

Academic Vita

NAME: Dr. Andrew M. Nuxoll

CURRENT ACADEMIC RANK AND DEPARTMENT:

Associate Professor of Computer Science, School of Engineering

EDUCATION:

Rose-Hulman Institute of Technology, Terre Haute, IN 1991-1995 B.S.

University of Michigan, Ann Arbor, MI 2001-2007 Ph.D.
Computer Science & Engineering
Thesis: Episodic Memory for Intelligent Agents
Advisor: John E. Laird, Ph.D.

ACADEMIC APPOINTMENTS:

Faculty, Electrical Engineering & Computer Science, 2007 – Present
University of Portland
Tenure and Promotion to Associate Professor: July 2013
Courses Taught: Introduction to Scientific Computing (CS201),
Computer Science I (CS203), Computer Science I Lab (CS273),
Computer Science II Lab (CS274), Object Oriented Design (CS301),
Advanced Programming Techniques (CS382),
Honors: Mechanical Minds (CS388), Artificial Intelligence (CS421),
Seminar (CS400), Operating Systems (CS 446),
Computer Game Design (CS447),
Senior Design Project Preparation (CS/EE480),
Senior Design Project (CS/EE481)

PROFESSIONAL EXPERIENCE:

Software Engineer Contractor, US Army Corps of Engineers, 2013
Responsibilities: Developed a standalone version of a real-time generator efficiency optimization tool for use by hydroelectric power plants in the Pacific Northwest region.

Senior Software Engineer, Peregrine Systems, Inc., 2001
Responsibilities: Co-led an investigative team to integrate two existing software suites that offered similar services. Designed a web-based intelligent scheduling application.

Staff Software Engineer, International Business Machines (IBM), Inc., 1998-2001
Responsibilities: Project Lead for a web-based service desk application. Technical liaison and recruiter for local colleges and universities.

Senior Software Engineer, Software Artistry, Inc., 1995-1998
Responsibilities: Solely responsible for a general-purpose programming language compiler for multiple operating systems. This language was used by hundreds of other engineers to develop and customize an enterprise-wide software suite.

RESEARCH SUPPORT:

National Science Foundation Grant No. 0413013, Integrating Reinforcement and Episodic Learning in a General Cognitive Architecture, 2004-2007.

NVIDIA Professor Partnership, Parallel Algorithms for a Cognitive Architecture, 2009

University of Portland Butine Faculty Development Grant, Travel to AISB conference, 2010

University of Portland Butine Faculty Development Grant, Security for Cyber-Physical Systems using Artificial Long-Term Memory, 2011

MAJOR RESEARCH INTERESTS:

Artificial Episodic Memory, Artificial Intelligence, Cognitive Architectures

PUBLICATIONS:

Robert E. Wray, John E. Laird, Andrew M. Nuxoll, and Randolph M. Jones. Intelligent Opponents for Virtual Reality Trainers. In the *Proceedings of the Interservice/Industry Training, Simulation and Education Conference (I/ITSEC)*, 2002.

Andrew M. Nuxoll and John E. Laird. A Cognitive Model of Episodic Memory Integrated with a General Cognitive Architecture. In the *Proceedings of the International Conference on Cognitive Modeling*, 2004.

Andrew M. Nuxoll, John E. Laird and Michael R. James. Comprehensive Working Memory Activation in Soar. In the *Proceedings of the International Conference on Cognitive Modeling*, 2004.

Robert E. Wray, John E. Laird, Andrew M. Nuxoll, Devvan Stokes, and Alex Kerfoot. Synthetic Adversaries for Urban Combat Training. *AI Magazine*, 26(3):82-92, 2005.

Andrew M. Nuxoll and John E. Laird. Extending Cognitive Architecture with Episodic Memory. In the *Proceedings of the 21st National Conference on Artificial Intelligence (AAAI)*, 2007.

Andrew M. Nuxoll, Dan Tecuci, Wan Ching Ho and Ningxuan Wang*. Comparing Forgetting Algorithms for Artificial Episodic Memory Systems. In the *Proceedings of the Thirty Sixth Annual Convention of the Society for the Study of Artificial Intelligence and Simulation of Behaviour (AISB)*, 2010.

*Undergraduate student at the University of Portland.

Ningxuan Wang*, Christopher J. Cullen* and Andrew M. Nuxoll. EDEE: A Flexible Environment for Research. In the *Proceedings of the Thirty Sixth Annual Convention of the Society for the Study of Artificial Intelligence and Simulation of Behaviour (AISB)*, 2010.

*Undergraduate student at the University of Portland.

Zachary Faltersack*, Brian Burns*, Andrew Nuxoll and Tanya L. Crenshaw. Ziggurat: Steps Toward a General Episodic Memory. In *Papers from the Association for the Advancement of Artificial Intelligence (AAAI) Fall Symposium Series: Advances in Cognitive Systems (ACS)*, 2011.

*Undergraduate student at the University of Portland.

Benjamin Walker*, Dustin Dalen*, Zachary Faltersack* and Andrew Nuxoll. Extracting Episodic Memory Feature Relevance Without Domain Knowledge. In the *Proceedings of the Second Annual Meeting of the Biologically Inspired Cognitive Architectures (BICA) Society*, 2011.

*Undergraduate student at the University of Portland.

Andrew Nuxoll. Episodic Learning. In the *Encyclopedia of the Sciences of Learning* (Vol. 5). Seel, Norbert M. (Ed.), New York: Springer, 2012.

John E. Laird, Andrew M. Nuxoll and Nate Derbinsky. Episodic Memory. In *The Soar Cognitive Architecture*. Laird, John E., Cambridge, MA: MIT Press, 2012.

Andrew M. Nuxoll and John E. Laird. Enhancing Intelligent Agents with Episodic Memory, *Cognitive Systems Research*, July-August 2012.

Scott A. Wallace, Evan Dickinson and Andrew Nuxoll. Hashing for Lightweight Episodic Recall, In *Papers from the Association for the Advancement of Artificial Intelligence (AAAI) Spring Symposium Series: Lifelong Machine Learning (LML)*, 2013.

Vanderwerf, E. *, Stiles, R. *, Meyer, A. *, Bastien, K. *, Seibert, A. *, Warlen, A. *, Nuxoll, A. and Wallace, S. , Hash Functions for Episodic Recognition and Retrieval, In *Proceedings to The Twenty-Ninth International FLAIRS Conference*, 2016.

*Undergraduate student at the University of Portland.

AWARDS, FELLOWSHIPS AND HONORS:

U.S. Patent #6,857,123, Method and Apparatus for a Meta Data Service in a Data Processing System, 2005.

NVIDIA Professor Partnership, 2009

- Awarded an equipment grant to study parallel algorithms for a cognitive architecture

Erskine Fellowship, 2014

- Received a grant for research and teaching at the University of Canterbury in Christchurch, New Zealand

Fulbright Scholar, 2015

- Received a U.S. Fulbright grant to study episodic memory architectures at Charles University in Prague, Czech Republic

Rose-Hulman Career Achievement Award Finalist, 2015

- My undergraduate alma mater offers this award annually to alumni who have graduated 20 years ago.

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

Association for Computing Machinery (ACM)

American Society for Engineering Education (ASEE)

Association for the Advancement of Artificial Intelligence (AAAI)

Biologically Inspired Cognitive Architectures Society (BICA)