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Employment

Fall 2004-present Assistant Professor, Department of Computer Science, Texas A&M University - Commerce.
2001-2004 Research Scientist, NASA Intelligent Systems Grant NCC-2-1244 SODAS, University of Memphis.
2000-2001 Research Scientist, ONR MURI Grant N00014-00-1-0600 Why2000, University of Memphis.
1998-2000 Principle Research Programmer, NSF Grant SBR 9720314 AutoTutor, University of Memphis.
1994-1998 Senior Software Engineer, Research and Development, MCImetro, Reston, VA
1990-1994 Software Engineer, Hughes Network Systems, Germantown, MD

Education

1998-2004 University of Memphis, Memphis, TN
Department of Mathematics and Computer Science
PhD, Computer Science
Computational Neurodynamics Laboratory (Dr. Robert Kozma)
Institute for Intelligent Systems (Dr. Stan Franklin, Dr. Arthur C. Graesser)
Graduated with Distinction
PhD Thesis:
“Towards a Model of Basic Intentional Systems: Chaotic Dynamics for Perception and Action in Autonomous Adaptive Agents”

1992-1994 Johns Hopkins University, Baltimore, MD
Department of Computer Science
MSc, Computer Science with concentration Artificial Intelligence
Graduated with Honors
MSc Thesis:
“Simple Voice Recognition System for Remote Control of Entertainment Devices”

1986-1990 Purdue University, West Lafayette, IN
Department of Computer Science
BSc, Computer Science

Publications

Journal Articles

1. Lu, S., Harter, D. and Graesser, A. (2009). An empirical and computational study of perceiving and remembering event temporal relations. *Cognitive Science*. 33: 344-373.
2. Harter, D., Kozma, R., and Achunala, S. (2007). Dynamical aspects of Behavior generation under constraints. *Cognitive Neurodynamics*. 1(3): 213-223.
3. Harter, D., and Kozma, R. (2006). Aperiodic dynamics and the self-organization of cognitive maps in autonomous agents. *International Journal of Intelligent Systems*. 21(9):955-971.

4. Harter, D., and Kozma, R. (2005). Chaotic neurodynamics for autonomous agents. *IEEE Transactions on Neural Networks*. 16(3): 565-579.
5. Harter, D., and Lu, S. (2005). A synthesis of many levels of constraints as a modern view of development. Commentary on Steels & Belpaeme paper entitled: "Coordinating perceptually grounded categories through language". *Behavioral and Brain Sciences*. 28(3): 498-499.
6. Harter, D., and Kozma, R. (2001). Task environments for the dynamic development of behavior. *Lecture Notes in Computer Science*. 2074:300-306.
7. Harter, D., Graesser, A. C. and Franklin, S. P. (2001). Bridging the gap: Dynamics as a unified view of cognition. *Behavioral and Brain Sciences*, 24(1):45-46.
8. Graesser, A. C., VanLehn, K., Rosé, C., Jordan, P., Harter, D. (2001). Intelligent tutoring systems with conversational dialogue. *AI Magazine*. 22(4):39-51.
9. Graesser, A.C., Person, N., Harter, D., and the Tutoring Research Group (2000). Teaching tactics and dialog in AutoTutor. *International Journal of Artificial Intelligence in Education*. 12(3):257-279.
10. Graesser, A. C., Wiemer-Hastings, P., Wiemer-Hastings, K., Harter, D., Person, N., & the Tutoring Research Group. (2000). Using Latent Semantic Analysis to evaluate the contributions of students in AutoTutor. *Interactive Learning Environments*. 8(2):129-148.
11. Wiemer-Hastings, P., Graesser, A.C., and Harter, D. (1998). The foundations and architecture of AutoTutor. *Lecture Notes in Computer Science*. 1452:334-340.

Peer-Reviewed Conference Publications

12. Pierce, D., Lu, S., & Harter, D. (2010). Proceedings of the Inaugural World Conference on Innovative Virtual Reality. New York: ASME Publishing.
13. Pierce, D., Lu, S., & Harter, D. (2009). Enacting actions in simulated environments. In S. Garbaya (Eds.), Proceedings of the Inaugural World Conference on Innovative Virtual Reality. New York: ASME Publishing.
14. Harter, D. (2006). Time Constraints and the Evolution of Scale-Free Properties in Associative Networks. *Proceedings of the NSF International Workshop on Large Scale Random Graph Methods for Modeling Mesoscopic Behavior in Biological and Physical Systems*, Budapest, Hungary, Aug. 2006.
15. Harter, D., and Kozma, R. (2006). Nonconvergent Dynamics and Cognitive Systems. *Proceedings of the 28th Annual Meeting of the Cognitive Science Society (CogSci 2006)*, Vancouver, BC Canada, Jul. 2006, pp. 1446-1452.
16. Lu, S. and Harter, D. (2006). The role of overlap and end state in perceiving and remembering events. *Proceedings of the 28th Annual Meeting of the Cognitive Science Society (CogSci 2006)*, Vancouver, BC Canada, Jul. 2006, pp. 1729-1835.
17. Harter, D. (2006). Complex Systems Approaches to Emergent Goal Formation in Cognitive Agents. *Proceedings of the 2006 International Joint Conference on Neural Networks (IJCNN'06)*, Vancouver, BC Canada, Jul. 2006, pp. 1682-1688.
18. Harter, D. & Kozma, R. (2005). Iterative Model of Mesoscopic Neural Populations Displaying Aperiodic Dynamics. *Proceedings of the 2005 International Symposium on Nonlinear Theory and its Applications (NOLTA'05)*, Bruges, Belgium, Oct. 2005.
19. Harter, D. (2005). Evolving Neurodynamic Controllers for Autonomous Robots. *Proceedings of the 2005 International Joint Conference on Neural Networks (IJCNN'05)*, Montreal, Canada, Aug. 2005, pp. 137-142.
20. Lu, S. and Harter, D. (2005). Representing Events Using Fuzzy Temporal Boundaries. *Proceedings of the 27th Annual Conference of the Cognitive Science Society*, Stresa, Italy, Jul. 2005, pp. 1343-1348.
21. Harter, D. (2005). Discrete Approximation of Continuous K-Set Population Model. *Proceedings of the Fourteenth Annual Computational Neuroscience Meeting (CNS*2005)*, Madison, WI, Jul. 2005, pp. 80.
22. Lu, S. and Harter, D. (2005). A Recurrent Neural Network Model of Event Temporal Representations. *Proceedings of the 51st Southwestern Psychological Association Annual Meeting*, Memphis, TN, Mar. 2005.
23. Harter, D., and Kozma, R. (2004). Complex Systems Approaches to the Ontogenetic Development of

- Behavior. *Proceedings of the 3rd Annual Technical Conference of the American Institute of Aeronautics and Astronautics Conference (AIAA 2004)*, Chicago, IL, Sept. 2004, pp. 312.
24. Harter, D., and Kozma, R. (2004). Biological Limbic Systems: A Bottom-Up Model for Deliberative Action. *Proceedings of the 26th Annual Meeting of the Cognitive Science Society (CogSci 2004)*, Chicago, IL, Aug. 2004, pp. 1569.
 25. Harter, D., and Kozma, R. (2004). Navigation and cognitive map formation using aperiodic neurodynamics. *Proceedings of the 8th International Conference on the Simulation of Adaptive Behavior (SAB'04)*, Los Angeles, CA, July 2004, pp. 450-455.
 26. Harter, D., and Kozma, R. (2004). Aperiodic dynamics and the self-organization of cognitive maps in autonomous agents. *Proceedings of the 17th International FLAIRS Conference (FLAIRS'04)*, Miami, FL, May 2004, pp. 424-429.
 27. Harter, D., and Kozma, R. (2004). Aperiodic dynamics for appetitive/aversive behavior in autonomous agents. *Proceedings of the 2004 IEEE International Conference on Robotics and Automation (ICRA'04)*, New Orleans, LA, April 2004, pp. 2147-2152.
 28. Harter, D., and Kozma, R. (2002). Simulating the principles of chaotic neurodynamics. In *Proceedings of the 6th World Multi-Conference on Systemics, Cybernetics and Informatics (SCI 2002)*, volume XIII, pages 598-603, Orlando, FL.
 29. Kozma, R., Harter, D. and Achunala, S. (2002). Action selection under constraints: Dynamic optimization of behavior in machines and humans. In *Proceedings of the IEEE/INNS/ENNS International Joint Conference on Neural Networks (IJCNN'02)*, pages 2574-2579, Washington, D.C.
 30. Harter, D. (2001). Ontogenetic development of skills, strategies and goals for autonomously behaving systems. In *Proceedings of the 5th World Multi-Conference on Systemics, Cybernetics and Informatics (SCI 2001)*, pages 178-181, Orlando, FL.
 31. Harter, D., and Kozma, R. (2001). Models of ontogenetic development for autonomous adaptive systems. In *Proceedings of the 23rd Annual Conference of the Cognitive Science Society*, pages 405-410, Edinburgh, Scotland.
 32. Harter, D., and Kozma, R. (2001). Task environments for the dynamic development of behavior. In *Proceedings of the Intelligent Systems Design and Applications 2001 Workshop (ISDA 2001)*, pages 300-309, San Francisco, CA.
 33. Harter, D., and Kozma, R. (2001). Ontogenetic development of behavior for simple tasks. In *Proceedings of the Artificial Intelligence and Soft Computing Conference (ASC 2001)*, pages 401-407, Cancun, Mexico.
 34. Harter, D., Kozma, R. and Franklin S. P. (2001). Models of ontogenetic development: The dynamics of learning. In *Proceedings of the 2001 Learning Workshop*, page 37, Snowbird, UT.
 35. Harter, D., Kozma, R. and Franklin S. P. (2001). Ontogenetic development of skills, strategies and goals for autonomously behaving systems. In *Proceedings of the Fifth International Conference of Cognitive and Neural Systems (CNS2001)*, page 18, Boston, MA.
 36. Kozma, R., Harter, D. and Franklin S. P. (2001). Self-organizing ontogenetic development for autonomous adaptive systems (SODAS). In *Proceedings of the IEEE/INNS/ENNS International Joint Conference on Neural Networks (IJCNN'01)*, pages 633-637, Washington, D.C.
 37. Graesser, A.C., Person, N., Harter, D., and the Tutoring Research Group (2000). Teaching tactics in AutoTutor. In *Proceedings of the Workshop on Tutorial Dialogue at the Intelligent Tutoring Systems 2000 Conference*. pages 49-57, University of Quebec, Canada.
 38. Marineau, J., Wiemer-Hastings, P., Harter, D., Olde, B., Chipman, P., Karnavat, A., Pomeroy, V., Graesser, A.C., and the Tutoring Research Group (2000). Classification of speech acts in tutorial dialog. In *Proceedings of the Workshop on Tutorial Dialogue at the Intelligent Tutoring Systems 2000 Conference*.
 39. Wiemer-Hastings, P., Graesser, A. C., Harter, D., & the Tutoring Research Group (1998). The foundations and architecture of AutoTutor. In *Proceedings of the 4th International Conference on Intelligent Tutoring Systems*, pages 334-343, Berlin Springer-Verlag.

External Grants

- Saffer, S., Harter, D., Suh, S., Lu, S., Miskevitch, F. (2009). "The Development of an Artificial Science and Engineering Research HPC Infrastructure to Facilitate Innovative Computational Modeling", Department of Energy (DOE) #DE-SC0001132, **\$390,000**, 2009-
- Lu, S., Harter, D., Henley, T. (2009). "Perceiving and Enacting Actions in Simulated Environments", National Science Foundation (NSF) #0916749, **\$500,000**, 2009-
- Lu, S., Harter, D., Henley, T. (2007). "The Role of Sensorimotor and Perceptual Features in Perceiving and Enacting Actions", National Science Foundation (NSF) #0742109, **\$70,000**, 2007-2008.
- Harter, D., Lu, S., Tseng, S. (2006). "Investigating the Formation of Intentionality in Intelligent Systems", Texas Advanced Research Program (ARP) #003565-0002-2006, **\$100,000**, 2006-2008.
- Harter, D., Saffer, S., Lu, S., (2005). "Cognitive Models of Curiosity for Automatic Object Discovery, Identification, Location and Tracking", L3 Comcept Industry Award, **\$385,000**, 2005-2008.
- Kozma, R., Harter, D., Freeman, W.J., Franklin, S. (2001). "Models of Self-Organizing Ontogenetic Development for Autonomous Adaptive Systems (SODAS)", National Aeronautics and Space Administration (NASA) grant #NCC-2-1244, **\$1,000,000**, 2001-2004.

Awards

- 2006** Travel Award, \$750, NSF Carnegie Mellon University Embodiment Symposium.
- 2006** Travel Award, \$1500, NSF Large Scale Random Graph Workshop.
- 2004** National Academy of Sciences Research Associateship Awardee (Declined).
- 2001** Travel Award, \$500, NSF Travel Grant Cognitive Science Society.
- 2001** Travel Award, \$750, Cognitive and Neural Systems.

Academic Experience

Reviewer: Prentice Hall Book Reviewer, International Journal of Intelligent Systems (IJIS), International Neural Networks Society (INNS) Newsletter, Transaction in Neural Networks (TNN), Cognitive Science Conference, International Joint Conference on Neural Networks.

Organizer: 2006 Northeast Texas INNS/MIND Workshop on Goal-Directed Neural Systems, 2004 Symposium on Intentional Dynamic Systems University of Memphis, 2001 Symposium on the Dynamics of Memory, Perception and Consciousness, University of Memphis.

Professional Memberships: Association of Computing Machinery (ACM), Cognitive Science Society, Institute of Electrical and Electronics Engineers (IEEE), Society of Adaptive Behavior, American Institute of Aeronautics and Astronautics.

Teaching

Instructor:

- Spring 2010: High Performance Computing, Texas A&M University - Commerce
- Spring 2010/09/08/07/06: Unix Programming and Networking, Texas A&M University - Commerce
- Spring 2009: Object Oriented Programming, Texas A&M University - Commerce
- Fall 2009/07, Spring 2006: Artificial Intelligence, Texas A&M University - Commerce
- Fall 2009/08, Spring 2005: Operating Systems, Texas A&M University - Commerce
- Spring 2008, Fall 2007/06: Java Programming, Texas A&M University - Commerce
- Summer 2006, Fall 2005/04, Spring 2005: Programming II, Texas A&M University - Commerce
- Fall 2005: Robotics, Texas A&M University - Commerce
- Fall 2004: Data Structures, Texas A&M University - Commerce
- Spring 2004: Expert Systems and Prolog, University of Memphis

Summer 2004: Data Structures, University of Memphis
Fall 2001: Dynamics of Memory and Cognition, University of Memphis

Graduate Advisor:

Pratyush Koturu, MSc, PhD, 2006-present.
Devin Pierce, PhD, 2007-2010.
Chris Jones, MSc, 2009-present.
Gideon Mazambani, MSc, 2008-2009.
Terry Rawlinson, MSc, PhD, 2007-present.
Lonnie Wakefield, MSc, 2006-2008.

Postdoctoral Advisor:

Linbao Zhang, postdoctoral associate, 2010-present.

Mentor:

Over 25 graduate and undergraduate student research projects and honors projects, 2004-present.

Professional References

1. Dr. Sam Saffer, Full Professor

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3. Dr. Arthur C. Graesser, Full Professor, Director

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4. Dr. Peter Hastings, Associate Professor

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5. Dr. Carlos A. Bertulani

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