

The University of Southern California's Information Sciences Institute seeks to hire exceptional candidates at all levels to work on projects related to Cyber Security, Smart Grids, Energy, and Cyber-Physical Systems, Internet Measurement and Data Analysis, and Experimental Networking and Cyber Security Research Methodologies and Infrastructure. Interested candidates should forward their CV and a cover letter to cnr-recruiting@isi.edu. Post-doctoral applications should include a research statement.

Openings include:

- **Postdoctoral Research Associate – Internet Measurement and Data Analysis**

The ANT Lab (Analysis of Network Traffic, <http://www.isi.edu/ant/>) seeks a post-doctoral scholar to explore questions in network data collection, anonymization, and analysis to understand the Internet and improve network security. We look for a postdoc interested in building on our group's history of very large-scale data collection and parallel analysis to take it in new directions.

The following qualifications and skills are required:

- 1) a PhD degree (completed by start of appointment) in computer science or a related area,
- 2) experience in network measurement, data analysis, or other relevant research area,
- 3) strong communication and writing skills, and
- 4) ability to do independent research, as well as to work collaboratively with other team members.

- **Postdoctoral Research Associate – Cyber Security Research Methodologies**

Contribute as a post-doctoral fellow to the collection of research projects that form the DETER Cyber Security research program. Perform research in topic areas including: experiment life cycle, experiment description and representation, reasoning and experiment health and advanced testbed federation technologies. The research will develop new theories, architecture, and techniques.

The following qualifications and skills are required:

- 1) a PhD degree (completed by start of appointment) in computer science or a related area,
- 2) experience in security, virtual machine techniques, and distributed systems,
- 3) strong communication and writing skills, and
- 4) ability to do independent research as well as to work collaboratively with other team members.

- **Research Faculty / Research Scientist – Experimental Cyber Security**

Act as a key contributor to leading edge research in the field of cyber security, with a special emphasis on the science of experimental cyber security. Participate in the DETER Cyber Security research program with a growing community of researchers and developers. Plan, design and carry out highly specialized, technical and unusually complex research projects independently and with colleagues, students, and professional staff.

The following qualifications and skills are required:

- 1) A PhD degree, or in unique cases a demonstrated track record of superior research accomplishment in lieu of degree;
- 2) knowledge of research processes and computer science;
- 3) demonstrated ability to take specific research problems, apply computer science principles, and derive solutions;
- 4) knowledge and experience relevant to research in cyber security, networking, and experimental research methodologies and infrastructures for these areas;
- 5) ability to interact with other project members in a positive and constructive manner to reach solutions to research problems.

- **Computer Scientist / Research Programmer – Experimental Cyber Security**

Play a key role with a team working at the leading edge of experimental cyber security research, with the twin goals of dramatically advancing the fundamental principles and methodologies of this field, and operating a major national-scale cyber security testbed facility that captures these advances. Use your creativity and innovation to solve challenging, often minimally specified, conceptual programming problems, raised by cutting edge research. Working closely with other member of the research team, formulate and define system scope and objectives, develop and modify large and complex system projects, and act as a specialist to provide provides technical consulting to researchers facing system-level design and programming challenges. As desired, contribute to publication of research results, and presentation of results and demonstrations at conferences and meetings.

The following qualifications and skills are required:

- 1) an MS degree in Computer Science or a related field, or in unusual cases a demonstrated track record of experience and accomplishment in lieu of degree; 2
- 2) superior technical abilities in systems – level design, coding, testing, debugging, and maintenance;

- 3) demonstrated experience with the design and implementation of large networked, distributed and/or security systems;
- 4) fast-prototyping ability;
- 5) demonstrated ability to work under minimal supervision at a high level of technical proficiency on all phases of system development and programming;
- 6) ability to interact with other project members in a positive and constructive manner to reach solutions to research problems.

Experience with networking research testbeds such as Emulab, PlanetLab, or GENI is a strong plus, as is past experience in an academic or industrial research laboratory environment.

- **Research Faculty / Research Scientist – Smart Grid and Cyber-physical Systems Reliability and Security**

Develop and carry out leading edge research related to cyber-physical system and Smart Grid reliability and security, initially in the specific context of two high-visibility DOE-sponsored “Smart Grid Demonstration Projects.” Apply technical and domain specific knowledge to define the security problems that are to be addressed, to model the system that is developed, and to pose the questions to be answered through our demonstration activities. Contribute to the design, development, and deployment of concepts and technologies necessary to substantially advance the state of the art and meet the technical objectives of the projects. Contribute to academic publications as well as technical communications to industry and standards bodies through writing, presentation, and standards activities.

The following qualifications and skills are required:

- 1) A PhD degree, or in unique cases a demonstrated track record of superior research accomplishment in lieu of degree;
- 2) knowledge of research processes and computer science;
- 3) demonstrated ability to take specific research problems, apply computer science principles, and derive solutions;
- 4) knowledge and experience relevant to research, design and architecture of cyber security systems;
- 5) ability to interact with other project members in a positive and constructive manner to reach solutions to research problems.

- **Computer Scientist / Research Programmer – Smart Grid and Cyber-physical Systems**

Play a key role with a team carrying out research related to cyber-physical system and Smart Grid reliability and security, initially in the context of two DOE-sponsored “Smart Grid Demonstration Projects.” Apply your technical and domain specific knowledge to design, develop, and implement complex and cutting-edge prototype systems capturing the results of our research, to be deployed within high-visibility projects of potential international impact. As desired, contribute to academic publications as well as technical communications to industry and standards bodies through writing, presentation, and standards activities.

The following qualifications and skills are required:

- 1) an MS degree in Computer Science or a related field, or in unusual cases a demonstrated track record of experience and accomplishment in lieu of degree;
- 2) superior technical abilities in systems-level design, coding, testing, debugging, and maintenance;
- 3) demonstrated experience with the design and implementation of large networked and security systems;
- 4) a demonstrated ability to work under minimal supervision at a high level of technical proficiency on all phases of system development and programming;
- 5) ability to interact with other project members in a positive and constructive manner to reach solutions to research problems.