

Derek Shawn Harter, BSc, MSc, PhD

Associate Professor
Journalism 208
Department of Computer Science
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Employment

2011-pres Associate Professor, Department of Computer Science, Texas A&M University - Commerce.
2005-2011 Assistant Professor, Department of Computer Science, Texas A&M University - Commerce.
2004-2005 Visiting 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. and Harter, D. (2016). Applying predictive processing and functional redeployment to understanding embodied virtual experiences. *SOJ Psychology*, 3(1): 1-9.
2. Lu, S. and Harter, D. (2015). Essentialism in food preference. *Annals of Psychotherapy and Integrative Health*, 3, 1-5.
3. Lu, S., Harter, D., Kotturu, P. and Kosito, P. (2014) Developing Low Cost Virtual Training Environments: How do Effector and Visual Realism Influence the Perceptual Grounding of Actions? *Journal of Cognitive Education and Psychology*, (13) 13, 1-17. (The lead article of Special Issue on Cognition and Technology).
4. Harter, D. (2013). Hierarchically arranged mutualism of neural circuit ecosystems. *Advances in Brain Inspired*

- Cognitive Systems Lecture Notes in Computer Science*. Springer, 7888, 255-260.
5. Harter, D. (2012). Evolution of small-world properties in embodied networks. *Advances in Brain Inspired Cognitive Systems Lecture Notes in Computer Science*. Springer, 7366, 102-111.
 6. Lu, S., Harter, D., & Pierce, D. (2011). Potentials and challenges of using virtual environments in psychotherapy. *Annals of Psychotherapy and Integrative Health*. 1, 56-66.
 7. 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.
 8. Harter, D., Kozma, R., and Achunala, S. (2007). Dynamical aspects of Behavior generation under constraints. *Cognitive Neurodynamics*. 1(3): 213-223.
 9. 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.
 10. Harter, D., and Kozma, R. (2005). Chaotic neurodynamics for autonomous agents. *IEEE Transactions on Neural Networks*. 16(3): 565-579.
 11. 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.
 12. Harter, D., and Kozma, R. (2001). Task environments for the dynamic development of behavior. *Lecture Notes in Computer Science*. 2074:300-306.
 13. 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.
 14. Graesser, A. C., VanLehn, K., Rosé, C., Jordan, P., Harter, D. (2001). Intelligent tutoring systems with conversational dialogue. *AI Magazine*. 22(4):39-51.
 15. 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.
 16. 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.
 17. 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

16. Lu, S. and Harter, D. (2016). Toward a cognitive processing theory of player's experience of computer mediated environments. *Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play*, pp. 198-203.
17. Harter, D. (2015). Ramping up big data analytics training pipeline. *NSF Big Data Innovative Hub Meeting, South*.
18. Harter, D. (2015). Spike synchronization in a small-world network. In *2015 International Joint Conference on Neural Networks (IJCNN)*, pp. 1-8. IEEE.
19. Harter, D. (2013). Nested Mutualism of Brain Information Processing Networks. *Proceedings of the 2013 International Joint Conference on Neural Networks (IJCNN 2013)*.
20. Harter, D., Lu, S., Kosito, P., & Kotturu, P. (2012). How controller embodiment effects task performance in computer simulated training. To appear in *Proceedings of the 7th International Conference on Human Computer Interaction*.
21. Harter, D. (2011). Functional and Physical Constraints for Evolving Small-World Structure in Embodied Networks. *Proceedings of the 2011 International Joint Conference on Neural Networks (IJCNN 2011)*.
22. Harter, D. & Lu, S., Kotturu, P. and Pierce, D. (2011). An Immersive Virtual Environment for Varying Risk and Immersion for Effective Training. In M. Boregoni, J. M. Ritche, & U. Cugini (Eds.) *Proceedings of the ASME 2011 World Conference on Innovative Virtual Reality*. New York: ASME Publishing.
23. Pierce, D., Lu, S. and Harter, D. (2011). Risk taking differences affect outcomes in virtual training scenarios. *Proceedings of the ASME 2011 World Conference on Innovative Virtual Reality*.
24. Lu, S. Pierce, D., Rawnlison, T., and Harter, D. (2011). The role of high visual realism in reducing potential risk taking in simulated environments. In M. Berogoni, J. M. Ritche, & U. Cugini (Eds.) *Proceedings of the ASME 2011 World Conference on Innovative Virtual Reality*. New York: ASME Publishing.
25. Harter, D. & Zhang, L. (2010). Parallelization of Genetic Optimization for Large Network Simulations on a Cluster Computer. *Proceedings of the Society for Design and Process Science 2010*.
26. Pierce, D., Lu, S., & Harter, D. (2010). Perceiving events in simulated environments: The role of expectation driven processes. *Proceedings of the World Conference on Innovative Virtual Reality 2010*. New York: ASME Publishing.
27. 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.
28. Harter, D. (2007). 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. 2007.
29. 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.
30. 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.
31. 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.

32. 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.
33. 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.
34. 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.
35. 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.
36. 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.
37. 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.
38. 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.
39. 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.
40. 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.
41. 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.
42. 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.
43. 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.
44. 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.
45. 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.
46. 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.
47. 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.
48. 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.
49. 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.
50. 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.
51. 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.
52. 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*.
53. 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.

Under Review

- Harter, D. and Lu, S. (submitted). Deep neural network models are compatible with hierarchical predictive coding and neural reuse theories. *Behavioral and Brain Sciences*.
- Harter, D. and Lu, S. (submitted). Enacting action in virtual environments: Risk, movement and controller realism. *SigChi 2017*.
- Harter, D. and Lu, S. (in progress). Deep networks and reinforcement learning: Mechanisms for hierarchical neural reuse and predictive coding. *TICS*.
- Harter, D., Lu, S., (in progress). Low-cost immersive environments for embodied perceptual-motor training using Wii Remotes. *Cognitive Science*.

Invited Talks

- Lu, S. and Harter, D. (July 2013). Authentic training contexts: risk, kinematic and effector realism in perceiving and enacting action. Invited talk at Consortium of Professional Game and Simulation, University of Wisconsin-Madison, WI.
- Harter, D. & Lu, S. (July, 2011). A bottom up approach to investigating embodiment in virtual environments. Invited talk presented at the Experimental Virtual Environments for Neuroscience and Technology Research Group, University of Barcelona, Spain.
- Harter, D. (December, 2011). Evolution of Large-Scale Complex Brain Networks. Invited Physics Colloquium talk presented at the Department of Physics, Texas A&M University – Commerce, Commerce, TX.
- Lu, S., & Harter, D. (October, 2011). The perceptual grounding of actions in virtual environments. Invited talk presented at Department of Psychology, University of Utah, Salt Lake City.
- Harter, D., & Lu, S. (July, 2011). A bottom up approach to investigating embodiment in virtual environments. Invited talk presented at the Experimental Virtual Environments for Neuroscience and Technology Research Group, University of Barcelona, Spain.
- Harter, D., Saffer, S. (2007). "Project Corvus and L3 HPC Activities at TAMUC", Texas A&M University - Commerce Math Colloquium, April 3.
- Harter, D., Saffer, S. (2007). "Computational Sciences and High Performance Computing", Texas A&M University - Commerce Physics Colloquium, February 15.
- Harter, D. (2007). Time Constraints and the Evolution of Scale-Free Properties in Associative Networks. Paper presented at the 1st NSF International Workshop on Large Scale Random Graph Methods for Modeling Mesoscopic Behavior in Biological and Physical Systems, Budapest, Hungary, Aug. 2006.
- Harter, D. (2004). "Computing, Life Sciences and Cognition: Interdisciplinary Approaches to Understanding Intelligence", Texas A&M University - Commerce, Sigma XI Society semi-annual meeting, December 2.
- Harter, D. (2004). "Salamanders Don't Play Chess: Computation, Sciences and Careers for the 21st Century", Mesquite Metroplex Center Mentoring Workshop, November 13.

Conference Presentations

- Lu, S. and Harter, D. (2016). Toward a cognitive processing theory of player's experience of computer mediated environments. *Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play*, pp. 198-203.
- Harter, D. (2015). Ramping up big data analytics training pipeline. *NSF Big Data Innovative Hub Meeting, South*.
- Harter, D. (2015). Spike synchronization in a small-world network. In *2015 International Joint Conference on Neural Networks (IJCNN)*, pp. 1-8. IEEE.
- Harter, D. (June, 2013). Hierarchically Arranged Mutualism of Neural Circuit Ecosystems. Paper presented at the Proceedings of the 2013 Brain Inspired Cognitive Systems Conference (BICS 2013).
- Harter, D. (August, 2013). Nested Mutualism of Brain Information Processing Networks. Poster presented at the Proceedings of the 2013 International Joint Conference on Neural Networks (IJCNN 2013).
- Harter, D. (June, 2012). Functional and Physical Constraints for Evolving Small-World Structure in Embodied Networks. Paper presented at the Proceedings of the 2012 Brain Inspired Cognitive Systems Conference (BICS 2012).
- Harter, D. (August, 2011). Functional and Physical Constraints for Evolving Small-World Structure in Embodied Networks. Paper presented at the Proceedings of the 2011 International Joint Conference on Neural Networks (IJCNN 2011).
- Lu, S., Pierce, D., Rawlinson, T., & Harter, D. (June, 2011). The role of high visual realism in reducing potential risk taking in simulated environments. Paper presented at the World Conference on Innovative Virtual Reality, Milan, Italy.
- Harter, D., Lu, S., Kotturu, P., & Pierce, D. (2011). An immersive virtual environment for varying risk and immersion for effective training. Paper presented at the World Conference on Innovative Virtual Reality, Milan, Italy.
- Pierce, D., Lu, S., & Harter, D. (May, 2010). Perceiving events in simulated environments: The role of expectation driven processes. Paper presented at the World Conference on Innovative Virtual Reality, Ames, Iowa.
- Zhang, L. & Harter, D. (2010). Parallelization of Genetic Optimization for Large Network Simulations on a Cluster Computer. Proceedings of the Society for Design and Process Science 2010, Dallas, TX.
- Pierce, D., Lu, S., & Harter, D. (2009). Enacting actions in the simulated environments. Paper presented at the Inaugural World Conference on Innovative Virtual Reality, Chalon-sur-Saône, France.
- Harter, D., and Kozma, R. (2006). Nonconvergent Dynamics and Cognitive Systems. Poster presented at the 28th Annual Meeting of the Cognitive Science Society (CogSci 2006), Vancouver, BC Canada, Jul. 2006.
- Lu, S. and Harter, D. (2006). The role of overlap and end state in perceiving and remembering events. Poster presented at the 28th Annual Meeting of the Cognitive Science Society (CogSci 2006), Vancouver, BC Canada, Jul. 2006.
- Harter, D. (2006). Complex Systems Approaches to Emergent Goal Formation in Cognitive Agents. Paper presented at the 2006 International Joint Conference on Neural Networks (IJCNN'06), Vancouver, BC Canada, Jul. 2006.
- Harter, D. (2005). Evolving Neurodynamic Controllers for Autonomous Robots. Paper presented at the 2005 International Joint Conference on Neural Networks (IJCNN'05), Montreal, Canada, Aug. 2005.
- Harter, D. (2005). Applications of IDS: Mead's Challenge, What is Going on Here?. Invited talk at the 2005 International Joint Conference on Neural Networks (IJCNN'05) Workshop on Intentional Dynamical Systems, Montreal, Canada, Aug. 2005.
- Lu, S. and Harter, D. (2005). Representing Events Using Fuzzy Temporal Boundaries. Poster presented at the 27th Annual

- Conference of the Cognitive Science Society, Stresa, Italy, Jul. 2005.
- Harter, D. (2005). Discrete Approximation of Continuous K-Set Population Model. Poster presented at the Fourteenth Annual Computational Neuroscience Meeting (CNS*2005), Madison, WI, Jul. 2005.
- Lu, S. and Harter, D. (2005). A Recurrent Neural Network Model of Event Temporal Representations. Poster presented at the 51st Southwestern Psychological Association Annual Meeting, Memphis, TN, Mar. 2005.
- Harter, D., and Kozma, R. (2004). Complex Systems Approaches to the Ontogenetic Development of Behavior. Paper presented at 1st Intelligent Systems Technical Conference of the American Institute of Aeronautics and Astronautics (AIAA'04), Chicago, IL, September 2004.
- Harter, D., and Kozma, R. and Freeman, W.J. (2004). Biological Limbic Systems: A Bottom-Up Model for Deliberative Action. Poster presented at the 26th Annual Meeting of the Cognitive Science Society (CogSci 2004), Chicago, IL, August 2004.
- Harter, D., and Kozma, R. (2004). Navigation and Cognitive Map Formation Using Aperiodic Neurodynamics. Paper presented at From Animals to Animats 8: The 8th International Conference on the Simulation of Adaptive Behavior (SAB '04), Los Angeles, CA, July 2004.
- Harter, D., and Kozma, R. (2004). Aperiodic dynamics and the self-organization of cognitive maps in autonomous agents. Paper presented at the 17th International FLAIRS Conference (FLAIRS'04), Miami, FL, May 2004.
- Harter, D., and Kozma, R. (2004). Aperiodic Dynamics for Appetitive/Aversive Behavior in Autonomous Agents. Paper presented at the 2004 IEEE International Conference on Robotics and Automation (ICRA 2004), New Orleans, LA, April 2004.
- Harter, D. (2004). Formation of perceptual patterns in autonomous agents using a discretized K-III model. Paper presented at the 2004 Intentional Dynamic Systems Conference (IDS'04), Memphis, TN, April 2004.
- Harter, D., and Kozma, R. (2002). Simulating the principles of chaotic neurodynamics. Paper presented at the 6th World Multi-Conference on Systemics, Cybernetics and Informatics (SCI 2002), Orlando, FL.
- Harter, D. (2002). Computational neurodynamics at the University of Memphis. Paper presented at the 4th Annual Memphis Area Engineering and Science Conference (MAESC 2002), Memphis, TN.
- Harter, D. (2002). Chaotic neurodynamics for behaviors in autonomous agents. Poster presented at the 2002 Symposia on the Dynamics of Memory, Perception and Consciousness (DPCM 2002), Memphis, TN.
- Harter, D. (2001). Ontogenetic development of skills, strategies and goals for autonomously behaving systems. Paper presented at the 5th World Multi-Conference on Systemics, Cybernetics and Informatics (SCI 2001), Orlando, FL.
- Harter, D., and Kozma, R. (2001). Models of ontogenetic development for autonomous adaptive systems. Poster presented at the 23rd Annual Conference of the Cognitive Science Society, Edinburgh, Scotland.
- Harter, D., and Kozma, R. (2001). Ontogenetic development of behavior for simple tasks. Paper presented at the Artificial Intelligence and Soft Computing Conference (ASC 2001), Cancun, Mexico.
- Harter, D., Kozma, R. and Franklin S. P. (2001). Models of ontogenetic development: The dynamics of learning. Poster presented at the 2001 Learning Workshop, Snowbird, UT.
- Harter, D., Kozma, R. and Franklin S. P. (2001). Ontogenetic development of skills, strategies and goals for autonomously behaving systems. Poster presented at the Fifth International Conference of Cognitive and Neural Systems (CNS2001), Boston, MA.
- Graesser, A.C., Person, N., Harter, D., & the Tutoring Research Group (2000, June). Teaching tactics in AutoTutor. Paper presented at the Workshop on Tutorial Dialogue at the Intelligent Tutoring Systems 2000 Conference, Montreal, Canada.
- Marineau, J., Wiemer-Hastings, P., Harter, D., Olde, B., Chipman, P., Karnavat, A., Pomeroy, V., Graesser, A.C., and the Tutoring Research Group (2000, June). Classification of speech acts in tutorial dialog. Paper presented at the Workshop on Tutorial Dialogue at the Intelligent Tutoring Systems 2000 Conference, Montreal, Canada.
- Person, N., Graesser, A.C., Harter, D., Mathews, E., and the Tutoring Research Group (2000, November). Dialog move generation and conversation management in AutoTutor. Paper presented at the AAAI Fall Symposium 2000 on Building Dialogue Systems for Tutorial Applications, Cape Code, MA.
- Person, N., Graesser, A.C., Harter, D., and the Tutoring Research Group (2000, July). The dialog advancer network: A mechanism for improving AutoTutors conversational skills. Paper presented at the Meetings of the Society for Text and Discourse, Lyon, France.
- Rajan, S., Harter, D., Graesser, A.C., and the Tutoring Research Group (2000, July). Back channel feedback in human and intelligent tutoring systems. Poster presented at the Meetings of the Society for Text and Discourse, Lyon, France.
- Graesser, A. C., Wiemer-Hastings, K., Wiemer-Hastings, P., Harter, D., Person, N., and Kreuz, R. (1999). Latent semantic analysis can reliably evaluate student contributions in AutoTutor. Paper presented at the 40th Annual Meeting of the Psychonomic Society, Los Angeles, California.
- Graesser, A.C., Franklin, S. P., and the Tutoring Research Group (1998, July). The goals and design of AutoTutor. Symposium presented at the 8th Annual Meeting of the Society for Text and Discourse, Madison, Wisconsin.

External Grants

- Saffer, S., Harter, D., Suh, S., Lu, S., Miskevich, F. (2009). "The Development of an Artificial Science and Engineering Research HPC Infrastructure to Facilitate Innovative Computational Modeling", Department of Energy (DOE) #DE-SC0001132, **\$380,000, Funded**, 2009-2012.
- Lu, S., Harter, D., Henley, T. (2009). "Perceiving and Enacting Actions in Simulated Environments", National Science Foundation (NSF) #0916749, **\$500,000, Funded**, 2009-2014.
- Harter, D. (2008). "Network Resource Provisioning as a Complex Adaptive System", Defense Advanced Research Projects (DARPA), \$100,000.

- Harter, D., Lu, S. (2007). "Neurodynamics of Intentional Behavior", Jams S. McDonnell Foundation Bridging Brain Mind and Behavior Research Grant, \$400,000.
- 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, Funded**, 2007-2008.
- Harter, D., Saffer, S., Lu, S., Suh, S. (2007). "CDI-Type II; Corvus: A Curious Distributed Cyber-Infrastructure", National Science Foundation (NSF), \$650,000.
- 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, Funded**, 2006-2007.
- Harter, D., Lu, S., Saffer, S. (2006). "Self-Organizing Curious Anticipatory Architectures for Robust Intelligence (SCARI)", National Science Foundation (NSF), \$450,000.
- Harter, D., Saffer, S., Lu, S., (2005). "Cognitive Models of Curiosity for Automatic Object Discovery, Identification, Location and Tracking", L3 Communications Comcept Division Industry Award, **\$385,000, Funded**, 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, Funded**, 2001-2004.
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Internal Grants

- Harter, D. (2009). "Fractal Self-Organization of Sensory-Motor Systems", Texas A&M University - Commerce Research Enhancement Grant, **\$16,250, Funded**, 2009-2010.
- Lu, S., Harter, D. (2008). "An Investigation of Enacting Risky Actions", Texas A&M University - Commerce Research Enhancement Grant, **\$11,680, Funded**, 2008.
- Lu, S., Harter, D. (2005). "A Computational and Empirical Investigation of Time in Perceiving, Rembering and Describing Events and Actions", Texas A&M University - Commerce Research Enhancement Grant, **\$6128, Funded**, 2005.
- Harter, D. (2004). "Support Equipment for Embodied Robotics Laboratory", Texas A&M University - Commerce Mini-Grant, **\$600, Funded**, 2004.
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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, 12 Month NASA/JSC.
- 2001** Travel Award, \$500, NSF Travel Grant Cognitive Science Society.
- 2001** Travel Award, \$750, Cognitive and Neural Systems.
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Academic Experience

- Reviewer:** Prentice Hall Book Reviewer, International Journal of Intelligent Systems (IJIS), International Neural Networks Society (INNS) Newsletter, IEEE Transactions on Neural Networks, Neural Networks, Cognitive Science Conference, International Joint Conference on Neural Networks, Intentional Dynamic Systems Conference, Intelligent Systems Design and Applications Conference.
- Organizer:** 2010 Lecture Series on HPC @ TAMUC, 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.
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Teaching

Instructor:

- Texas A&M University - Commerce:
- Spring 2010/2012: High Performance Computing
 - Spring 2010/09/08/07/06: Unix Programming and Networking
 - Fall 2013/11: Graduate Machine Learning for Big Data
 - Spring 2012/11: Introduction to Computational Science & Python Computing Ecosystem
 - Fall 2009/07, Spring 2006: Graduate Artificial Intelligence
 - Fall 2009/07, Spring 2006: Undergraduate Artificial Intelligence
 - Fall 2013/10/09/08, Spring 2005: Graduate Operating Systems
 - Fall 2009/08, Spring 2005: Undergraduate Operating Systems
 - Spring 2009/08: Undergraduate Unix Programming

Spring 2009: Object Oriented Programming
Fall 2008: Fundamentals of Programming Lab
Spring 2008: Unix Network Administration
Spring 2008/07, Fall 2008/07/06: Java Programming
Fall 2008: Microcomputer Applications
Summer 2008/06, Fall 2005/04, Spring 2005: Undergraduate Programming II
Fall 2008/05: Robotics and Autonomous Systems
Spring 2007: Linux and Python Software Development
Spring 2007: Programming Languages
Summer 2008/05, Fall 2004: Data Structures
Spring 2010/09/07, Fall 2009/08, Summer 2009/07: Thesis
Spring 2010/08/07/06/05, Fall 2008/07/06/05/04: Research Literature and Techniques

University of Memphis:

Spring 2004: Expert Systems and Prolog
Summer 2004: Data Structures
Fall 2001: Dynamics of Memory and Cognition

Graduate Advisor:

Pratyush Koturu, MSc, PhD, 2006-2014.
Paweena Kosito, PhD, 2011-2013
Terry Rawlinson, PhD, 2009-2012
Devin Pierce, PhD, 2007-2010.
Chris Jones, MSc, 2009-present.
Gideon Mazambani, MSc, 2008-2009.
Terry Rawlinson, MSc, PhD, 2007-present.
Mei Jiang, Ph.D. 2007-2009.
Lonnie Wakefield, MSc, 2006-2008.
Tom Faulkenberry, Ph.D., 2006-2008.

Postdoctoral Advisor:

Linbao Zhang, postdoctoral associate, 2010-2011.

Mentor:

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

Academic Service

2010-present: Computational Sciences Ph.D. Degree Program Development Committee.
2008-present: Computer Science Graduate Curriculum Review Committee.
2008-present: TAMUC Faculty Development Committee.
2010, Spring: TAMUC Graduate Expo, Mesquite Metroplex Center.
2010, Spring: Judge, University Interscholastic League Academic Meet, Computer Science Regional.
2009, Fall: University Days Department of Computer Science organizer and mentor.
2009, Spring: Mentor TAMUC National Cyber Defense Team competition.
2009, Spring: Judge, University Interscholastic League Academic Meet, Computer Science Regional.
2008-2009: Professional Sciences Master's Degree Program Committee.
2008- 2009: College of Arts and Sciences Dean Advisory Search Committee.
2008, Fall: TAMUC University Days Presenter, Computer Science Breakout Session.
2008, Summer: Organizer, X-Teams Summer Academy, Introduction to Programming Concepts using Lego MindStorms.
2008, Spring: Ad Hoc CSIS College of Business Committee.
2008, Spring: Judge, University Interscholastic League Academic Meet, Computer Science Regional.
2007-2008: Computer Science and Information Systems Department Head Search Committee.
2007, Fall: TAMUC Freshman Success Seminar, Computational Sciences: Building Universal Skill Sets for the 21st Century.
2007, Fall: TAMUC University Days Presenter, Computer Science Breakout Session.
2007, Spring: Judge, University Interscholastic League Academic Meet, Computer Science Regional.
2006, Spring: Judge, University Interscholastic League Academic Meet, Computer Science Regional.
2006: Co-Organizer TAMUC Brain, Computation and Mind brown bag seminars
2005, Fall: TAMUC University Days Computer Science Department organizer and mentor
2004-2008: ACM Student Chapter Faculty Advisor
2004-2005: Computer Science ABET Committee
2004-2005: Computer Science Curriculum Committee
2004, Fall: Mesquite Metroplex Center Mentoring Workshop
2004, Fall: TAMUC University Days Computer Science Department organizer and Mentor

Professional References

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