Opportunity Title: Social Network Analysts: Natural Language Processing
Opportunity Reference Code: NGA-VSP-2020-0003

Organization	U.S. Department of Defense (DOD)
Reference Code	NGA-VSP-2020-0003
How to Apply	Components of the online application are as follows:

- Profile Information

- Educational and Employment History

- Essay Questions (goals, experiences, and skills relevant to the opportunity)

- Resume (PDF)

- Transcripts/Academic Records - For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. Click here for detailed information about acceptable transcripts.

- 2 Recommendation(s)

Submitted documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blanked out, blackened out, made illegible, etc.) prior to uploading into the application system.

If you have questions, send an email to **orisedod@orise.orau.gov**. Please list the reference code of this opportunity in the subject line of the email.

All documents must be in English or include an official English translation.

References should be from persons familiar with your educational and professional qualifications (include your thesis or dissertation advisor, if applicable). Personal references are NOT acceptable.
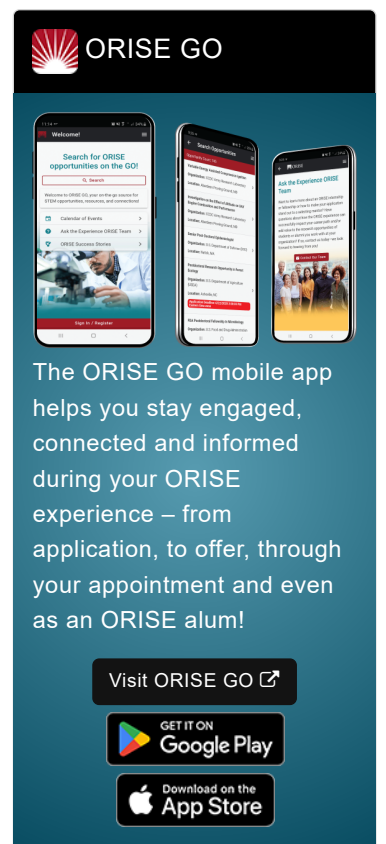
Description	Candidates may work in the Springfield VA or St Louis, MO locations upon completion of security clearance investigation.

The National Geospatial-Intelligence Agency (NGA) delivers world-class geospatial intelligence that provides a decisive advantage to policymakers, warfighters, intelligence professionals and first responders. Anyone who sails a U.S. ship, flies a U.S. aircraft, makes national policy decisions, fights wars, locates, targets, responds to natural disasters, or even navigates with a cellphone relies on NGA. NGA enables all of these critical actions and shapes decisions that impact our world through the indispensable discipline of geospatial intelligence (GEOINT).

NGA's Research directorate – Predictive Analysis Pod – Encompasses techniques from data mining, predictive modeling, and machine learning that analyze current and historical facts to make predictions about future or other unknown events. Sometimes the event is in the future, but predictive analytics can be applied to any type of unknown – past, present or future. The candidate will apply technical skillsets and expertise to national

security topics to further use of event detection and sentiment analysis.

Appointment Length

This appointment is a twelve month research appointment, with the possibility to be renewed for additional research periods. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.

Participant Benefits

Participants will receive a stipend to be determined by **NGA.** Stipends are typically based on the participant's academic standing, discipline, experience, and research facility location. Other benefits may include the following:

- Health Insurance Supplement. *Participants are eligible to purchase health insurance through ORISE.*

- Relocation Allowance

- Training and Travel Allowance

Nature of Appointment

The participant will not enter into an employee/employer relationship with ORISE, ORAU, DOD, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

Qualifications PhD or postdoc with the following experience highly preferred:

- Social Network Analysis: neural networks, natural language understanding and machine learning,

- Natural Language Processing techniques such as transformer networks, graph embeddings, low-shot learning, or weak supervision are required.

- Experience with the standard libraries for deep-learning NLP, such as Keras, PyTorch, and Tensorflow, are required.

- Specific foreign language and cultural expertise is highly desired.

- Proficiency in python through coursework and shared scripts is required.

- Experience with geospatial analysis is a plus.

- Candidates with relevant experience will be considered with ABD status, postdoctoral or later-career. This work requires Top Secret security clearance

- A background check will be conducted for an SCI security clearance. Completion of Questionnaire for National Security Positions is required.

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Eligibility Requirements	• **Citizenship:** U.S. Citizen Only
	• **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.
	• **Discipline(s):**

- **Chemistry and Materials Sciences** (12 👁)
  - **Communications and Graphics Design** (1 👁)
  - **Computer, Information, and Data Sciences** (16 👁)
  - **Earth and Geosciences** (21 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (3 👁)
  - **Life Health and Medical Sciences** (45 👁)
  - **Mathematics and Statistics** (10 👁)
  - **Other Non-Science & Engineering** (2 👁)
  - **Physics** (16 👁)
  - **Science & Engineering-related** (1 👁)
  - **Social and Behavioral Sciences** (27 👁)