Robert V. Lindsey

University of Colorado at Boulder
Department of Computer Science
College of Engineering and Applied Science
Boulder, CO 80309-0430 USA

Email: robert.lindsey@colorado.edu
Homepage: http://www.rob-lindsey.com
Citizenship: United States

Education

Ph.D. Computer Science, University of Colorado at Boulder, expected 2012.

NSF Graduate Research Fellow

B.S. Computer Science, Philosophy, Rensselaer Polytechnic Institute, 2008.

Summa Cum Laude, Upsilon Pi Epsilon.

Fields of Interest

Cognitive Modeling, Machine Learning

Academic Experience

University of Colorado, Department of Computer Science

Research Assistant, Prof. Michael Mozer, August 2008–present.

Description: This research focuses on the development of computational models of human fact learning. We emphasize the creation of practical techniques for improving learning in educational settings. Currently, we are working with the University of Colorado's foreign language departments to develop an online tutoring system that utilizes our modeling research.

Grader, CSCI 4446/5446: Chaotic Dynamics, January 2010–May 2010.

Description: I graded homework for a nonlinear dynamics and chaos theory class.

Rensselaer Polytechnic Institute, Department of Cognitive Science

Undergraduate Researcher, CogWorks Laboratory, August 2005–May 2008.

Description: I participated in a number of undergraduate research projects under the supervision of Prof. Wayne Gray. These projects involved developing algorithms to compute semantic relatedness, programming a distributed genetic algorithm for use on TeraGrid, developing an artificial agent to play the game Tetris, programming cognitive models of human behavior in a visual search environment, and conducting psychological studies on human participants using eye-tracking hardware.

University of Oklahoma, Department of Computer Science

Undergraduate Researcher, Symbiotic Computing Laboratory, May 2007–August 2007

Description: This summer research position involved programming embedded systems for robot navigation and developing a wireless interface and GUI to control mobile robots. My supervisor was Prof. Andrew Fagg.

Industry Experience

J.D. Power and Associates, Web Intelligence Research Division

Science Intern, May 2010 – present.

Description: I am developing a nonparametric extension of Latent Dirichlet Allocation that can, in a completely unsupervised manner, discover phrases of arbitrary length in text and assign them to semantic topics.

Grants

Brain-Computer Interfaces for Mobile Robotics. Engineering Excellence Fund, University of Colorado at Boulder. Effective March 1, 2010 through June 30, 2010. Amount: $800.

Intelligent Tutoring Systems. Temporal Dynamics of Learning Center, Trainee Grant. Effective January 14, 2010 through December 31, 2010. Amount: $1,050.

Bayesian Optimization of Human Fact Learning. Temporal Dynamics of Learning Center, Trainee Grant. Effective January 14, 2010 through December 31, 2010. Amount: $1,500.

Perceptual Learning via Attentional Saliency. Temporal Dynamics of Learning Center, Trainee Grant. Effective July 1, 2009 through December 31, 2010. Amount: $1,400.

Professional Activities

Member of the Cognitive Science Society. Summer 2008–present.

Supervisor, undergraduate independent study into low-cost EEG. Fall 2009.

Teaching Assistant, Temporal Dynamics of Learning Center Trainee Boot Camp. University of California, San Diego. La Jolla, CA. August 2009.

Temporal Dynamics of Learning Center, Trainee (grant-reviewing) Committee. Fall 2009–present.

Software Contractor. Los Gatos, CA. Summer 2008.

Session chair, Evaluating Judgments and Meaning. 30th Annual Meeting of the Cognitive Science Society. Washington, D.C. July 25, 2008.

President of the New York Eta Chapter of Upsilon Pi Epsilon. Fall 2007–Spring 2008.

Member of the Association for Computing Machinery. Fall 2007–Fall 2008.

Member of Rensselaer Polytechnic Institute's Minds and Machines Program. Fall 2005–Spring 2008.

Google Ambassador, Rensselaer Polytechnic Institute. Fall 2007–Spring 2008.

Honors, Awards, & Fellowships

NSF Graduate Research Fellowship Program. Fall 2010–present.

Dean's Graduate Assistantship, University of Colorado, Fall 2008–Spring 2009.

Dean's Outstanding Merit Scholarship, University of Colorado, Fall 2008–Spring 2009.

University Fellowship, University of Colorado, Fall 2008–Spring 2009.

Graduate Student Research and Community Development Award, University of Colorado, Spring 2009.

NSF Graduate Research Fellowship Program Honorable Mention, Spring 2009.

Academic citation for excellence in Capstone Experience in Philosophy, Rensselaer Polytechnic Institute, Spring 2008.

Upsilon Pi Epsilon, Rensselaer Polytechnic Institute, Fall 2007–Spring 2008.

Undergraduate Research Award in Cognitive Science, Rensselaer Polytechnic Institute, Spring 2008.

NSF Research Experiences for Undergraduates, University of Oklahoma, Summer 2007.

Dean's List, Rensselaer Polytechnic Institute, Fall 2005–Spring 2008.

Leadership Award, Rensselaer Polytechnic Institute, Fall 2005–Spring 2008.

President's Award, Rensselaer Polytechnic Institute, Fall 2005.

Publications

Mozer, M. C., Pashler, H., Wilder, M., Lindsey, R., Jones, M. C., & Jones, M. N. (in-press). Decontaminating human judgments to remove sequential dependencies. In-press.

Lindsey, R., Lewis, O., Pashler, H., & Mozer, M. C. (2010). Predicting students' retention of facts from feedback during training. In S. Ohlsson & R. Catrambone (Eds.), Proceedings of the 32nd Annual Conference of the Cognitive Science Society (pp. xxx-xxx). Austin, TX: Cognitive Science Society.

Mozer, M. C., Pashler, H., Cepeda, N., Lindsey, R., & Vul, E. (2009). Predicting the Optimal Spacing of Study: A Multiscale Context Model of Memory. In Y. Bengio, D. Schuurmans, J. Lafferty, C.K.I. Williams, & A. Culotta (Eds.), Advances in Neural Information Processing Systems 22 (pp. 1321–1329). La Jolla, CA: NIPS Foundation.

Lindsey, R., Mozer, M. C., Cepeda, N. J., & Pashler, H. (2009). Optimizing Memory Retention with Cognitive Models. In A. Howes, D. Peebles, R. Cooper (Eds.), 9th International Conference on Cognitive Modeling — ICCM 2009, Manchester, UK.

Lindsey, R., Stipicevic, M., Veksler, V.D., & Gray, W.D. (2008). BLOSSOM: Best Path Length on a Semantic Self-Organizing Map. 30th Annual Meeting of the Cognitive Science Society, Washington, D.C.

Lindsey, R., Veksler, V. D., Grintsvayg, A., & Gray, W. D. (2007). Effects of Corpus Selection on Measuring Semantic Relatedness. Proceedings of the 8th International Conference on Cognitive Modeling, Ann Arbor, MI.

Refereed Poster Abstracts

Grintsvayg, A., Veksler, V. D., Lindsey, R., & Gray, W. D. (2007). Vector Generation from an Explicitly-defined Multidimensional Space. Proceedings of the 8th International Conference on Cognitive Modeling, Ann Arbor, MI.

Veksler, V. D., Grintsvayg, A., Lindsey, R., & Gray, W. D. (2007). A Proxy for All Your Semantic Needs. Proceedings of the 29th Annual Meeting of the Cognitive Science Society, Nashville, TN.

Talks and Presentations

Conference Talks

Best Path Length on a Semantic Self-Organizing Map. 30th Annual Meeting of the Cognitive Science Society. Washington, D.C. July 25, 2008.

Optimizing Memory Retention with Cognitive Models. 9th International Conference on Cognitive Modeling, University of Manchester. Manchester, United Kingdom. July 25, 2009.

Other Talks

A Dynamic Programming Approach to Mobile Robot Path Planning. Research Experiences Symposium, University of Oklahoma. Norman, OK. September 27, 2007.

Using Attentional Cues to Enhance Learning. Temporal Dynamics of Learning Center Trainee Boot Camp, University of California, San Diego. La Jolla, CA. August 22, 2009.

Posters

Effects of Corpus Selection on Measuring Semantic Relatedness. 8th International Conference on Cognitive Modeling, University of Michigan. Ann Arbor, MI. July, 28, 2007.

Optimizing the Durability of Learning with Computational Models of Memory. 2nd Annual Inter-Science of Learning Center Student and Post-Doc Conference, University of Washington. Seattle, WA. February 6, 2009.

Optimizing the Durability of Learning with Computational Models of Memory. Temporal Dynamics of Learning Center: All-Hands Meeting, University of California, San Diego. La Jolla, CA. February 20, 2009.

Optimized Language Tutoring. Temporal Dynamics of Learning Center: All-Hands Meeting, University of California, San Diego. La Jolla, CA. January 22, 2010.

Predicting studentsŠ retention of facts from feedback during training. CogSci 2010, Portland, OR. August 13, 2010.

Miscellaneous

Computer Skills: Matlab, Python, C++, C, PHP, JavaScript, Scheme, LISP, Java, Prolog, Visual Basic 6, HTML, BASH, SQL, Linux, LaTeX, Nutch/Lucene, Parallel programming with MPI