

KATE LOCKWOOD

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RESEARCH INTERESTS:

I am interested in understanding how to build intelligent systems that can learn from multi-modal presentations of information (such as a combination of text and diagrams). I am especially interested in approaching this problem from a cognitive modeling perspective. By understanding how people use diverse sources of information, I hope to build systems that can learn from the same sources, that can support human learners, and that can evaluate human learning.

EDUCATION:

Ph.D.	(Computer Science)	Northwestern University Advisor: Kenneth D. Forbus	est. 5/2009 GPA: 3.9/4.0
M.S.I	(Information)	University of Michigan School of Information Advisor: Paul Resnick	2002 GPA: 7.9/8.0
B.S.E	(Computer Engineering)	University of Michigan College of Engineering	2000 GPA: 3.9/4.0

RESEARCH EXPERIENCE:

Qualitative Reasoning Group, Northwestern University (http://www.qrg.northwestern.edu) <i>Graduate Research Assistant</i> Computational research on cognitive models of spatial language Development of cognitive modeling tools for psychologists	present
University of Michigan, School of Information <i>Graduate Research Assistant</i> Studied effect of reputation in on-line communities	2000 - 2002

TEACHING EXPERIENCE:

Northwestern University, Searle Center for Teaching Excellence <i>Participant</i> , Teaching Certificate Program Co-taught an interdisciplinary freshman seminar on science in the media Planned entirely new course	2005-2007
Northwestern University, Cognitive Science Program <i>Teaching Assistant</i> CogSci 207: Introduction to Cognitive Modeling	2005, 2006, 2007

Northwestern University, EECS Department

Winter 2004

CS 110: Introduction to Computer Programming
Planned and ran weekly lab sessions
Created and graded homework assignments and quizzes

Northwestern University, Searle Center for Teaching Excellence

2006-present

Senior Teaching Consultant
Collect classroom feedback from students in a course
Compile feedback into reports and meet with instructors/professors

PUBLICATIONS:

Lockwood, K., Lovett, A., and Forbus, K. (2008). Automatic Classification of Containment and Support Spatial Relations in English and Dutch. In *Proceedings of Spatial Cognition*.

Forbus, K., Lovett, A., **Lockwood, K.**, Wetzel, J., Matuk, C., Jee, B., and Usher, J. (2008). CogSketch. *Proceedings of AAAI 2008*.

Forbus, K., Usher, J., Lovett, A., **Lockwood, K.**, & Wetzel, J. (2008). CogSketch: Open-domain sketch understanding for cognitive science research and for education. *Proceedings of the Fifth Eurographics Workshop on Sketch-Based Interfaces and Modeling*. Annecy, France.

Lockwood, K., Lovett, A., Forbus, K., Dehghani, M., and Usher, J. (2008). Automatic Interpretation of Depiction Conventions in Sketched Diagrams. *Proceedings of the Eurographics Workshop on Sketch-Based Interfaces and Modeling*.

Lockwood, K., Lovett, A., Forbus, K., Dehghani, M., and Usher, J. (2008). A Theory of Depiction for Sketches of Physical Systems. *Proceedings of QR 2008*.

Lovett, A., **Lockwood, K.**, & Forbus, K. (2008). A computational model of the visual oddity task. *Proceedings of the 30th Annual Conference of the Cognitive Science Society*. Washington, D.C.

Lovett, A., **Lockwood, K.**, & Forbus, K. (2008). Modeling cross-cultural performance on the visual oddity task. *Proceedings of Spatial Cognition 2008*. Freiburg, Germany.

Lovett, A., **Lockwood, K.**, Dehghani, M., & Forbus, K. (2007). Modeling human-like rates of learning via analogical generalization. *Proceedings of Analogies: Integrating Multiple Cognitive Abilities*. Nashville, Tennessee.

Forbus, K., **Lockwood, K.**, Tomai, E., Dehghani, M. and Czyz, J. (2007). Machine Reading as a Cognitive Science Research Instrument. *AAAI Spring Symposium on Machine Reading*. Stanford University, California

Lockwood, K., Foucault, B., Tartaro, A., Zhao, X. (2007). We Invent the Future of Interdisciplinary Research. Panel Discussion at 2007 Grace Hopper Celebration of Women in Computing, Orlando, Florida.

Lockwood, K., Forbus, K., Halstead, D. & Usher, J. (2006). Automatic Categorization of Spatial Prepositions. *Proceedings of the 28th Annual Conference of the Cognitive Science Society*. Vancouver, Canada.

Lockwood, K., Forbus, K., & Usher, J. (2005). SpaceCase: A model of spatial preposition use. *Proceedings of the 27th Annual Conference of the Cognitive Science Society*. Stressa, Italy.

Forbus, K., **Lockwood, K.**, Klenk, M., Tomai, E., and Usher, J. (2004). Open-domain sketch understanding: The nuSketch approach. *AAAI Fall Symposium on Making Pen-based Interaction Intelligent and Natural*, October, Washington, DC.

Resnick, Paul, Zeckhauser, Richard, Swanson, John, and **Kate Lockwood**. (2006). The Value of Reputation on eBay: A Controlled Experiment. *Experimental Economics*. Volume 9, Issue 2, Jun 2006, Page 79-101.

HONORS AND AWARDS:

Graduate Student Leader of the Year (Runner-Up) 2007-2008
AAUW Selected Professions Fellowship 2008-2009

OTHER EXPERIENCE:

Graduate Student Association, Northwestern University 2005-present
Worked with administration to address issues of concern to graduate student population
Organized town hall meetings to discuss important issues on campus

FREECS: Female Researchers in EECS, Northwestern University 2002 - present
Founding member of women in computer science group
Coordinated volunteers and presentations for Take Our Daughters to Work Day
Secured grant to start women in computer science speaker series
Started a series of professional development panels and workshops for department
Currently developing mentoring program for undergrad women
Recognized as graduate school advocacy group of the year (2007-2008)

PROFESSIONAL AFFILIATIONS:

Cognitive Science Society
Association for the Advancement of Artificial Intelligence (AAAI)
Association for Computing Machinery (ACM)

REFERENCES

Professor Ken Forbus
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