



## JOB INFORMATION

<i>Job Code:</i>	167427
<i>Job Title:</i>	Research Engineer, Senior, ISI
<i>FLSA Status:</i>	Exempt
<i>Supervisory:</i>	May oversee staff, students and/or resource employees
<i>Job Family:</i>	Computer Research
<i>Job Family Group:</i>	Information Technology
<i>Management Level:</i>	7 Individual Contributor

## JOB SUMMARY

Implements technical solutions to novel research problems, working under minimal supervision. Collaborates with more senior research staff to transform research ideas into implemented solutions. Provides critical feedback on technical implementations of others. Participates in larger team efforts in implementing research prototypes. Creates documentation and publications as needed. Independently develops multiple parts of a larger system. Implements approaches to problems and solutions using state-of-the-art tools. Divides project-level goals into smaller tasks to be addressed by researchers. Initiates the design, development and implementation of technology research projects. Investigates the feasibility of applying scientific principles and concepts to potential inventions and products. Plans and executes applied research. Maintains extensive knowledge of state-of-the-art principles and theories, and may contribute to scientific literature and conferences.

## JOB QUALIFICATIONS:

### Education

<i>Req</i>	<i>Pref</i>	<i>Degree</i>	<i>Field of Study</i>
X		Bachelor's degree	
	X	Master's degree	

### Additional Education

**Check here if experience may substitute for some of the above education.**

Combined experience/education as substitute for minimum education

### Work Experience

<i>Req</i>	<i>Pref</i>	<i>Work Experience</i>	<i>Experience Level</i>
X		8 years	
	X	10 years	

### Additional Work Experience

**Check here if education may substitute for some of the above work experience.**

Combined experience/education as substitute for minimum work experience

### Knowledge, Skills and Abilities

<i>Req</i>	<i>Pref</i>	<i>Functional Skills</i>
X		Knowledge of one or more relevant programming languages (e.g., Python, C++, Golang).

## Knowledge, Skills and Abilities

Req	Pref	Functional Skills
X		Experience with Linux.
X		Experience with Virtual LAN and/or Virtual Extensible LAN.
X		Experience with Melanox Switches. Experience with SDN programming.
X		Experience with Ansible, Bash and Nagios. Experience with Prometheus.
X		Familiarity with and Simple Network Management Protocol.
X		Experience with applicable IT protocols (e.g., Border Gateway Protocol, Secure Shell, Transport Layer Security).
X		Experience with iptables and Network File System.
X		Excellent written and oral communication skills.
	X	Proven leadership ability.
	X	Experience in a university environment.
	X	Experience with artificial intelligence, very large-scale integration design, machine learning, deep learning (e.g., TensorFlow, PyTorch, HuggingFace), and Dockerization.

## Other Job Factors

## JOB ACCOUNTABILITIES

	% Time	Essential	Marginal	N/A
Supports the technical needs of research projects by implementing solutions in one or more programming languages. Maintains currency with and applies best practices in design, implementation, and engineering. Independently implements solutions to targeted research systems issues and tools to support project goals. Reviews and provides feedback on technical implementation of others. Independently performs most research assignments with instructions as to the general results expected.				
Collaborates with senior researchers to translate domain-specific needs into implemented solutions. Applies extensive domain-specific knowledge, gained from independent research, to implement project solutions. Demonstrates significant domain expertise and technical contributions in several related research areas.				
Takes a leadership role within a team, working closely with supervisor(s) on technical progress and challenges. Provides formal supervision to more junior staff as a part of a larger team. Provides technical mentorship to others. May serve as sole contributor and provide informal oversight to projects they are not directly working on. Establishes best practices within and/or across projects.				
Summarizes progress for project reports. Participates in meetings with external collaborators and/or cross-group meetings about program-level direction. May serve as the primary representative for the team. Presents work to external audiences.				
Identifies and understands new technology required to support project goals via tutorials, reading research publications and/or attending appropriate conferences. Stays informed of new developments and technologies by reading journals and other pertinent publications and participating in professional meetings and workshops.				

## Other Requirements

Essential:	Emergency Response/Recovery	Essential:	Mandated Reporter
Yes	In the event of an emergency, the employee holding this position is required to "report to duty" in accordance with the university's Emergency Operations Plan and/or the employee's department's emergency response and/or recovery plans. Familiarity with those plans and regular training to implement those plans is required. During or immediately following an emergency, the employee will be notified to assist in the emergency response		A mandated reporter who in his or her professional capacity has knowledge of, or reasonably suspects a person who is under the age of 18 years, elderly, or a dependent adult has been the victim of abuse or neglect must report the suspected incident. The reporter must contact a designated agency immediately or as soon as practically possible by telephone or in writing within 36 hours. By virtue of the associated job duties, this position qualifies as a mandated reporter as required by state law

**Other Requirements**

<i>Essential:</i>	<i>Emergency Response/Recovery</i>	<i>Essential:</i>	<i>Mandated Reporter</i>
	efforts, and mobilize other staff members if needed.		and USC's policy at: <a href="https://policy.usc.edu/mandated-reporters/">https://policy.usc.edu/mandated-reporters/</a>
<i>Campus Security Authority (CSA)</i>			<i>Essential:</i>
By virtue of the associated job duties, this position qualifies as a Campus Security Authority as required by law and USC's policy at: <a href="https://dps.usc.edu/alerts/clery/">https://dps.usc.edu/alerts/clery/</a>			

**ACKNOWLEDGMENTS**

The above statements reflect the essential and non-essential functions as necessary to describe the principle contents of the job. They are not intended to be a complete statement of all work requirements or duties that may be required of the position. I understand that I may be asked to perform other duties as assigned. USC reserves the right to add or change duties at any time.

The University of Southern California is an Equal Opportunity Employer. USC prohibits discrimination on any basis protected under federal, state, or local law, regulation, or ordinance or university policies. All employment decisions are based on individual qualifications and business need.

I acknowledge receipt of this job description and its associated physical requirements. I have read and understand the job description and job requirements and agree to abide by their contents. I realize that duties may be requested of me that are not specifically stated herein. I understand that I will be expected to adjust to potential fluctuations in work volume. I understand that, if I have any questions about the essential functions or expectations of my position, my supervisor and/or HR partner are available to discuss them with me.

\_\_\_\_\_

Print Employee Name

\_\_\_\_\_

Signature

\_\_\_\_\_

Date

\_\_\_\_\_

Print Manager Name

\_\_\_\_\_

Signature

\_\_\_\_\_

Date

This job description describes the general nature and level of work required by the position. It is not intended to be an all-inclusive list of qualifications, skills, duties, responsibilities or working conditions of the job. The job description is subject to change with or without notice, and Management reserves the right to add, modify or remove any qualification or duty. Nothing in this job description changes the existing at-will employment relationship between the university and the employee occupying the position.