Opportunity Title: ORNL Geographic Data Science Post-Master's Research Associate

Opportunity Reference Code: ORNL17-26-CSED

Organization   Oak Ridge National Laboratory (ORNL)

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Description   The Geographic Information Science and Technology (GIST) group at Oak Ridge National Laboratory is an internationally renowned R&D organization with expertise ranging from GIS, remote sensing technologies, and data science to other key domain sciences. The GIST group focuses on developing innovative, knowledge discovery solutions to solve multidisciplinary and complex problems for energy, the environment, and national and homeland security missions.

GIST is looking for a qualified candidate for a one year, Post-Master's Research Associate position to advance research and development efforts in the area of geographic data science. The function of this position is to provide research and development support to a large number of geospatially-focused projects spanning a wide variety of scientific domains including population dynamics, social media, demography, and space-time data analytics for sociocultural, economic, political, and health data. This work requires a background in statistics, computer programming, and data mining. 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.
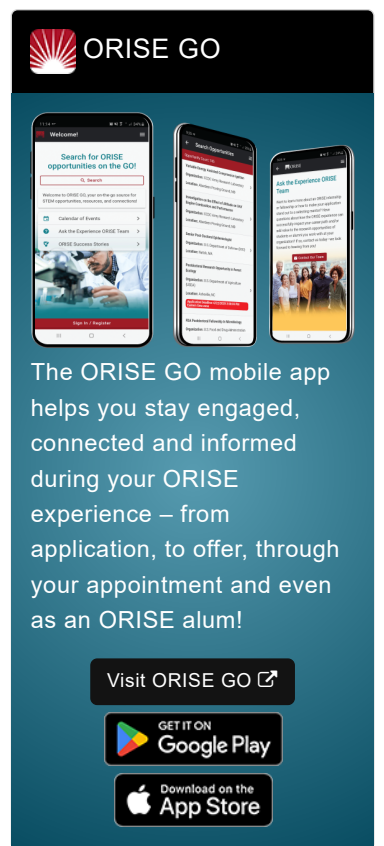
Major Duties/Responsibilities

Responsibilities include, but are not limited to:

• Conducting basic and applied research in advanced data analytics, uncertainty quantification, visualization, data fusion, and data provenance with a strong emphasis on algorithm development, prototyping, and validation.

• Developing, optimizing, and transitioning algorithm prototypes to scalable, parallelized, and robust implementations.

• Working with GIST researchers, as well as internal and external project sponsors, to capture, understand, integrate, and implement their requirements in developed algorithms and associated software, as well as contribute to publications.

Qualifications   Required:

+ MS in geography, mathematics, statistics, data analytics, computer science, or similar field.

+ Experience in one or more of the following programming languages: R, SQL, C/C++, Python, Javascript.

+ Experience in one or more of the following disciplines: data mining, machine learning, simulation and modeling, statistics, and visualization.

+ Strong communication skills and experience working with multidisciplinary

teams.

Preferred:

+ At least 3 years of experience in data analysis, data mining, software development, or computer programming.

+ Experience developing and delivering advanced technical solutions to end-clients.

The ORNL Postgraduate Research Associates Program is administered by ORAU through its contract with the U.S. Department of Energy to manage the Oak Ridge Institute for Science and Education (ORISE).

Eligibility Requirements	• **Degree:** Master's Degree received within the last 60 month(s).
	• **Discipline(s):**
	  ○ **Computer, Information, and Data Sciences** (16 👁)
	  ○ **Environmental and Marine Sciences** (1 👁)
	  ○ **Mathematics and Statistics** (10 👁)
	  ○ **Social and Behavioral Sciences** (1 👁)

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

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