

LEE I NEWMAN

Dept. of Psychology, Cognition and Perception Area
Dept. of Electrical Engineering & Computer Science
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EDUCATION

University Of Michigan

Ph.D. Candidate, *Psychology and Computer Science and Engineering*. Expected May, 2009.

Candidate, *Certificate Program in Cognitive Science & Cognitive Neuroscience*. Expected May, 2009.

Program: Self-initiated interdisciplinary degree combining Psychology (Cognition and Perception) and Computer Science (Intelligent Systems). Completed candidacy qualification in both departments with coursework spanning cognitive psychology, cognitive neuroscience, neuroscience, and computer science.

Interests: Using computational and experimental methods to investigate (1) the neural organization and learning of object concepts, and (2) the neural basis of decision making.

Advisor: Thad Polk, Ph.D.

Massachusetts Institute of Technology

S.M., *Technology and Policy*, 1992.

S.M., *Management Science*, 1992.

Program: Interdisciplinary program focused on the economic, social and political implications of science and technology. Included studies in policy design and analysis, economics of trade and technology, decision theory, negotiation and law.

Thesis: *The Performance of Learning Curve Strategies in a Disequilibrium Environment with Dynamic Demand*. Investigated game-theoretic decision making in a simulated oligopoly using system dynamics models. Showed that boundedly rational decision making leads to disequilibria and suboptimality of conventional management strategies due to forecasting and planning errors arising from imperfect information, dynamic demand, and positive feedbacks.

Advisors: Rebecca Henderson, Ph.D. and John Sterman, Ph.D.

Brown University

Sc.B. with Honors and *magna cum laude*, *Electrical Engineering*, 1989.

Thesis: *A Neural Network Architecture for Speaker Independent Phonetic Speech Classification*. Developed neural networks for classifying phonemes in time-sampled acoustic signals independent of context and speaker. Outperformed an existing rule-based classifier in both accuracy and computational resources.

Advisor: Harvey Silverman, Ph.D.

HONORS, AWARDS, AND FELLOWSHIPS

RESEARCH FELLOWSHIPS & AWARDS

Rackham Predoctoral Fellowship, University of Michigan 2006/07. The highest competitive doctoral fellowship given by the Rackham School of Graduate Studies at the University of Michigan.

Honorable Mention, NSF Graduate Research Fellowship, 2004, 2005.

Regents Fellowship, University of Michigan, 2002.

TEACHING AWARDS**Outstanding Graduate Student Instructor**

Rackham Graduate School, University of Michigan 2006/07

The highest competitive teaching award given to twenty students across the university by the Rackham School of Graduate Studies. More info: <http://www.rackham.umich.edu/rns.php?faqid=1739>.

Outstanding Graduate Student Instructor

Department of Psychology, University of Michigan 2005/06 and 2006/07

One of three students recognized by the Department of Psychology for outstanding teaching.

ACADEMIC AWARDS AND HONORS

Degree with Honors, Brown University, 1989.

magna cum laude, Brown University, 1989.

George H. Main Premium for Diligence in Engineering, Brown University, 1989.

Tau Beta Pi, Brown University, 1989.

Sigma Xi, Brown University, 1989.

TEACHING

Guest Lectures

Department of Psychology, University of Michigan

Lectures of 1.5 hours for the course *Introduction to Cognitive Psychology*. Podcasts available upon request.

2008 Deductive Reasoning. (400 students)

2007 Visual Imagery I: Visual Memory, Spatial Memory, Heuristics. (80 students)

2007 Top-Down Perception: Expectations, Context Effects, and Interactive Activation. (80 students)

2007 Language I: Structure and Meaning. (240 students)

2007 Long Term Memory: Semantic Networks. (240 students)

2007 Language: Structure, Meaning, Localization in the Brain. (240 students)

2006 Language: Structure, Meaning, Localization in the Brain. (240 students)

2006 Judgment and Decision-making, (240 students)

Teaching as a Graduate Student Instructor

Department of Psychology and Electrical Engineering and Computer Science, University of Michigan.

Served as a GSI for nine terms and approximately 600 undergraduate students. Responsibilities including leading weekly section, holding office hours, meeting with students one-on-one, running exam reviews sessions, and assigning section grades. Teaching evaluations, student comments, and references available by request.

Introduction to Cognitive Psychology

With Thad Polk; Bill Gehring; Cindy Lustig

2007 Responsible for three sections, 80 undergraduate students.

2006 Responsible for three sections, 75 undergraduate students.

2005 Responsible for two sections, 50 undergraduate students.

2004 Responsible for three sections, 75 undergraduate students.

Mean Instructor Rating: 4.9 out of 5.0

Introduction to Psychopathology

With Joseph Gone

2006 Responsible for two sections, 60 undergraduate students.

Mean Instructor Rating: 4.9 out of 5.0

Human Neuropsychology

With Jeffrey Hutsler

2005 Responsible for two sections, 70 undergraduate students.

Mean Instructor Rating: 4.9 out of 5.0

Introduction to Artificial Intelligence

With Michael Wellman; Satinder Baveja-Singh

2004 Responsible for two sections, 50 graduate and undergraduate students.

2003 Responsible for two sections, 50 graduate and undergraduate students.

Mean Instructor Rating: 4.5 out of 5.0

PUBLICATIONS & PROFESSIONAL ACTIVITIES

Papers in Refereed Journals

Sterman, J.D., Henderson, R., Beinhocker, E.D., & Newman, L.I. (2007). Getting big too fast: Strategic dynamics with increasing returns and bounded rationality, *Management Science* 53(4), 683-696.

Papers in Refereed Conference Proceedings

Newman, L.I. & Polk, T.A. (forthcoming). "Revealing individual differences in the Iowa Gambling Task", *Proceedings of 30th Annual Conference of Cognitive Science Society*, Washington, DC.

Newman, L.I. & Polk, T.A. (in press). "The emergence of semantic topography in a neurally-inspired computational model", *Proceedings of 8th International Conference on Cognitive Modeling*, Ann Arbor, MI.

Contributed Talks

Newman, L.I. & Polk, T.A. (2007). "The emergence of semantic topography in a neurally-inspired computational model", *8th International Conference on Cognitive Modeling*, Ann Arbor, MI.

Newman, L.I. & Polk, T.A. (2006). "The emergence of semantic representations from topographic sensory maps", *Computational Cognitive Neuroscience Conference*, Houston, TX.

Newman, L.I. & Polk, T.A. (2006). "Clusters, symbols, and cortical topography". *26th Annual Soar Workshop*, Ann Arbor, MI.

Contributed Posters and Abstracts

Newman, L.I. & Polk, T.A. (2008). "The Emergence of Semantic Topography and Category-Specific Impairments in a Neurally-Inspired Computational Model". Poster given at *13th Annual Meeting of Cognitive Neuroscience Society*, San Francisco, California.

Newman, L.I. & Polk, T.A. (2006). "The emergence of semantic representations from topographic sensory maps", *Computational Cognitive Neuroscience Conference*, Houston, TX.

Book Chapters

Newman, L.I. & Polk, T.A. (in press). "The computational cognitive neuroscience of learning and memory: Principles and models", in *Human Learning: Biology, Brain, and Neuroscience*, Mark Guadagnoli (ed).

SERVICE & DEPARTMENTAL ACTIVITIES

Department of Psychology, University of Michigan**Computational and Cognitive Neuroscience Reading Group, 2004/05**

Founded an interdisciplinary reading group at the University of Michigan that brought together faculty and students with common interests in computational explanations of the neural substrates of cognition (2004; <http://www.eecs.umich.edu/~leeneewm/ccnrg/>).

Executive Committee, Department of Psychology, University of Michigan, 2006/07

Elected by departmental faculty to serve as a voting member of the highest-level decision making committee in the department.

Departmental Associate 2006/07

Elected by departmental faculty to serve as a voting participant at faculty meetings.

Recruiting Committee Member 2005/06/07

Helped planned and manage activities to support recruitment of new graduate students for the Cognition and Perception area.

Reviewing

2008 30th Annual Cognitive Science Society Conference

PROFESSIONAL MEMBERHIPS

Student Memberships

American Association for Advancement of Science
American Association for Artificial Intelligence
American Psychological Association
Cognitive Neuroscience Society
Cognitive Science Society
Neuroeconomics Society
Vision Sciences Society
Institute for Electrical and Electronic Engineers

PROFESSIONAL EXPERIENCE

HR One, Inc.

Executive Vice Preseident of Product Development & Founder. New York City, 1999-2001.

Served as senior manager in company that provided human resource products and services to small businesses. Raised institutional funding. Formulated business plan and corporate strategy as member of executive team and Board of Directors. Managed \$2M budget and was responsible for product development. Hired and managed 25-person team. Developed and launched 15 products.

Brainstorm Interactive, Inc.

Chief Operating Officer & Founder. New York City, 1996-1999.

Founded, built and sold company providing online services for professional and affinity-based networking and knowledge sharing. Managed \$1M budget and was responsible for product development. Hired and managed 8-person team. Acquired 65,000 subscribers.

McKinsey & Company, Inc.

Engagement Manager. Chicago, 1992-1995.

Served as a management consultant addressing core issues of Fortune 1000 executives. Managed project teams with a focus on organizational performance improvement and reengineering. Designed and conducted analytical problem solving efforts, developed findings, and presented recommendations to management. Worked with clients to establish performance metrics and to develop organizational plans for implementing recommendations and tracking results.

MANAGEMENT TRAINING

Designing and leading structured problem solving efforts.

Facilitating structured brainstorming sessions.

Developing and delivering presentations to small and large audiences.

Interpersonal influence and team building based on Meyers-Briggs profiling.

Conducting behavioral interviews.

Defining roles and assessing candidates using Lominger Leadership Competencies.

Giving and receiving developmental feedback.

TECHNICAL SKILLS

Modeling and analysis using *Mathematica*, *Matlab*, *SPSS*.

Basic fMRI data analysis using SPM, Voxbo.

BIOGRAPHICAL INFORMATION

Birth date: 11/27/1966

Birth place: St. Louis, MO, U.S.A.

Citizenship: U.S.A.

Languages: English, *Native*. Spanish, *Intermediate*. Portuguese, *Basic*.

Personal: Traveled extensively in Latin America, Western and Eastern Europe, North Africa, Turkey and the Middle East; travels motivated by interest in cross-cultural perspectives, comparative religion, and world music.