

AI for SE & SE for AI

OCTOBER
20 & 21
2021



DEVCOM
DEFENSE
SYSTEMS ENGINEERING
CENTER



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RESEARCH CENTER

The [2021 AI4SE/SE4AI Workshop](#) will be held October 20-21 virtually on ZoomGov. Participation is limited to US citizens only and will be by invitation. Abstracts are sought for presentations and panels from government, industry and academia addressing key Artificial Intelligence (AI) and Systems Engineering (SE) initiatives. All abstracts and presentations must be approved for public release. Selected abstracts will be invited to present and/or attend the workshop.

Two engineering and technology developments are shaping next generation defense systems. First, artificial intelligence (AI), which includes machine learning, has been recognized as a key driver for next-generation levels of cognitive performance, efficiency, and speed in systems that range from vehicles and weapons to logistics networks. Second, systems engineering (SE) methodologies and tools, including digital engineering and model-based systems engineering, have become increasingly important in the design, acquisition, and management of systems.

Objective

The objective of this workshop is to bring together key stakeholders from across industry, government and academia to explore specific outcomes that resulted from the initial 2020 meeting. The agenda for the October 2021 workshop will be developed to generate significant interchange and dialogue among participants. The intended goal will be to curate panel discussions and facilitate group breakout sessions that produce actionable applications of Artificial Intelligence for Systems Engineering (AI4SE) and Systems Engineering for Artificial Intelligence (SE4AI) as well as relevant research ideas that align with DEVCOM AC and SERC AI/SE priorities.

Abstract Submission Deadline

Abstracts must be submitted by August 16, 2021, by 11:59 p.m. EDT (Extended Deadline)

TOPICS OF INTEREST INCLUDE:

- AI/ML Technology Evolution
- Augmented Intelligence, Cognitive Assistants and Decision Aiding Tools
- Theoretical Foundations of Automation & Human-Machine Teaming
- Augmented Engineering, Using AI to Augment Engineering Design
- Digital Engineering Infrastructure and Methods in Support of AI
- Advances in Explainable AI
- Advances to Address Cognitive Bias in AI
- Uncertainty Quantification and Relation to Safety Boundaries in AI
- V&V and T&E of Learning Based Systems

- Applications of Digital Twins to Improve Machine Learning
- Data Collection and Curation for AI in Cyberphysical Systems
- AI/ML Applications That Address Complexity of Creating, Editing, and Annotating Models
- Workforce Development for AI4SE/SE4AI
- Other Current Applications of AI and ML for SE
- Other Current Applications of SE for AI and ML

Submission Schedule

Abstracts are sought for presentations from government, industry and academia addressing key AI and Systems Engineering related initiatives. Abstracts should be clear, concise and address AI/ML enablers and technologies to the Systems Engineering community at large and advances in the application of SE on AI systems.

Abstract Submission Deadline: August 16, 2021, by 11:59 p.m. EDT. (Extended Deadline)

Notification to Authors: September 1, 2021

Final Program: October 1, 2020

Submission Guidelines

Submissions should be made through the SERC website submission form at <https://sercuarc.org/event/ai4se-and-se4ai-workshop-2021/> by **August 1, 2021, by 11:59 p.m. EDT**. All requested information below must be completed for an abstract to be considered.

Information Required

Title (200-character limit)

Primary Author/Presenter: Full name, title and organization for the primary author. This person is the main point of contact and will receive all notifications, confirmations and further instructions.

Research Area: Identify the research topic area(s) being addressed.

Individual Presentation: Indicate if the submission is for an individual presentation.

Panel Submissions: Identify the planned panelists and their organizations and include a short position statement for each panelist.

Abstract Text (1-page limit): Content of the abstract. Do not insert graphics or tables.

References: One additional page can be included to contain endnote references, graphics and URL links to faculty/researcher bios or CVs.

Primary Author Biography (500-character limit): The primary author biography must be submitted.

Additional Authors: Any additional authors and/or presenters should be listed and their organizational affiliation.

Tips for Authors

Abstracts should clearly outline the summary of the project objectives, results, benefits to defense capability and the warfighter. The title should be concise as it will be listed in the

workshop program. Submissions must be appropriate for an open 30-minute oral presentation, which includes time for questions and answers, or for a 60-minute panel. Presentation guidelines will be provided with notice of selection.

Disclosure

The AI4SE/SE4AI Workshop is an unclassified workshop. All abstracts and selected presentations must be approved for public release.

Please contact Ms. Kara Pepe at kpepe@stevens.edu or Mr. Albert Stanbury at albert.w.stanbury.civ@mail.mil if you have any questions.