Opportunity Title: Visual Perception for Decision Making
Opportunity Reference Code: ARL-C-CISD-300162-ES

Organization DEVCOM Army Research Laboratory

Reference Code ARL-C-CISD-300162-ES

Description

About the Research

This research opportunity is focused on the development of visual perception models to extract the relevant visual information from a scene needed for an autonomous or human agent to understand their surrounding environment and make an appropriately informed decision. Decision-making may require understanding the surrounding environment using a combination of low, mid, or high-level visual concepts. Research opportunities exist at ARL to develop computer vision models focused on object recognition, instance segmentation, panoptic segmentation, scene graph generation, amodal perception, pose estimation, open-set recognition, zero-shot learning, high dynamic range processing for visual perception, and visual saliency modeling. Researchers with experience in or more related fields are preferred. Interested candidates should contact Dr. Harrison prior to submitting a research proposal.

ARL Advisor: Dr. Andre V. Harrison

ARL Advisor Email: andre.v.harrison2.civ@army.mil

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)

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- **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.

Point of Contact ARL-RAP

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Associate's Degree, Bachelor's Degree, Master's Degree, or Doctoral Degree.
- **Academic Level(s):** Any academic level.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (17 👁)
  - **Earth and Geosciences** (21 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (48 👁)
  - **Mathematics and Statistics** (11 👁)
  - **Physics** (16 👁)
  - **Social and Behavioral Sciences** (29 👁)