

Job no: 527530

Work type: Research Faculty

Senior management: College of Engineering

Department: Industrial and Systems Engineering

Location: Falls Church, Virginia

Categories: Engineering, Research / Scientific

Job Description

Applications are invited for a National Science Foundation funded (LEAP HI Program #2051685), Postdoctoral Associate position with the System Performance Laboratory (SPL) (www.splvt.com) in the Grado Department of Industrial and Systems Engineering, Virginia Tech. The position will be located at the Virginia Tech Northern Virginia Center in Falls Church, VA. The desired duration of the position is 1+1 (optional year if mutually desired), totaling up to a maximum of two calendar years. The candidate will conduct research and mentoring duties, in addition to optional teaching of one course per year, if mutually desired. Research will focus on multi-level investigation of safety-critical human-in-the-loop systems that collaborate with automated/autonomous decision-aid technologies. Desired interests are interdisciplinary modeling (ideally using economic production theory, more specifically Data Envelopment Analysis, system dynamics modeling/agent-based modeling, and/or Artificial Intelligence & Machine Learning not excluding other modeling frameworks) of safety critical socio-technical infrastructure systems. The candidate will be primarily responsible for writing and submitting refereed journal and conference publications, research proposals, preparing project documents and project presentations, assisting in the organization of a workshop, working with large datasets, and developing of software code that complements the existing capabilities of SPL. As part of the position duties will be the expectation that the candidate would travel to Belgium to visit with the engineers and managers at INFRABEL (National Belgian Railway Company).

Required Qualifications

- PhD in Industrial and Systems Engineering and/or Operations Research or a related field (e.g., human system integration (human factors engineering; systems engineering and/or computer science); human-machine interaction (human factors engineering; computer science); other). PhD must be awarded no more than four years prior to the effective date of appointment with a minimum of one year eligibility remaining.
- Background in interdisciplinary modeling of socio-technical systems.
- Research in applications of socio-technical systems including issues preferably related but not limited to the use of automation, decision theory, organizational theory and/or workforce social questions.
- Experience in data science and working with large datasets.
- Demonstrated ability to work effectively with a diverse team from multiple disciplines (e.g., systems engineering, decision theory, organizational theory, economic production theory, human factors engineering, and others).
- Demonstrated ability to mentor and lead graduate student research.
- Previous experience in publishing in high-impact peer-reviewed journals or conferences.
- Strong communication skills.

Preferred Qualifications

- Familiar with economic production theory, more specifically Data Envelopment Analysis, experience with system dynamics modeling/agent-based modeling, and/or Artificial Intelligence & Machine Learning not excluding other theoretical or modeling frameworks.
- Experience in R and Python, and/or Netlogo, and/or VENSIM.
- Track record in securing or contributing to competitive federal grant proposals.

Appointment Type

Restricted

Salary Information

Commensurate with experience

Review Date

3/1/2024

Additional Information

The successful candidate will be required to have a criminal conviction check.

About Virginia Tech

Dedicated to its motto, *Ut Prosim* (That I May Serve), Virginia Tech pushes the boundaries of knowledge by taking a hands-on, transdisciplinary approach to preparing scholars to be leaders and problem-solvers. A comprehensive land-grant institution that enhances the quality of life in Virginia and throughout the world, Virginia Tech is an [inclusive community](#) dedicated to knowledge, discovery, and creativity. The university offers more than 280 majors to a diverse enrollment of more than 36,000 undergraduate, graduate, and professional students in eight [undergraduate colleges](#), a [school of medicine](#), a [veterinary medicine](#) college, [Graduate School](#), and [Honors College](#). The university has a significant presence across Virginia, including the [Innovation Campus](#) in Northern Virginia; the Health Sciences and Technology Campus in Roanoke; sites in Newport News and Richmond; and numerous [Extension offices](#) and [research centers](#). A leading global research institution, Virginia Tech conducts more than \$500 million in research annually.

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If you are an individual with a disability and desire an accommodation, please contact **Monica Crousen** at mcrouse@vt.edu during regular business hours at least 10 business days prior to the event.

Advertised: October 29, 2023

Applications close: Open until filled