

Opportunity Title: Big Data, Machine Learning, AI for Homeland Security

Missions

Opportunity Reference Code: DHS-RPP-DA-TC-2025-02

Organization U.S. Department of Homeland Security (DHS)

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How to Apply Click on *Apply* below to start your application.

Application Deadline 9/2/2025 11:59:00 PM Eastern Time Zone

Description About DHS DA-TC

The Department of Homeland Security's (DHS) Science and Technology Directorate (S&T) conducts research, development, test, and evaluation on behalf of the homeland security enterprise (HSE). S&T's [Data Analytics Technology Center](#) (DA-TC) applies leading-edge data analytics research and development techniques to enable user-focused, data-driven solutions for homeland security missions. DA-TC operates a state-of-the-art data analytics work center infrastructure to support mission relevant evaluations of strategic data research and development, emerging technology assessments and rapid experimentation. DA-TC conducts research in future computing architectures, application and evaluation of analytic solutions, and assessments of emerging architecture and analytic solutions.

DHS mission areas include the following:

- Protect Americans from terrorism and other homeland security threats.
- Secure the nation's air, land, and sea borders to prevent illegal activity while facilitating lawful travel and trade.
- Secure Cyberspace and Critical Infrastructure.
- Preserve and uphold the Nation's prosperity and economic security.
- Strengthen preparedness and resilience.
- Champion the DHS workforce and strengthen the department.

For more information about DHS visit: <https://www.dhs.gov/mission>

What will I be doing and why should I apply?

The Data Analytics Technology Center is seeking candidates with a technical background in the following areas to contribute, refine, and develop new skills:

- Cyber-physical systems – Specifically seeking a background in research and development related to power systems modeling and physics-informed neural networks. This research requires hands-on knowledge in science and engineering across a range of data analytics topics, as well as the ability to understand, adapt, and apply highly advanced mathematics and coding to solve real-world problems. This research will involve leveraging these skills to address challenges in power systems and other critical infrastructure sectors (e.g., natural gas, water).
- Blockchain analytics – A strong background in hands-on blockchain analytics. This research will focus on developing new methods to counter illegal and illicit activities. This includes exploring real-time analytics to identify suspicious transactions and designing repeatable, scalable techniques. Hands-on knowledge of large language models is a plus.
- Multi-modal analytics – This research will apply creativity and hands-on knowledge and skills (e.g., data engineering, data science, language, image, video) to



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demonstrate situational awareness and decision-making in data-rich environments where analysts may be overwhelmed with feeds coming in from a variety of sources and must make decisions in real-time.

Our research addresses both strategic and tactical concerns of the DHS. We offer a challenging and fast-paced environment that accommodates the exploration of new ideas that improve operational efficiency while preserving the privacy and civil rights of individuals. Under the direction of cognizant Federal personnel, participating researchers have opportunities to learn how to lead tasks, explore new research areas for DHS, and participate in networking opportunities. Our staff come from technical fields and other fields such as Policy, Economics, and Anthropology to enable multi-disciplinary approaches to problem solving.

The candidate will have the opportunity to explore other areas of mutual research interests including large language models, blockchain, etc. relevant to homeland security as data analytics research and development comprises many technologies related to computation, storage, privacy, security, and analytics that apply broadly across mission areas.

Where will I be located?

Washington, D.C. or remote from within the United States. The location will be coordinated with the participant's mentor.

What are the benefits?

Selected participants will receive a competitive stipend for living and other expenses during this appointment as determined by DHS. Stipends are determined by participant's academic standing, discipline, and experience.

Participants may also be eligible to receive:

- Health insurance allowance.
- Reimbursement for travel expenses.
- Travel/training allowance for professional development and travel to professional meetings, such as conferences.

Duration

Generally, appointments are for one year and may be extended based upon project needs and funding availability.

Security Clearance

Although you will not enter into an employee/employer relationship with ORISE, ORAU, DHS or any other office or agency, you must have or be eligible to obtain and maintain a security clearance for the duration of your appointment. It is expected that after completing the necessary application for clearance a fitness determination will allow participation to begin with unclassified material, while awaiting a clearance.

Administrative Notes:

- You will not enter into an employee/employer relationship with ORISE, ORAU, DHS or any other office or agency. Instead, you will be affiliated with ORISE for the

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administration of the appointment through the ORISE appointment letter and Terms of Appointment.

- The successful applicant(s) will be required to comply with Environmental, Safety and Health (ES&H) requirements of the host facility, including but not limited to, COVID-19 requirements (e.g., facial covering, physical distancing, testing, vaccination).

Qualifications To qualify for this opportunity you must,

- Be 18 years of age or older at time of application.
- Be currently pursuing or have received a Bachelor's degree, Master's degree, or Doctoral degree from an accredited college or university in a desired discipline. Please see full list of disciplines at the end of this announcement.
- Be a U.S. citizen.

Preferred: background with analysis of large-scale data sets.

A complete application consists of:

- Complete Zintellect profile
- Essay Questions - The application includes questions specific to the opportunity.
- Current Resume/CV.
- Academic Records: The applicant must submit records for the most recent degree or degree in progress. Unofficial transcripts or copies of academic records provided by the applicant or by academic advisors from internal institutional systems may be submitted. The selected candidate may be required to provide proof of completion of the degree before the appointment can start.
- Name and Contact Information for One (1) Recommender. Applicants are required to provide a phone number and email address for one recommender in order to submit the application.

If you have questions, please send an email to DHsed@orau.org with "DHS-RPP-DA-TC-2025-02" in the subject line.

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Point of Contact [Cedricka](#)

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree.
 - **Discipline(s):**
 - **Computer, Information, and Data Sciences** ([15](#) 👁)
 - **Earth and Geosciences** ([2](#) 👁)
 - **Engineering** ([4](#) 👁)
 - **Environmental and Marine Sciences** ([1](#) 👁)
 - **Mathematics and Statistics** ([6](#) 👁)
 - **Other Non-Science & Engineering** ([2](#) 👁)
 - **Social and Behavioral Sciences** ([5](#) 👁)
 - **Age:** Must be 18 years of age

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