

Opportunity Title: ORNL Deep Learning for Biomedical and Health Informatics

Post-Master's Research Associate

Opportunity Reference Code: ORNL17-48-CSED

Organization Oak Ridge National Laboratory (ORNL)

Reference Code ORNL17-48-CSED

Description The Biomedical Science, Engineering, and Computing (BSEC) Group in the Computational Science and Engineering Division (CSED) at the Oak Ridge National Laboratory (ORNL) is seeking a Post-Master's Research Associate with a focus on deep learning for biomedical applications. We are seeking creative people with solid analytical capabilities, broad machine learning and statistical modeling skills, and strong programming experience.

Our group is committed to conducting research in computational, data, and engineering sciences in the context of biomedical, clinical, and public health disciplines and applying this knowledge to support the nation's leading health initiatives.

Job Duties and Responsibilities

- Research and develop new and novel methods in deep learning as applied to biomedical applications.
- Collaborate with BSEC/CSED scientists in a wide variety of data analytics and architecture research.
- Author peer reviewed papers, technical papers, reports and proposals for internal and external release and represent the organization by giving technical presentations in large public forums.
- Be a part of a vibrant collaborative research environment which will provide the opportunity to perform cutting-edge research in high-performance computing, using ORNL's Leadership Class Supercomputer.

Technical Questions:

Georgia Tourassi

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Qualifications M.S. in Computer Science, Applied Mathematics, Statistics, Engineering or a closely related field.

Previous research experience in deep learning methods.

Preferred:

- Solid theoretical foundation, algorithmic skills, and hands-on experience with deep learning, in the biomedical domain.
- Thorough understanding of optimization and scalability of machine learning algorithms.
- Experience with parallel and distributed computing architecture including



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MPI, CUDA, and OpenCL.

- Experience with various deep learning libraries such as Tensorflow, Theano, Caffe, Torch, Keras.
- Well-rounded data science experience with large, heterogeneous, and/or real-time datasets as well as open source big data technologies such as Hadoop, Spark etc.

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).

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| Eligibility | • Degree: Master's Degree received within the last 60 month(s). |
| Requirements | • Discipline(s): <ul style="list-style-type: none">◦ Computer, Information, and Data Sciences (16 )◦ Engineering (1 )◦ Life Health and Medical Sciences (1 )◦ Mathematics and Statistics (10 ) |

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