

Opportunity Title: Big Spatial Data Project **Opportunity Reference Code:** NGA-15-260

Organization U.S. Department of Defense (DOD)

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How to Apply The project is managed by the ORAU Maryland Office: (www.orau.org/Maryland)

Project ID: NGA-15-260

Direct Link: https://www.pcrecruiter.net/pcrbin/reg5.aspx? i1=WEBGUEST&i2=522945880177722&i3=DETAIL&i4=522945880177722&i3 15-260%20&pcr-

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Description Over the past several decades, geospatial tools and datasets have begun to be assimilated into our everyday lives in the form of popular mapping tools, navigation devices, and location-based services. These tools are generating an explosion of large and complex geospatial datasets that can help us understand and quantify interesting and/or anomalous patterns Traditional views and analytic methods may not be suitable due to the data disparity, inhomogeneity, and other factors; therefore, research areas such as spatial and spatio-temporal data mining and spatial statistics are beginning to flourish. In addition, new challenges arise due to the scale and size of these datasets. Thus, NGA seeks to find and/or develop novel geospatial-based techniques within a distributed/parallel environment to understand and quantify big datasets representing geographic phenomena. NGA is interested in appointing one or more post-doctoral researchers with backgrounds in Spatial and Spatio-Temporal Data Mining, Spatial Statistics, Parallel and Distributed Computing, Machine Learning, High-Dimensional Data Analysis, Graph Theory, Computational Cartography, Computational Geometry, and/or a related discipline. These appointments may include, but are not limited to the following tasks: Development of novel data mining and machine learning methods within a distributed/parallel environment to discover interesting, useful, non-trivial patterns in big geospatial datasets.

> Integration of scalable techniques to quantify geographic phenomena over massive scales of geospatial data. · Interaction with government, academia, and contractor scientists to monitor progress in relevant domains, evaluate research results, and determine feasibility of proposed methods. · Publishing proposed results in peer-reviewed conferences and journals.

> The researchers should have a strong background in computer science and/or spatial statistics and have experience with distributed/parallel computing and spatial data mining. Knowledge in high-dimensional data analysis, and/or machine learning will be a plus. Several appointments are available at NGA for participation in the Washington, D.C. area.

Qualifications A selected candidate must have a doctoral degree in computer science, statistics, or related discipline within the last five years or be within one year of completing the requirements to receive a doctoral degree.

Eligibility • Citizenship: U.S. Citizen Only

- Requirements Degree: Master's Degree or Doctoral Degree
 - Discipline(s):
 - Computer, Information, and Data Sciences (<u>16</u>[®])
 - Mathematics and Statistics (10.)



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