

Opportunity Title: Cyber Resiliency and Training

Opportunity Reference Code: ARL-R-CISD-300002

Organization DEVCOM Army Research Laboratory

Reference Code ARL-R-CISD-300002

Description About the Research

This research involves improving cyber resiliency through developing algorithms and techniques to improve defensive operations. These techniques may be used for both training purposes and to develop more realistic decoy environments. Particular interests include the implementation of techniques to rapidly create synthetic documents and validate their effectiveness.

Opportunities exist (but are not exclusive) in the following areas:

- Procedural generation of synthetic documents and environments
- Modeling and validating techniques for simulating online user behavior (e.g., web browsing)
- Data analysis and risk mitigation techniques for poisoning attacks in moderately large datasets
- Modeling and developing techniques to visualize the output of AI systems to be more explainable to an analyst

Keywords: cyber defense, modeling, cyber resiliency, data analytics, human-computer interaction, autonomy, python, computational linguistics, artificial intelligence, machine learning

ARL Advisor: Dr. Robert Thomson

ARL Advisor Email: robert.thomson@westpoint.edu

About CISD

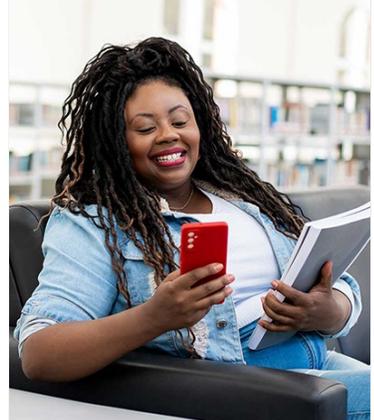
The Computational and Information Sciences Directorate (CISD) conducts research in a variety of disciplines relevant to achieving and implementing the so-called digital battlefield. Problems address the sensing, distribution, analysis, and display of information in the modern battle space. CISD research focuses on four major areas: communications, atmospheric modeling, battlefield visualization, and computing

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



ORAU Pathfinder



Whether you are just starting your career or already at a senior level, ORAU offers internships, fellowships, research opportunities, and contract positions that can provide you with invaluable experience. Download the ORAU Pathfinder mobile app and find the right opportunity to propel you along your career path!

Visit ORAU Pathfinder 

GET IT ON
Google Play

Download on the
App Store

Opportunity Title: Cyber Resiliency and Training

Opportunity Reference Code: ARL-R-CISD-300002

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@oraui.org

- Eligibility Requirements**
- **Degree:** Doctoral Degree.
 - **Academic Level(s):** Any academic level.
 - **Discipline(s):**
 - **Computer, Information, and Data Sciences** ([16](#))