Opportunity Title: NGA: Machine Learning Applied Research
Opportunity Reference Code: NGA-18-1

Organization	U.S. Department of Defense (DOD)
Reference Code	NGA-18-1
How to Apply	To review the full project description and apply, please click this link.

Description

PROJECT DESCRIPTION

NGA is conducting research for energy efficient machine learning. Recent breakthroughs in deep learning can contribute much of their success to powerful graphics processing units (GPUs) and complex neural network architectures. However, a GPU would quickly drain the battery of any mobile device and a typical deep neural network would overload the current embedded processors used in mobile devices. NGA is focusing on improving energy efficiency by reducing the size and complexity of deep neural networks without significantly affecting their accuracy. Examples of this research include model compression, model pruning, and reduced precision networks. These optimizations are ideal for mobile applications because they make the inference process more efficient. NGA is looking for scientists to aid our research in efforts that have special application to the Intelligence Community and the Department of Defense.

National Geospatial-Intelligence Agency (NGA)

The National Geospatial-Intelligence Agency (NGA) provides timely, relevant, and accurate geospatial intelligence in support of national security objectives. Geospatial intelligence is the exploitation and analysis of imagery and geospatial information to describe, assess, and visually depict physical features and geographically referenced activities on the Earth. Information collected and processed by NGA is tailored for customer-specific solutions. By giving customers ready access to geospatial intelligence, NGA provides support to civilian and military leaders and contributes to the state of readiness of U.S. military forces. NGA also contributes to humanitarian efforts such as tracking floods and fires and in peacekeeping. NGA is a member of the U.S. Intelligence Community and a Department of Defense (DoD) Combat Support Agency. Headquartered in Springfield, VA, NGA operates major facilities in the St. Louis, MO and Washington, D.C. areas. The Agency also fields support teams worldwide.

Qualifications

ELIGIBILITY

- Applicants should be completing M.S., Ph.D. or post-doctoral appointment with backgrounds in computer science,

Opportunity Title: NGA: Machine Learning Applied Research
Opportunity Reference Code: NGA-18-1

mathematics, or statistics. Current college or university faculty member on sabbatical are also eligible.
- Other applicants will be considered on a case-by-case basis.
- Knowledge of remote sensing and field experience will be considered a plus.
- A self-motivated ability to conduct research across diverse scientific teams and staff is expected, and publishing findings in various scientific fora is highly encouraged.
- Applicants should have experience conducting researchwithin a research environment and show an ability to conceptualize a broad research agenda, to plan and execute specific research projects, and to meet research expectations. Applicants should have excellent verbal and written communication skills.
- U.S. citizenship is required for the applicant. Please see further eligibility under Security Requirements.
- A background check will be conducted for a Sensitive Compartmented Information (SCI) security clearance. Completion of a Questionnaire for National Security Positions is required. Details can be found under the Security Requirements section. Visiting scientists are also subject to Counterintelligence Polygraph examinations in order to maintain access to Top Secret information.
- NGA is a drug-free workplace. Initial and random drug tests will be conducted.

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Master's Degree or Doctoral Degree.
- **Academic Level(s):** Faculty, Postdoctoral, or Post-Master's.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Mathematics and Statistics** (10 👁)