Timothy N. Rubin

Postdoc, Indiana University
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EDUCATION

Indiana University   Bloomington, IN
Cognitive Computing Laboratory   2012-Present

University of California, Irvine   Irvine, CA
Ph.D., Psychology   2012
M.A., Psychology   2009
Advisor: Mark Steyvers

Tufts University   Medford, MA
B.S. Psychology, *Cum Laude*   May 2004
Minor in Cognitive Science

RESEARCH EXPERIENCE

POSTDOCTORAL WORK

Corpus Modeling with Neuroimaging Documents   2012 – Present
Faculty Researchers: Michael Jones and Tal Yarkoni

GRADUATE RESEARCH WORK (FUNDED)

Statistical Learning Methods for Clinical Psychology   2010 - 2012
Faculty Researchers: Mark Steyvers and David Atkins

Topic Models for Documents and Ontologies   2009 - 2010
Supervising Faculty: Mark Steyvers and Padhraic Smyth

GRADUATE RESEARCH LABORATORIES

Memory and Decision Laboratory   2008 - Present
University of California, Irvine
Faculty Researchers: Mark Steyvers and Michael Lee

Movement and Vision Laboratory   2006 - 2008
University of California, Irvine
Faculty Researchers: Charles F. Chubb and Charles E. Wright

Human Information Processing Laboratory   2007 - 2008
University of California, Irvine
Faculty Researcher: George Sperling

ADDITIONAL RESEARCH EXPERIENCE

Undergraduate Thesis Project. *Tufts University*   2003- 2004
Supervising Faculty: Daniel C. Dennett and Phillip Holcomb

Research Internship: Marine Mammal Behavior and Cognition Laboratory   Fall, 2004
Faculty Researcher: Dr. Stan Kuczaj

Research Internship: Kewalo Basin Marine Mammal Laboratory   May-Dec, 2003

PUBLICATIONS

JOURNAL PUBLICATIONS

Rubin, T.N., Chambers, A., Smyth, P., Steyvers, M., (2012) Statistical Topic Models for Multi-Label Document Classification. *Machine Learning*, special issue on Learning from Multi-Label Data.

Atkins, D.C., **Rubin, T.N.**, Steyvers, M., Doeden, M., Baucom, B.R., & Christensen, A. (2012). Novel methods for modeling couple and family text data: An introduction to topic models. Journal of Family Psychology. Advance online publication. doi: 10.1037/a0029607

REFEREED CONFERENCE PROCEEDINGS

Rubin, T.N., Zeigenfuse, M.D., Steyvers, M, (2011) A Model of Concept Generalization and Feature Representation in Hierarchies, *33rd Annual Conference of the Cognitive Science Society*.

Rubin, T.N., Steyvers, M., (2009). A Topic Model For Movie Choices and Ratings, *9th International Conference on Cognitive Modeling – ICCM 2009*, Manchester, UK.

Rubin, T.N., Lee, M.D., & Chubb, C.F. (2008). Hierarchical Bayesian modeling of individual differences in texture discrimination. In V. Sloutsky, B. Love, & K. McRae (Eds.), *Proceedings of the 30th Annual Conference of the Cognitive Science Society*, pp. 1404-1409 Austin, TX: Cognitive Science Society.

INVITED TALKS

"Machine learning approaches to classification and prediction, and their relevance to cognitive science". *Cognitive lunch talk series*, Indiana University. Aug 22nd, 2012.

"Statistical Topic Models for Multi-Label Document Classification", *AI/ML Weekly Seminar*, Donald Bren School of Information and Computer Sciences, UC Irvine. Jan 24th, 2011.

CONFERENCE TALKS

"A Model of Generalization and Feature Representation Across Graph Hierarchies". *44th Annual Meeting of the Society for Mathematical Psychology – MathPsych 2011*. Boston, MA. Presented: July 17th, 2011.

"Probabilistic Modeling of Human Choices and Preferences using Ratings Data". *42nd Annual Meeting of the Society for Mathematical Psychology – MathPsych 2009*. Amsterdam, Netherlands. Presented: August 2nd, 2009.

"Modeling Movie Choices and Ratings". *The Institute for Mathematical Behavioral Sciences, Graduate Student Conference*. Irvine, CA. Presented: May 13th, 2009.

"Spatiotemporal Dynamics of the Perception of Dot Displays". University of California Irvine. *Department of Cognitive Sciences, Colloquium*. Irvine, CA. Presented: June 6th, 2008.

CONFERENCE POSTERS

REFEREED

Rubin TN, Steyvers M, (2011) Modeling Category Generalization via Distributed Representations Across Graph Hierarchies, *First Southern California Machine Learning Workshop (SoCaML 2011)*. Irvine, CA. Presented: September 9th, 2011.

Rubin TN, Zeigenfuse MD, Steyvers M, (2011) A Model of Concept Generalization and Feature Representation in Hierarchies, *33rd Annual Conference of the Cognitive Science Society*. Boston, MA. Presented: July, 22nd, 2011.

Rubin TN, Holloway A, Smyth P, Steyvers M (2009), Modeling Tag Dependencies in Tagged Documents. *Neural Information Processing Systems Conference; "Applications for Topic Models: Text and Beyond" Workshop*. Whistler, BC. Presented: December 11th, 2009.

Rubin TN, Steyvers M, (2009) A Topic Model for Movie Choices and Ratings. *9th International Conference on Cognitive Modeling*. Manchester, UK. Presented: July 25th, 2009.

Rubin, TN, Lee, MD, & Chubb, CF (2008). Hierarchical Bayesian modeling of individual differences in texture discrimination. *20th Annual Conference of the Cognitive Science Society*. Washington, DC. Presented: July 24th, 2008.

NON-REFEREED

Rubin TN, Lee MD, DeYoung M, Steyvers M, (2010) Wisdom of the Crowds Effects in Prediction of Future Outcomes; A case study using Fantasy Football Rankings, *43rd Annual Meeting of the Society for Mathematical Psychology* (*SMP 2010*). Portland, OR. Presented: Sunday, August 8th, 2010.

Rubin TN, Chubb CF, Wright CE, Drew SA, Sperling G. Visual Perception of Briefly Presented Dot Displays, *Joint Symposium on Neural Computation*, Irvine, CA. Presented: May 31st, 2008.

Rubin TN, Chubb CF, Wright CE, Drew SA, Sperling G. Spatiotemporal Dynamics of the Perception of Dot Displays, *Vision Sciences Society Meeting* (VSS 2008), Naples FL. Presented: May 10th, 2008.

Drew SA, Chubb CF, Erlich T, **Rubin TN**, Sperling G (2008). Binary versus Graded Filters for Selectively Attending to Dots of Different Contrasts, Vision Sciences Society Meeting, Naples FL. Presented: May 10th, 2008.

AWARDS, HONORS

Social Sciences Summer Fellowship	2007-2011
Student Travel Award, *44th Annual Meeting of the Society for Mathematical Psychology*	2011
Student Travel Award, *43rd Annual Meeting of the Society for Mathematical Psychology*	2010
Student Travel Award, *42nd Annual Meeting of the Society for Mathematical Psychology*	2009
Cum Laude. B.S. Psychology, Tufts University.	2004
MacJannet Merit Scholarship, Tufts University.	2002
Dean's List, Tufts University.	1999-2004

RELEVANT SKILLS

Programming Languages: MATLAB, R, LaTeX, BUGS, SPSS, C/C++ (some), HTML (some),

PROFESSIONAL ACTIVITIES

Ad-Hoc Reviewing, *Psychological Review* (Journal*)*
Ad-Hoc Reviewing, *Cognitive Science Society* (Conference)
Ad-Hoc Reviewing, *International Conference on Machine Learning, ICML* (Conference)
Ad-Hoc Reviewing, *Transactions on Multimedia Computing, Communications, and Applications* (Journal*)*

PROFESSIONAL AFFILIATIONS

Cognitive Science Society	Student Member 2008-Present
Society for Mathematical Psychology	Student Member 2009-Present
Vision Sciences Society	Student Member 2007-2008
Society for Neuroscience	Student Member 2007-2008

RELEVANT COURSEWORK

Psych. 200a	Discrete Math and Probability Theory
Psych. 200b	Introduction to Mathematical Statistics
Psych. 200c	Experimental Design
Psych. 205a	Computational and Research Methods Using Matlab
Psych. 205b	Experiments in Matlab
Psych. 237a	Bayesian Cognitive Modeling
Psych. 214	Advanced Cognitive Modeling
Psych. 234a	Mathematical Models of Cognitive Processes
Psych. 212	Learning, Memory and Knowledge Organization

Psych. 214	Decision Making and Problem Solving	
Stats. 200 a	Intermediate Probability Theory	
CompSci. 273a	Machine Learning	
CompSci. 274a	Probabilistic Learning	

ADDITIONAL PROGRAMS

Graduate Summer School: Probabilistic Models of Cognition (IPAM 2011)

TEACHING EXPERIENCE

TA, Psychology 114M	Matlab Programming	1 quarter
TA, Social Science 10B	Probability and Statistics	2 quarters
TA, Psychology 21A	Adolescent Psychology	2 quarters
TA, Psychology 191	Language and Brain	1 quarter
TA, Social Science 5D	US/World Geography	1 quarter
TA, Psychology 172AW	American Culture	1 quarter