rust, Python, Julia, Lisp (CL, Scheme, Racket, Clojure), Haskell, OCaml, Scala.
- Experience in one or more of the following disciplines is required: image science, remote sensing, geography, physical sciences, physics, mathematics, machine learning, simulation and modeling, statistics, visualization, and scientific software development.
- Strong communication skills and experience contributing to a technical team is a plus.
- Experience in your research resulting in a software solution is a plus.

Living in East Tennessee: While the opportunity to work at ORNL is an amazing experience in itself, it's easy to overlook everything else East Tennessee has to offer if you haven't had the opportunity to spend time here. From spending your weekends downtown at Knoxville's farmers market, the Rhythm n' Blooms Music Festival, or the Dogwood Arts Festival, to some of the best hiking, kayaking, and camping in the U.S., East Tennessee has something to offer everyone.

The ORNL Post-Bachelor's Research Associate Program is administered by Oak Ridge Associated Universities through its contract with DOE to manage the Oak Ridge Institute for Science and Education (ORISE).

Eligibility Requirements
- **Degree:** Bachelor's Degree received within the last 36 months or currently pursuing.
- **Discipline(s):**
  - **Chemistry and Materials Sciences** (12 👁)
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Earth and Geosciences** (21 👁)
  - **Environmental and Marine Sciences** (2 👁)
  - **Mathematics and Statistics** (10 👁)
- **Age:** Must be 18 years of age