

Monday, March 25, 2024

3:30 to 5:00pm

CREATE for STEM Institute, 115 Erickson Hall

https://msu.zoom.us/meeting/register/tjYtcu6qqT4oG9zPXx89jeEd1ic_0dGpLdey

Foundations and Vision for MetaLearn: A Center for Human-Machine Symbiosis in AI in Education

Dr. Roger Azevedo

University of Central Florida

School of Modeling, Simulation, and Training

Presentation abstract:

Self-regulated learning (SRL) and multimodal data have and will continue to advance the science of learning while providing numerous opportunities and challenges for future AI-based learning technologies in education. In the first part of my talk, I delve into the symbiotic relationship between SRL, multimodal trace data, and AI-based learning technologies, illuminating the myriad opportunities and challenges in their integration within educational contexts. SRL is essential for effective learning, reasoning, problem solving, and conceptual understanding, enabling learners to monitor, control, and adjust their cognitive, affective, metacognitive, and motivational processes. Multimodal data, collected during learning based on rich data streams of log files, concurrent verbalizations, eye movements, physiological data, screen recordings of learner-artificial agent interactions, facial expressions of emotions, gestures, and other non-verbal behaviors, offers a holistic view of learners' engagement, understanding, and underlying self-regulatory processes related to learning outcomes and performance. By synthesizing SRL and multimodal data, AI-based learning technologies (e.g., intelligent tutoring systems, games, simulations, immersive virtual environments, human digital twins) can revolutionize educational practices by providing personalized and adaptive learning experiences.

Biography:

Dr. Azevedo is a Professor in the School of Modeling Simulation and Training at the University of Central Florida. He is also an affiliated faculty in the Departments of Computer Science and Internal Medicine at the University of Central Florida and the lead scientist for the Learning Sciences Faculty Cluster Initiative. He received his PhD in Educational Psychology from McGill University and completed his postdoctoral training in Cognitive Psychology at Carnegie Mellon University. His main research area includes examining the role of cognitive, metacognitive, affective, and motivational self-regulatory processes during learning with advanced learning technologies (e.g., intelligent tutoring systems, hypermedia, multimedia, simulations, serious games, immersive virtual learning environments). He has published over 300 peer-reviewed papers, chapters, and refereed conference proceedings in the areas of educational, learning, cognitive, educational, and computational sciences. He is the current co-editor-in-chief of the *British Journal of Educational Psychology*.

