USC University of Southern California

Research Engineer Lead, ISI
Job Description

JOB INFORMATION

Job Code:	167425
Job Title:	Research Engineer Lead, ISI
FLSA Status:	Exempt
Supervisory:	May oversee staff, students and/or resource employees
Job Family:	Computer Research
Job Family Group:	Information Technology
Management Level:	7 Individual Contributor

JOB SUMMARY

Oversees implementation of technical solutions to novel research problems. Transforms research ideas into implemented solutions. Contributes to larger team efforts in implementing research prototypes. Contributes to documentation and publications as appropriate. Independently develops parts of a larger system. Proposes approaches to problems and methods for implementing solutions using state-of-the-art tools. Divides project-level goals into smaller tasks to be addressed by researchers Supports research and technical direction at the division and/or institute level. Leads internal and external stakeholders. Devises new approaches to problems encountered. Initiates the design, development and implementation of technology research projects. Investigates feasibility of applying scientific principles and concepts to potential inventions and products. Plans and executes applied research. Maintains substantial knowledge of state-of-the-art principles and theories, and may contribute to scientific literature and conferences. May participate in development of patent applications. May coordinate interdepartmental activities and research efforts.

JOB QUALIFICATIONS:

Education

Req	Pref	Degree	Field of Study	
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

Req	Pref	Work Experience	Experience Level	
X		10 years		
	X	15 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

Req	Pref	Functional Skills
X		Knowledge of one or more relevant programming languages (e.g., Python, C++, Goolang).
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		Proven leadership ability.
X		Excellent written and oral communication skills.
	X	Knowledge of a wide variety of programming languages and research solutions.
	X	Experience engineering research solutions 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
Implements research project solutions in one or more programming languages to meet technical needs. Maintains currency with and applies best practices in design, implementation, and engineering. Oversees implementation of solutions to targeted research systems issues and tools to support project goals. Leads and provides feedback on technical implementation of others. Provides technical contributions in diverse areas to systems to which they are the primary developer and in areas in which they are brought on to consult.				
Translates domain-specific needs into implemented solutions. Applies domain-specific knowledge, gained from independent research, to implement project solutions. Demonstrates domain expertise and technical contributions in several related research areas. Reviews and evaluates results and conclusions of research projects.				
Works as a member of a team, collaborating closely with supervisor(s) on technical progress and challenges. Provides guidance on technical decisions for assigned projects and projects in related areas. Establishes best practices within and/or across projects.				
Summarizes progress for project reports. Leads and/or participates in meetings with external collaborators and/or cross-group meetings about program-level direction, serving as sole team representative as appropriate. Presents the work of the team as a whole to external audiences. Writes or assists in writing grant proposals as appropriate.				
Learns 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 and contributing to journals and other pertinent publications and participating in professional meetings and workshops.				
Promotes an environment that fosters inclusive relationships and creates unbiased opportunities for contributions through ideas, words, and actions that uphold principles of the USC Code of Ethics.				

Other Requirements

Essential:	Emergency Response/Recovery	Essential:	Mandated Reporter
	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		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

Other Requirements

Essential:	Emergency Response/Recovery	Essential:	Mandated Reporter
	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 efforts, and mobilize other staff members if needed.		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 and USC's policy at: https://policy.usc.edu/mandated-reporters/

Campus Security Authority (CSA)	Essential:
By virtue of the associated job duties, this position qualifies as a Campus Security Authority as required by law and USC's policy at: https://dps.usc.edu/alerts/clery/	

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.