Opportunity Title: Networking, Information Management & Decision Support Using Machine Learning
Opportunity Reference Code: ARL-R-CISD-1177647728

Organization DEVCOM Army Research Laboratory

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Description **About the Research**

Research opportunities are available in networking and decision support technologies investigation and developing software algorithms and techniques to support human or machine information interactions for the purpose of information retrieval/dissemination, analysis and/or decision making. Research will involve one or more of the following areas:

* Developing algorithmic frameworks and models for information interaction and network characterization and optimization.
Investigating relationship between various system and network architectural layers and relationships between respective protocol capabilities and characteristics, as well as networking analysis and/or decision analytic tools and software.
* Researching information retrieval, information dissemination, decision science, information presentation, or human information interaction.
* Analyzing, designing, and/or developing network transport protocol/software/middle ware applications across varied communication mediums.
* Understanding networked information systems and/or networked devices in distributed configurations that provide decision support data or analytical capabilities.
* Generating computationally numerical algorithms for data processing and analysis, using supervised and unsupervised machine learning models and methods, particularly involving network data analysis, and/or decision support methods.
* Developing applications for deterministic and stochastic optimization, probability, information theory, and/or data modeling.

Experience with analytical tools, such as, MATLAB, R, SAS, or similar, and related programming languages, such as, Python, Java, JavasSript, and/or database/scripting languages, is needed.

ARL Advisor: Adrienne Raglin

ARL Advisor Email: adrienne.j.raglin.civ@army.mil

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

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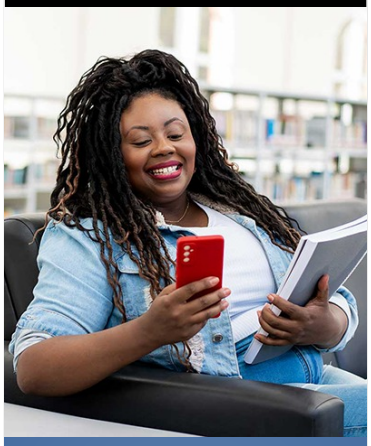

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highly trained scientists and engineers from academia and industry in scientific and technical areas of interest and relevance to the Army. Scientists and Engineers at the CCDC Army Research Laboratory (ARL) help shape and execute the Army's program 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:** Master's Degree or Doctoral Degree.
- **Academic Level(s):** Any academic level.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (16)

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- **Engineering** (27 👁)
- **Mathematics and Statistics** (10 👁)
- **Science & Engineering-related** (1 👁)

- **Age:** Must be 18 years of age