

Opportunity Title: ORNL Imaging, Signals and Machine Learning Post-Bachelor's Research Associate

Opportunity Reference Code: ORNL18-113-EESRD

Organization Oak Ridge National Laboratory (ORNL)

Reference Code ORNL18-113-EESRD

Description The Imaging, Signals and Machine Learning group is currently accepting applications for a Post-Bachelor's Research Associate position with expertise in computer vision, data analytics, and/or machine learning. The selected candidate will join a group of researchers and engineers working at the Manufacturing Demonstration Facility (MDF - <https://web.ornl.gov/sci/manufacturing/mdf/>) to advance additive manufacturing (AM), more commonly referred to as 3D printing, technologies and to facilitate and accelerate their deployment to industry. The MDF relies on a diverse group of experts (material research, systems research, data science, robotics development) and on a cohort of state-of-the-art 3D printers (extrusion, powder bed, directed energy disposition, etc.) to produce complex parts with a wide range of materials (metals, plastics, etc.) and sizes.

Major Duties/Responsibilities

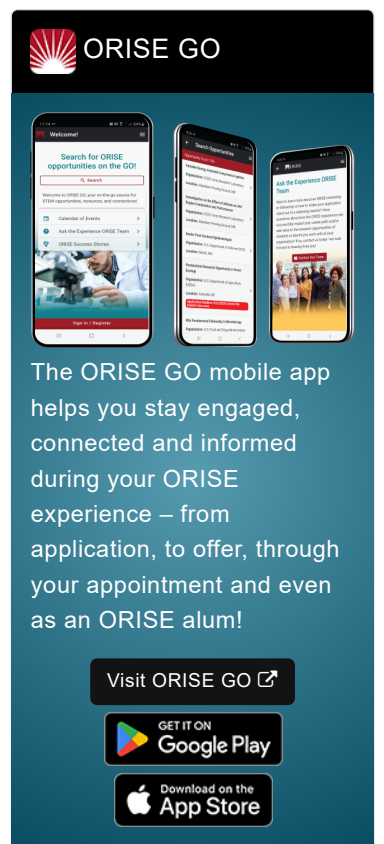
As part of the group, the Research Associate will be working with the data analytics team to pursue software and/or hardware development of computer vision, machine learning, and data analytics modules that expend the capabilities of the existing MDF Data Analytics Framework for Manufacturing. This framework is a technology agnostic software platform that leverages techniques such as data management and tracking, data analytics, AI/machine learning, data visualization, and statistics to qualify and certify additively manufactured parts. The software platform is also vital for improving researchers' understanding of AM processes and for optimizing various printing platforms.

The team consists of staff members with backgrounds in electrical engineering, computer science, and optical engineering. As a new member, the Research Associate shall demonstrate a well-rounded ability to perform technically in at least one of the following areas:

- Computer vision and image processing
- Multi-dimensional and multi-modal signal processing
- Spatiotemporal data mining
- AI and machine learning
- Multidimensional data visualization and data understanding
- Software and algorithm development processes and methodologies


Qualifications The position requires a bachelor's degree in electrical engineering, computer engineering, computer science, or closely related field


- Substantial programming skills using tools such as C/C++ and/or Python
- Experience in designing and building original algorithms for data




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processing and understanding

- The ability to communicate effectively in both verbal and written forms
- The ability to work in a dynamic, motivating team environment is required

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

- Eligibility**

Requirements
- **Degree:** Bachelor's Degree.
 - **Discipline(s):**
 - **Computer, Information, and Data Sciences** ([10](#) 👁)
 - **Engineering** ([4](#) 👁)

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