



NATIONAL SCIENCE FOUNDATION

Notice of Workshop on U.S. Leadership in Software Engineering & Artificial Intelligence Engineering: Critical Needs & Priorities

AGENCY: Networking and Information Technology Research and Development (NITRD) National Coordination Office (NCO), National Science Foundation (NSF).

ACTION: Notice of workshop.

SUMMARY: Software is vital to America's global competitiveness, innovation, and national security. The economy, the nation's infrastructure, education, and healthcare all depend on software. Through AI engineering, the U.S. has made significant strides in healthcare, energy, transportation, and space exploration. Software engineering and AI underpin the industries that have created huge economic benefits for the country. This workshop will explore the fundamental research needed to support progress across these critical domains.

DATES: June 20-21, 2023.

ADDRESS: The workshop on U.S. Leadership in Software Engineering & AI Engineering: Critical Needs & Priorities will take place on June 20 and 21, from 9:30 a.m. to 5:00 p.m. (ET), at the National Science Foundation, 2415 Eisenhower Ave, Alexandria, VA 22314.

Instructions: Due to space limitations, in-person attendance is by invitation only; remote participation will be available via Zoom. The agenda, registration link, and Zoom information will be available the week of the event at:

<https://resources.sei.cmu.edu/news-events/events/leadership-sw-ai/index.cfm>

FOR FURTHER INFORMATION CONTACT: Melissa Cornelius at (202) 459-9674 or email, SPSQWorkshop2023@nitrd.gov.

Individuals who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1-800-877-8339 between 8 a.m. and 8 p.m., Eastern time, Monday through Friday. Closed Caption provided through Zoom.

SUPPLEMENTARY INFORMATION:

Overview. This notice is issued on behalf of the NITRD Software Productivity, Sustainability, and Quality (SPSQ) Interagency Working Group (IWG). The NITRD SPSQ IWG and Carnegie Mellon University (CMU) Software Engineering Institute (SEI) are partnering on this workshop to inform a community strategy for building and maintaining U.S. leadership in software engineering and AI engineering, and positively impact progress in multiple application domains. AI Engineering is a field of research and practice that combines the principles of software engineering, systems engineering, computer science, and human-centered design to enable implementation of AI systems in accordance with human needs for mission outcomes. Software engineering is a field of study and practice that focuses on designing, developing, testing, and maintaining software systems. It encompasses a systematic approach to building high-quality software that meets user requirements, is reliable, scalable, and maintainable.

Workshop goals are to:

- Identify research questions that excite the computing community and spark new collaborations.
- Identify addendums or updates to the National Agenda for Software Engineering roadmap.
- Produce a report summarizing challenges and strategic priorities for building and maintaining U.S. leadership in software engineering & AI engineering for the advanced computing and software community.

Workshop Objective. The workshop will provide an opportunity for discussions on research areas for the future of software engineering that are critical for multidisciplinary research. Several Federal agencies, as well as researchers and companies are working to chart the solution space. Federal leaders with an interest in software and AI engineering, research funding agencies, research laboratories, mission agencies, and commercial organizations with relevant experience and best practices should attend.

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