Opportunity Title: Research Opportunity in Railroad Safety Data Science and Data Analytics
Opportunity Reference Code: USDOT-2019-0007

Organization U.S. Department of Transportation (DOT)

Reference Code USDOT-2019-0007

How to Apply A complete application package consists of:

- An application
- Transcript(s) – Click here for detailed information about acceptable transcripts
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional recommendations

All documents must be in English or include an official English translation.

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

Application Deadline 6/3/2019 11:59:00 PM Eastern Time Zone

Description At the Federal Railroad Administration (FRA), we believe that rail moves America forward. The FRA's mission is to enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future. FRA executes this mission through development and enforcement of safety regulations, investment in passenger and freight rail services and infrastructure, and research into and development of innovations and technology solutions.

As a research participant at the FRA you will (1) help develop data science products, such as models for mitigating railroad safety risk, and (2) help develop analytics tools to draw insights and knowledge from the internal and external data, to realize the potential mission impact data science and analytics tools could have at the FRA.

FRA's Office of Railroad Safety promotes and regulates safety throughout the Nation's railroad industry. The mission of the Railroad Safety Information Management Division (RSIMD) within the Office of Railroad Safety is to plan and direct all activities relating to the management of the Office of Railroad Safety's data. Over the last several years, FRA has increasingly focused on its safety data as a strategic resource and asset. RSIMD is piloting a data science platform to further its data-driven decision process.

RSIMD is looking for candidates to support the development of railroad safety data products. This initiative uses new data science processes, tools and technology to significantly improve

accessibility and usability of FRA Safety data, reduce cost, reduce human capital for providing railroad safety data to internal and external stakeholders, and to further FRA's data-driving decision making processes. The project will include deployment of open source software to support data analytics; extraction, transformation, loading and curation of source data; and developing software libraries as well as documentation to facilitate use of the data science platform. The project includes the use of modern, cloud-based technologies, multi-resolution data fusion and analysis.

The appointment will provide training and opportunities for developing and implementing creative approaches to improve and refine the railroad safety data analytics lifecycle via scripting, programming, and other methods. The participant will have opportunities for publications and presentations of research in professional journals and to the scientific communities and we strongly encourage these activities. Appointments are initially for one year, with the possibility of extension, contingent upon project suitability and the availability of funds.

Stipend: $60,000 - $85,000 (commensurate with education level and experience)
Professional Development/Conference Travel: $4,000
Relocation: $4,000
Health Insurance Allowance: $3,000

The start date is flexible. You may start anytime after September 2, 2019.

The USDOT is actively reviewing applications and is looking to fill opportunities as soon as qualified applicants are identified.

This program, administered by ORAU through its contract with the U.S. Department of Energy to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and the U.S. Department of Transportation (DOT). The initial appointment is for one year, but may be renewed upon recommendation of DOT contingent on the availability of funds. The participant will receive an annual stipend in the range of $60,000-$85,000, which will be commensurate with educational level and experience, as well as a health insurance stipend supplement to offset the cost of health insurance. Proof of health insurance is required for participation in this program at the start of the appointment. The appointment is full-time at DOT in the Washington, DC, area. Participants do not become employees of DOT, FRA, DOE or the program administrator, and there are no employment-related benefits.

Qualifications The ideal candidate will have:

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- A Master's degree in engineering, natural sciences, computer sciences, mathematics/statistics or a closely related discipline.
- Knowledge of data science technologies and tools, cloud-based analytics, statistical modeling and statistical graphics, open source data management software, data conversion, data analysis, data management, metadata and data visualization.
- Excellent communication (oral and writing) skills, and excellent organization and decision-making skills. Strong interpersonal skills and participate effectively as a team member are essential.
- Applicants should have received their most recent degree within five years prior to the start date.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree received within the last 60 months or anticipated to be received by 8/31/2019 12:00:00 AM.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Engineering** (2 👁)
  - **Mathematics and Statistics** (10 👁)
  - **Other Non-Science & Engineering** (1 👁)
  - **Social and Behavioral Sciences** (2 👁)