Opportunity Title: Uncertainty Visualization and Adaptation to Novel Technologies
Opportunity Reference Code: ARL-R-HRED-300111

Organization	DEVCOM Army Research Laboratory
Reference Code	ARL-R-HRED-300111
Description	**About the Research**

DEVCOM US Army Research Lab is looking for a postdoc to join a collaborative, interdisciplinary team doing basic research on visualizations of uncertain data in traditional (e.g. 2-d static displays) and novel (e.g. dynamic, immersive VR) contexts and on user adaptation to unfamiliar technologies generally. We are especially interested in individual differences measures associated with the ability to rapidly adapt to a range of novel technologies including successful use of uncertainty visualizations; training approaches to improve reasoning with uncertainty and other adaptation skills; and the relationship between reasoning with uncertainty and adaptability to novel, complex environments, situations, and technologies. The team is based in Los Angeles, California, but remote research from another ARL facility may be possible. This is a great opportunity for someone looking to do high quality, basic research while gaining experience in a government research environment.

keywords: decision-making; information visualization; individual differences; adaptive learning; experimental psychology

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About HRED

The Human Research and Engineering Directorate (HRED) is ARL's principal center for research and development directed toward optimizing Soldier performance and human-autonomy teaming. Research within HRED focuses on how to improve Soldier performance in a dynamic and changing battlefield. As technology and autonomous systems become an increasingly integral part of Soldier teams, it is critical to determine how these systems can work with and be adapted to the Soldier and their capabilities. Autonomous systems must be able to be integrated into Soldier teams and move from tools to teammates. Critical to

this is an understanding of how humans and human teams perform and change in dynamic environments and situations. HRED leverages human-robot interaction, human-informed machine learning, human cognition and adaptive teaming to improve human-autonomy teaming for future Army teams.

About ARL-RAP

The Army Research Laboratory Research Associateship Program (ARL-RAP) is designed to significantly increase the involvement of creative and highly trained scientists and engineers from academia and industry in scientific and technical areas of interest and relevance to the Army. Scientists and Engineers at the CCDC Army Research Laboratory (ARL) help shape and execute the Army's program for meeting the challenge of developing technologies that will support Army forces in meeting future operational needs by pursuing scientific research and technological developments in diverse fields such as: applied mathematics, atmospheric characterization, simulation and human modeling, digital/optical signal processing, nanotechnology, material science and technology, multifunctional technology, combustion processes, propulsion and flight physics, communication and networking, and computational and information sciences.

A complete application includes:

- **Curriculum Vitae or Resume**
- **Three References Forms**
    - An email with a link to the reference form will be available in Zintellect to the applicant upon completion of the on-line application. Please send this email to persons you have selected to complete a reference.
    - References should be from persons familiar with your educational and professional qualifications (include your thesis or dissertation advisor, if applicable)
- **Transcripts**
    - Transcript verifying receipt of degree must be submitted with the application. Student/unofficial copy is acceptable

If selected by an advisor the participant will also be required to write a **research proposal** to submit to the ARL-RAP review panel for :

- Research topic should relate to a specific opportunity at ARL (see Research Areas)
- The objective of the research topic should be clear and have a defined outcome
- Explain the direction you plan to pursue
- Include expected period for completing the study
- Include a brief background such as preparation and motivation for the research

- References of published efforts may be used to improve the
proposal

A link to upload the proposal will be provided to the applicant
once the advisor has made their selection.

Questions about this opportunity? Please email
ARLFellowship@orau.org

Eligibility Requirements

- **Degree:** Doctoral Degree.
- **Academic Level(s):** Any academic level.
- **Discipline(s):**
    - **Computer, Information, and Data Sciences** (17 👁)
    - **Social and Behavioral Sciences** (21 👁)
- **Age:** Must be 18 years of age