Job Listing: Applied Statistician

February 17, 2015

The Software Engineering Institute, a government research lab associated with Carnegie Mellon University, is seeking up to two applied statisticians or machine learning researchers to join a growing team of data-centric researchers. These jobs are in the CERT division, researching cyber security. Questions about this position can be directed to Bronwyn Woods (blwoods@cert.org). To apply, see position 2000565 on our careers page www.sei.cmu.edu/careers.

Job listing text (see http://www.sei.cmu.edu/careers/ )

Position Summary: A small but growing team of data-centric researchers seeks an applied statistician / data scientist to work on established projects as well as develop new ones. Examples of current projects include developing metrics and experimental designs for large-scale cybersecurity research programs, researching human-in-the-loop machine learning, and performing both exploratory and automated analysis of large corpora of cybersecurity incident data. Though you may encounter big data problems in this position, we find that many of our most interesting challenges currently stem from data quality issues and limited sample sizes. You will have the opportunity to apply, learn, and develop new technical approaches. You will be expected to work with teams of cybersecurity domain experts as well as other statisticians, and needn't have previous cybersecurity experience of your own. Explicitly, you will be expected to co-author research proposals and execute applied research (i.e., design research studies and study materials, collect and analyze data, author publications, and present findings to DoD sponsors and academic conferences). In addition, the individual must be a U.S. Citizen and pass security clearances. Applicants that do not meet all of the requirements are still encouraged to apply.

Minimum Qualifications and Requirements:

Education/Training: Bachelor’s degree and an academic background in machine learning, statistics, or other related quantitative field with eight (8) years of experience; Master’s degree and an academic background in machine learning, statistics, or other related quantitative field with five (5) years of experience; PhD and an academic background in machine learning, statistics, or other related quantitative field with two (2) years of experience; or equivalent combination of training and experience. Candidates without a PhD should instead have experience demonstrating their knowledge of statistical theory and ability to perform research.

Experience: Two plus (2+) years of experience using statistical methods.

Skills/Abilities: An ideal candidate will have expertise in the following areas. Experience with specific tools and methods are less important to us than evidence that you can learn new tools and methods.

Statistics:

- Design quantitative metrics with real-world utility and validity.
- Apply a wide range of analysis techniques to diverse, potentially underspecified real problems.
- Find, read about and evaluate theoretical results as needed.
- Execute experimental design basics.
- Advise on the feasibility, needs, and design of the data-centered component of new project proposals.
- Design and evaluate data collection strategies aligned to project goals.

Hands-on data analysis:

- Analyze data in R, Python or similar data analysis ecosystem.
- Comfortably use tools for reproducible, documented data analysis.
- Rapidly clean, refactor, explore, model, plot, and merge messy raw datasets.
Collaboration:

- Work closely with subject-matter experts.
- Communicate with people in other fields about technical statistical concepts.

Physical / Mobility: Normal sedentary in an office setting with some mobility, i.e., able to travel to various locations within the SEI and CMU community. May require some bending, stretching, pushing as well as lifting several reams of paper, etc.

Environmental Conditions: Close contact with computer for extended periods of time.

Mental: Ability to: meet deadlines while working on multiple tasks – sometimes under pressure and with shifting priorities; work in a team environment to achieve research objectives; deal collaboratively, diplomatically, and successfully with customers, co-workers and other professional colleagues, managers, and staff.

Other: U.S. Citizenship is required. Applicants selected will be subject to a security investigation and must meet eligibility requirements for access to classified information.