

James J. Nutaro

Contact Information

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Education

University of Arizona, Computer Engineering. B.Sc., 1997.

University of Arizona, Computer Engineering. M.Sc., 2000.
Thesis title: Time Management and Interoperability in Distributed Simulation.
Advisor: Dr. Bernard Zeigler.

University of Arizona, Computer Engineering. Ph.D., 2003.
Dissertation title: Parallel Discrete Event Simulation with Application to
Continuous Systems.
Advisor: Dr. Bernard Zeigler.

Conference Papers (Refereed)

J. Nutaro and H. Sarjoughian . “ A Unified View of Time and Causality and Its
Application to Distributed Systems”. Summer Computer Simulation Conference, 2003.
Won best paper award.

James J. Nutaro, Bernard P. Zeigler, R. Jammalamadaka, S. Akerkar. “Discrete Event
Solution of Gas Dynamics within the DEVS Framework”. International Conference on
Computational Science , pp. 319-328, 2003.

Nutaro, J.J., H.S. Sarjoughian. “Speedup of a Sparse System Simulation”. 15th
Workshop on Parallel and Distributed Simulation, pp. 193-199, 2001.

H. Sarjoughian, J. Nutaro, and B. Zeigler. “Collaborative DEVS Modeler”. International
Conference on Web-based Modeling and Simulation, 1999.

James Nutaro. “Risk-free Optimistic Simulation of DEVS Models”. Advanced
Simulation Technology Conference, 2004.

Journal Papers

James Nutaro, Phil Hammonds. “Combining the Model/View/Control Design Pattern
with the DEVS Formalism to Achieve Rigor and Reusability in Distributed Simulation”.

Journal of Defense Modeling and Simulation: Applications, Methodology, Technology, pp. 19-28, Vol. 1, No. 1, 2004.

Papers in Preparation

J. Nutaro and H. Sarjoughian. "Design of Distributed Simulation Environments: A Unified System-Theoretic and Logical Processes Approach". Accepted for publication in SCS Transactions, 2004.

James J. Nutaro, Bernard P. Zeigler, R. Jammalamadaka, S. Akerkar. "Speeding-Up the Simulation of Continuous Systems with Parallel DEVS: A Gas Shock Wave Example". To appear in Dynamic Data Driven Applications Systems, F. Darema (ED.), Kluwer Academic Publishers, 2004.

Research and Industrial Experience

Research Assistant Professor, Arizona Center for Integrative Modeling and Simulation, University of Arizona, Tucson, Arizona. April 2004 – present.

I have been conducting research with Dr. Zeigler on discrete event approximations of continuous systems and applications of parallel discrete event simulation to simulating large scale physical systems. Other activities include consulting, via ACIMS, for Northrop Grumman at Ft. Huachuca, Arizona, teaching courses on parallel and distributed simulation and software engineering at the University of Arizona, and advising graduate students.

Systems Engineer, Northrop Grumman Information Technology, Ft. Huachuca, Arizona. Sept. 2002 – Feb. 2004.

I worked as a team leader for a simulation software development group that designs and implements testing tools for tactical radios systems.

Systems engineer, Raytheon Missile Systems, Tucson, Arizona. May 2000 – Sept. 2002.

In this capacity, I developed simulation support tools for developing High Level Architecture (HLA) compliant federations. As part of this work, I extended a DEVS modeling and simulation environment to include support for developing HLA federations. I also developed HLA/HLA gateways to support rapid development of ad-hoc federations. I also assisted the ITADS (Interactive Theater Air Defense Simulation) development team by training developers in the use of DEVS for systems modeling and the implementation of those models using a DEVS simulation framework..

Research assistant, Artificial Intelligence and Simulation Laboratory, University of Arizona, Tucson, Arizona. May 1997 – May 2000.

I assisted Dr. Hessam Sarjoughian with the design and implementation of a collaborative modeling tool called CDM (Collaborative DEVS Modeler). Other tasks included the development of test cases for the DEVSJAVA discrete event simulation library.

Summer Internship, Hughes Missile Systems, Tucson, Arizona. May 1995 – Aug. 1995.

I designed and implemented a database for tracking software change requests, software change orders, and software change completions.

Summer Internship, Honeywell, Phoenix, Arizona. May 1994 – Aug. 1994.

I participated in the development of a database for tracking aircraft wiring requirements for Global Express aircraft.

Teaching experience

ECE 676 – Distributed Simulation, Spring 2004. Course teaches basic concepts in parallel computing and distributed virtual environments.

Teaching assistant under Dr. Zeigler for ECE 473/573 in Spring 1999. Specific tasks included grading homework and exams, and conducting weekly help sessions.

Professional service

IEEE member, 1997 – present.

Editorial reviews for the Workshop on Distributed Simulation and Real Time Applications, Journal of Defense Modeling and Simulation, Winter Simulation Conference, and Transactions of The Society for Modeling and Simulation.

References

Bernard Zeigler

Professor

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