OCTOBER
28 & 29

RESEARCH WORKSHOP: AI *for* SE & SE *for* AI

DATE ▶ October 28 & 29, 2020

LOCATION ▶ VIRTUAL

The objective of this research workshop is to bring key stakeholders together from across industry, government, and academia with the purpose of broadening our knowledge of subject areas and defining a small set of high-impact research priorities that align with CCDC AC and SERC AI/SE priorities.

ABSTRACT ▶

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, mission engineering and model-based systems engineering, have become increasingly important in the design, acquisition, and management of systems.

This workshop focuses on the two-way interplays between AI and SE in the defense community. AI for SE may be defined as the application of augmented intelligence and machine learning techniques to support the practice of systems engineering. Goals in such applications include achieving scale in model construction and confidence in design space exploration. SE for AI may be defined as the application of systems engineering methods to the design and operation of learning-based systems. Key research application areas include the development of principles for learning-based systems design, models of life cycle evolution, and model curation methods.

Sponsored & organized by **Combat Capabilities Development Command - Armaments Center (CCDC – AC) and Systems Engineering Research Center (SERC)**

PARTICIPATION IS LIMITED TO US CITIZENS ONLY
Registration information to follow

TOPICS OF INTEREST INCLUDE:

- Life-cycle ready AI
- Hybrid human/AI systems
- Cognitive bias in AI systems
- Systems approaches to AI architecting
- Multi-modal AI
- Security in AI
- Adversarial machine learning
- Trustworthy AI
- AI resilience
- AI risk analysis
- Test & evaluation of learning-based systems
- Automated model-building and simulation
- Anticipatory design
- Automation of digital twins
- AI-enabled evidence building
- AI/SE Workforce Development
- Model curation

Executive Hosts:
Dr. Dinesh Verma – SERC Executive Director, Stevens Institute of Technology

Mr. Jeffrey Dyer – Director, CCDC AC Systems Engineering   Directorate

SERC Chief Scientist:
Dr. Dan DeLaurentis – Purdue University

Research Workshop Faculty Leads:
Dr. Peter Beling – University of Virginia
Mr. Tom McDermott -- Stevens Institute of Technology

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