Opportunity Title: Research Data Web Developer
Opportunity Reference Code: EPA-NSSC-0006-25

Organization U.S. Environmental Protection Agency (EPA)

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How to Apply Click HERE to apply.

Description The EPA National Student Services Contract has an immediate opening for a full time Research Data Web Developer position with the Office of Research and Development at the EPA facility in Research Triangle Park, NC.

The Office of Research and Development at the EPA supports high-quality research to improve the scientific basis for decisions on national environmental issues and help EPA achieve its environmental goals. Research is conducted in a broad range of environmental areas by scientists in EPA laboratories and at universities across the country.

What the EPA project is about

EPA's Office of Research and Development (ORD) is a leader in the science of human health and ecological risk assessment, a process used to determine how pollutants or other stressors may impact human health and the environment.

ORD addresses the needs of stakeholders by preparing technical reports and assessments that integrate and evaluate the most up-to-date research. These products serve as a major component of the scientific foundation supporting EPA's regulations and policies. ORD also conducts cutting-edge research to develop innovative quantitative risk assessment methods and tools that: help extrapolate between experimental data and real-world scenarios, improve our understanding of uncertainties, and facilitate careful weighing of evidence using approaches such as systematic review.

The Health and Environmental Research Online (HERO, https://hero.epa.gov/) database provides an easy way to access scientific literature behind EPA science assessments. The database includes more than 2 million scientific references and data from the peer-reviewed literature used by EPA to develop its regulations for the following: Integrated Science Assessments (ISA) that feed into the NAAQS review, Provisional Peer Reviewed Toxicity Values (PPRTV) that represent human health toxicity values for the Superfund, and the Integrated Risk Information System (IRIS), a database that supports critical agency policymaking for chemical regulation. In addition, the Health Assessment Workspace Collaborative (HAWC, https://hawc.epa.gov/) is an open-source web-application used by scientists at EPA for extracting and visualizing data extracted from scientific literature to summarize evidence and key findings. Assessments using HERO and HAWC characterize the nature and magnitude of risks to human health and to ecosystems from pollutants and chemicals in the environment.

ORD has been developing a new web application and database named Living Literature Review (LLR) to facilitate the continuous screening and

identification of peer-reviewed literature that form the basis of its assessments,. LLR provides automated periodic search, machine-assisted relevance ranking, screening and annotation capabilities to ORD scientists and is currently getting prepared for internal release.

What experience and skills will you gain?

As a team member, you will provide software development, data analysis, and data visualization support to the HERO, HAWC and LLR projects. The required skills include web application software development experience (JavaScript, Python, Java), data visualization (Excel, Python, R, Tableau, etc.), data analysis using (Excel, Python, or R), and software version control (Git). The participant will be a member of a team and will be trained to support the development and maintenance of HERO, HAWC, LLR, and other related software tools.

Software development includes but is not limited to:

- Writing frontend web-application in JavaScript to dynamically display information;
- Writing web-based application software, including designing server systems capable of querying a database of findings and summarizing findings in various formats, including but not limited to designing REST Application Programming Interfaces (APIs) in Python;
- Using/modifying a database including querying large data tables or designing new schemas; and
- Designing unit-tests to ensure the software works as expected.

Data analysis includes but is not limited to:

- Reviewing database exports or other external API systems to determine how existing data can be utilized with web-applications;
- Extraction, transformation, and loading (ETL) of data including creating data pipelines to reformat and analyze existing data; and
- Working with staff scientists to adapt analysis-specific scientific code to more generalizable solutions.

Data visualization includes but is not limited to:

- Creating prototypical data visualizations using new or existing datasets;
- Building interactive visualization which allow scientists to explore datasets in novel ways; and
- Using software-development skills and expertise to translate prototypical charts and visuals into visuals in a production environment.

Required Knowledge, Skills, Work Experience, and Education

- Demonstrated training and experience in computational skills;
- Proficiency in programming, including proficiency in one or more of the following languages: JavaScript, Python, R, Java, or SQL;
- A working knowledge of relational databases;
- Experience with scientific data in at least one of the following fields or closely related fields: ecology, toxicology, environmental science, and

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epidemiology;
- Strong written, oral and electronic communication skills; and
- Experience working well as a team.

Desired Knowledge, Skills, Work Experience, and Education

- Experience with machine learning implementation is a plus.

Location: This job will be located EPA's facility in Research Triangle Park, NC.

Salary: Selected applicant will become a temporary employee of ORAU and will receive an hourly wage of $22.91 for hours worked.

Hours: Full-time.

Travel: No travel will be required.

Expected start date: The position is full time and expected to begin October 2022. The selected applicant will become a temporary employee of ORAU working as a contractor to EPA. The contract renews each May through 2025.

For more information, contact EPANSSC@orau.org*. Do not contact EPA directly.*

Qualifications

- Be at least 18 years of age **and**
- Have earned at least a Bachelor's degree in a basic or applied science (e.g. computer science, information science, bioinformatics, mathematics, biology, chemistry, ecology) from an accredited university or college within the last 24 months **and**
- Be a citizen of the United States of America or a Legal Permanent Resident.

EPA ORD employees, their spouses, and children are not eligible to participate in this program.

Eligibility Requirements

- **Citizenship:** LPR or U.S. Citizen
- **Degree:** Bachelor's Degree.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (17 👁)
  - **Life Health and Medical Sciences** (48 👁)

Affirmation

I certify that I am at least 18 years of age; a recent graduate with at least a Bachelor's degree in a basic or applied science (e.g. computer science, information science, bioinformatics, mathematics, biology, chemistry, ecology from an accredited university or college within the last 24 months; a citizen or a Legal Permanent Resident of the United States of America; and not a current employee of EPA ORD or the spouse or child of an EPA ORD employee.

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