



**POSITION:** Postdoctoral Appointee - Large-Scale Graph Analysis

**JOB ID:** 641144

**LOCATION:** Livermore, CA

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## DEPARTMENT DESCRIPTION

The Informatics and Systems Assessments department is focused on applications of interest to national security. We conduct research in information security engineering as well as fundamental computer science and mathematics. The specialties of our technical staff represent a wide range of disciplines including machine learning, linear and multilinear algebra, cloud-based data analysis, binary reverse engineering, network protocol analysis, and botnet/malware analysis and mitigation. Our researchers regularly publish their work in leading journals and conferences. Our work is funded by various U.S. government agencies, including the Department of Energy.

## JOB DESCRIPTION

We are seeking a postdoctoral researcher in the area of large-scale graph analysis of time-evolving attributed networks, with a focus on feature discovery and scalable models. The successful applicant will be expected to conduct innovative research, to develop open-source Hadoop MapReduce software for analyzing large-scale data, to present his or her findings at leading conferences and workshops, and publish his or her results in leading journals. This postdoctoral position is for motivated and enthusiastic individuals with a background in computer science, mathematics, statistics, or related areas.

## QUALIFICATIONS

### Required:

(1) U.S. Citizenship; (2) advanced degree (Ph.D. or equivalent) in computer science, mathematics, statistics, or a related area, with a strong record of academic performance; (3) ability to work in a collaborative research environment; (4) evidence of relevant research expertise in the form of technical publications, presentations, software, and/or knowledge of applications; (5) software development competence in Java, C++, or a related language; (6) proficiency in solving problems, prioritizing work, and making decisions; (7) excellent written and oral communication skills.

### Desired:

(1) Expertise in one or more of the following areas: MapReduce algorithms, graph analysis and modeling, graph mining, cyber security, social network analysis, numerical linear algebra and optimization, statistics, discrete mathematics; (2) software engineering proficiency, including an understanding of object-oriented programming techniques and best practices, Hadoop MapReduce and/or high-performance computing experience; (3) experience with standard research tools such as LaTeX, MATLAB, PowerPoint; (4) a background in solving practical problems in science and engineering that involve encounters with real-world data; and (5) evidence of professional service to the community, such as engagement in student service activities or seminar/workshop organization.

## ABOUT SANDIA

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## HOW TO APPLY

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