

Opportunity Title: Advanced Data Science Simulation and Machine Learning

Opportunity Reference Code: DOE-MSIPP-20-12-SRNL

Organization U.S. Department of Energy (DOE)

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How to Apply A complete application must include the following to be considered:

- Completion of all required fields in the application and successful application submission
- Undergraduate or graduate transcripts as appropriate
- Two recommendations

If you have questions, send an email to us at MSIPPinternships@orau.org. Please include the reference code for this opportunity in your email.

For Technical information, contact Jeff Pike at jeff.pike@srnl.doe.gov.

Application Deadline 1/31/2020 11:59:00 PM Eastern Time Zone

Description The Minority Serving Institutions Partnership Program (MSIPP) Internships is a new program to promote the education and development of the next generation workforce in critical science, engineering, technology, and math (STEM) related disciplines that complement current and future missions of DOE national laboratories. The MSIPP Internship program is designed to provide an enhanced training environment for next generation scientists and engineers by exposing them to research challenges unique to our industry.

MSIPP Interns will be given the opportunity to complete Summer Internships aligned with ongoing U.S. Department of Energy Office of Environmental Management (DOE-EM) research under the direction of a host national laboratory. The internship will be performed at the host national laboratory, utilizing their facilities and equipment under the guidance of a research staff member.

Minority Serving Institutions are institutions of higher education enrolling populations with significant percentages of undergraduate minority students.

For more information about The Minority Serving Institutions Partnership Program (MSIPP) Internships, please visit [here](#).

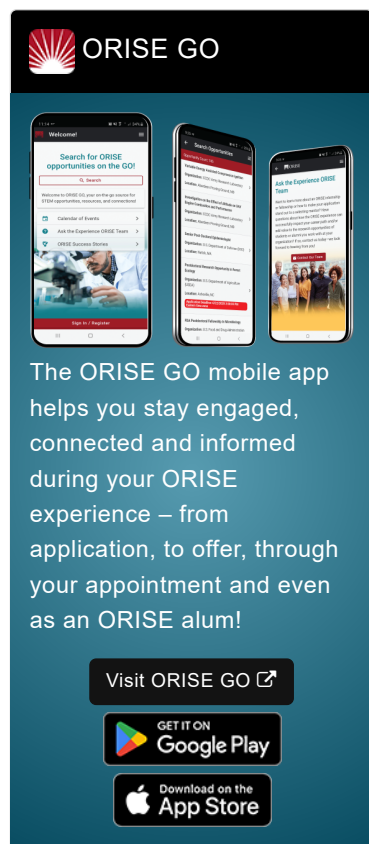
To see all MSIPP position postings visit: <https://orise.orau.gov/msipp/>

Project Description:

Date of Appointment: May 18-July 24, 2020


The Chemical and Environmental Sciences Directorate at Savannah River National Laboratory (SRNL) seeks intern for development of unsupervised machine learning methods for forecast analysis of large-scale open data sources.


The Chemical and Environmental Sciences Directorate is at the forefront of work at DOE's Savannah River Site (SRS); playing an essential role in the success of Environmental Management (EM) operations at SRS, and an




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increasingly important role in the success of EM's broader national program. We are focused on developing and deploying real solutions that address our client's most critical problems. Our innovative approaches for improving and validating critical processes and our execution of tests and analyses touch a broad range of EM activities from large projects such as the Hanford Waste Treatment & Immobilization Plant, to critical support for small site remediation, to waste mixing and treatment options, to the development and deployment of new technologies through DOE-funded programs. The Chemical and Environmental Sciences Directorate's impact on the DOE-EM mission is measured in billions of dollars of lifecycle cost saved and multiple years removed from clean-up schedules.
(http://srnl.doe.gov/about/enviro_restoration.htm)

For this internship, the selected candidate will:

- Develop code to implement machine learning and apply data analytics technologies to create dynamic, complex models for event forecasting
- creatively use numerical simulation tools to solve problems
- work with a diverse multidisciplinary team of engineers and scientists from SRNL and Data Analytics Center at Virginia Tech
- collaborate closely with senior level engineers
- develop custom computational models
- develop critical thinking skills

The intern will typically work closely with senior level engineers to develop code to implement models or perform evaluations that explore the viability of the application of forecasting technologies. An intern at SRNL will be exposed to engineers and scientists working in many disciplines. Interns will have the opportunity to network with other interns and learn about the many opportunities at the SRS in addition to that of SRNL.

Salary: Selected candidate will be compensated by either a stipend or salary, and may include one round trip domestic travel to and from the host laboratory. Stipends and salaries will be commensurate with cost of living at the location of the host laboratory. Housing information will be provided to interns prior to arrival at the host laboratory, and will vary from lab to lab.

Qualifications Required Knowledge, Skills, Work Experience, and Education Successful candidates will:

- Be a rising junior or senior undergraduate student studying computer science, Data/Information Science, Statistics or closely related field.
- Demonstrated understanding of latest machine learning technologies and methods

Desired Knowledge, Skills, Work Experience, and Education It is desirable for the candidate to have:

It is desirable for the candidate to have:

- Experience or knowledge of the nuclear fuel cycle
- Developed software applications/tools for technical users
- Advanced mathematics skills include Bayesian statistics

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- Strong communication and writing skills.

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Currently pursuing a Bachelor's Degree, Master's Degree, or Doctoral Degree.
 - **Overall GPA:** 3.00
 - **Discipline(s):**
 - **Computer, Information, and Data Sciences** ([3](#) 👁)
 - **Engineering** ([1](#) 👁)

Affirmation I certify that I am at least 18 years of age, a US citizen, and currently enrolled as a student in a degree seeking undergraduate or graduate program in a STEM field at an accredited Minority Serving Institution (MSI). Click [here](#) to verify that you are enrolled at a current MSI.