



School of Computing
UNIVERSITY OF GEORGIA

AI Research Talk **OntoAgentic AI**



Institute for Artificial
Intelligence
UNIVERSITY OF GEORGIA

Prof. Sergei Nirenburg, RPI

Professor, Department of Cognitive Science
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October 16, 11:00 AM – 12 PM

Boyd 306 & Zoom

<https://zoom.us/j/98609127467?pwd=010Ty7lsE2hqeCgd4XZAS9s3OQ5zA8.1>

Abstract

OntoAgentic AI is an approach to building intelligent agents – called LEIAs – that are intended to serve as full-blown members of human-AI teams. LEIAs are content-centric computational cognitive models. This means that they are intentional; maintain and interpret an explanatory world model; are endowed with a personality profile, a personal history, metacognitive and “mindreading” (theory of mind) abilities; semantically and situationally interpret sensory inputs; intelligently communicate in natural language – to carry out joint operations, to ask for and offer help, instruction or explanation and to learn by reading and through language-based instruction. Disembodied LEIAs are built on top of the OntoAgent cognitive architecture. Robotic LEIAs implement HARMONIC, a cognitive-robotic architecture which is an extension of OntoAgent. This talk will introduce OntoAgent and HARMONIC, briefly describe their processing modules and knowledge resources, illustrate their operation through system demonstrations, and discuss outstanding issues and future work

About the Speaker

Dr. Sergei Nirenburg is Professor of Cognitive Science and Professor of Computer Science at Rensselaer Polytechnic Institute (RPI). He has worked in a variety of areas of cognitive science, artificial intelligence and natural language processing for over 45 years, leading R&D teams of up to 80. His professional interests include content-centric computational cognitive modeling (ontology-based deep language understanding and generation, intentional decision-making, metacognition, learning through understanding, etc.); cognitive-robotic architectures; and development of self-aware agentic/robotic systems. R&D teams under his leadership have implemented a variety of agent/robot systems as well as systems for intelligent tutoring and a variety of language processing tasks (machine translation, question answering, text summarization, information extraction, computational field linguistics, knowledge elicitation and learning). Dr. Nirenburg has co-authored four and edited five books and published over 250 peer-reviewed scholarly articles. He has served the research community by organizing 15 international conferences, and serving as editor-in-chief of two journals. He is co-director, with Marjorie McShane, of the Language-Endowed Intelligent Agents Lab at RPI.