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## Research Interests

Artificial intelligence, machine learning, data mining, relational learning, social network analysis, link analysis, computational social science.

## Education

Ph.D., University of Massachusetts Amherst, Computer Science, 2006

Dissertation: *Statistical Models and Analysis Techniques for Learning in Relational Data*

Advisor: David Jensen

M.S., University of Massachusetts Amherst, Computer Science, 2004

B.S. *summa cum laude*, University of Massachusetts Amherst, Computer Science, 2000

## Professional Experience

2014–present: *Miller Family Chair*, Purdue University

2013–present: *Associate Professor*, Purdue University

Joint appointment: Computer Science (75%) and Statistics (25%)

2013 *Visiting Scientist*, Simons Institute for Theoretical Computing, UC Berkeley

2006–2013: *Assistant Professor*, Purdue University

Joint appointment: Computer Science (75%) and Statistics (25%)

2000–2006: *Research Assistant*, University of Massachusetts Amherst

2000–2000: *Research Intern*, AT&T Shannon Laboratory

## Awards and Honors

Distinguished Lecture, Max Planck Institute of Informatics, 2016

Program Committee Chair, 9<sup>th</sup> ACM International Conference on Web Search and Data Mining, 2016

AAAI Executive Council, Elected Councilor, 2015

Keynote Address, 2<sup>nd</sup> European Network Intelligence Conference, 2015

Purdue College of Science Research Award, 2014

Keynote Address, 27<sup>th</sup> International Conference of the Florida Artificial Intelligence Research Society, 2014

Purdue College of Science Graduate Mentoring Award, 2013

Outstanding Achievement by a Young Alum, School of CS, University of Massachusetts Amherst, 2013

NSF Career Award, 2012

Purdue College of Science Team Award, 2012

Purdue Seed for Success Award, 2011, 2012  
Purdue College of Science Interdisciplinary Award, 2009, 2010  
ICDM Best Research Paper Award Runner-Up, 2009  
IEEE Intelligent Systems Top Ten to Watch, 2008  
Microsoft New Faculty Fellowship Finalist, 2007  
DARPA Computer Science Study Panel Member, 2007  
Nominated for ACM Doctoral Dissertation Award, University of Massachusetts, 2006  
KDD Cup First Place Open Task, 9<sup>th</sup> ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, 2003  
Young Investigator Award, DARPA IPTO Cognitive Systems Conference, 2003  
AT&T Labs Graduate Fellowship, 2000–2006  
National Science Foundation Graduate Research Fellowship, 2000–2003  
National Physical Science Consortium Fellowship, 2000 (*declined*)  
Bell Labs Graduate Research Fellowship, 2000 (*declined*)

## **Publications**

### ***Journal Articles***

1. Graphlet Decomposition: Framework, Algorithms, and Applications.  
N. Ahmed, J. Neville, R. Rossi, N. Duffield, T. Willke  
*Knowledge and Information Systems*, to appear.
2. Network Sampling: From Static to Streaming Graphs.  
N. Ahmed, J. Neville, and R. Kompella  
*Transactions on Knowledge Discovery and Data Mining*, Vol. 8, Issue 2, 2014.
3. Transforming Graph Data for Statistical Relational Learning.  
R. Rossi, L. McDowell, D. Aha and J. Neville  
*Journal of Artificial Intelligence Research*, Vol. 45, 363-441, 2012.
4. Correcting Evaluation Bias of Relational Classifiers with Network Cross Validation.  
J. Neville, B. Gallagher, T. Eliassi-Rad, and T. Wang  
*Knowledge and Information Systems*, 30-1, 31-55, 2012.
5. Gender demographics trends and changes in U.S. CS departments.  
D. Baumann, S. Hambruch, and J. Neville.  
*Communications of the ACM*, 54:11, 38-42, 2011.
6. Guided Data Repair  
M. Yakout, A. Elmagarmid, J. Neville, M. Ouzzani, and I. Ilyas  
*Proceedings of the VLDB Endowment*, 4:5, 279-289, 2011.
7. Prediction models for long-term Internet prefix availability  
R. Khosla, S. Fahmy, Y. C. Hu, and J. Neville  
*Computer Networks*, 55:3, 873-889, 2010.
8. A Bias-Variance Decomposition for Collective Inference Models.  
J. Neville and D. Jensen.  
*Machine Learning Journal*, 73:1, 87-106, 2008.
9. Dependency Networks for Relational Data.  
J. Neville and D. Jensen.  
*Journal of Machine Learning Research*, 8(Mar):653–692, 2007.

10. Exploiting Relational Structure to Understand Publication Patterns in High-Energy Physics.  
A. McGovern, L. Friedland, M. Hay, B. Gallagher, A. Fast, J. Neville and D. Jensen.  
*SIGKDD Explorations*, Volume 5, Issue 2, pp. 165-172, 2003.

### **Conference Papers**

11. Deep Collective Inference  
J. Moore and J. Neville  
*Proceedings of the 31<sup>st</sup> Conference on Artificial Intelligence (AAAI)*, 9 pages, 2017.  
(Acceptance rate: 21%)
12. Sampling of Attributed Networks from Hierarchical Generative Models  
P. Robles, S. Moreno, and J. Neville  
*Proceedings of the 22<sup>nd</sup> ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*,  
10 pages, 2016. (Acceptance rate: 9%)
13. Efficient Graphlet Counting for Large Networks  
N. Ahmed, J. Neville, R. Rossi, and N. Duffield.  
*Proceedings of the 15<sup>th</sup> IEEE International Conference on Data Mining (ICDM)*, 10 pages, 2015.  
(Acceptance rate: 8%)
14. Overcoming relational learning biases to accurately predict preferences in large scale networks  
J. Pfeiffer III, J. Neville, and P. Bennett  
*Proceedings of the 24<sup>th</sup> International World Wide Web Conference (WWW)*, 11 pages, 2015.  
(Acceptance rate: 14%)
15. Incorporating Assortativity and Degree Dependence into Scalable Network Models  
S. Mussmann, J. Moore, J. Pfeiffer III, and J. Neville  
*Proceedings of the 29<sup>th</sup> Conference on Artificial Intelligence (AAAI)*, 9 pages, 2015.  
(Acceptance rate: 12%)
16. Composite Likelihood Data Augmentation for Within-Network Statistical Relational Learning  
J. Pfeiffer III, J. Neville, and P. Bennett  
*Proceedings of the 14<sup>th</sup> IEEE International Conference on Data Mining (ICDM)*, 10 pages, 2014.  
(Acceptance rate: 10%)
17. A Scalable Method for Accurate Sampling from Kronecker Models  
S. Moreno, J. Pfeiffer III, and J. Neville  
*Proceedings of the 14<sup>th</sup> IEEE International Conference on Data Mining (ICDM)*, 10 pages, 2014.  
(Acceptance rate: 10%)
18. Active Exploration in Networks: Using Probabilistic Relationships for Learning and Inference  
J. Pfeiffer III, J. Neville, and P. Bennett  
*Proceedings of the 23<sup>rd</sup> ACM International Conference on Information and Knowledge Management (CIKM)*, 10 pages, 2014. (Acceptance rate: 21%)
19. Graph Sample and Hold: A Framework for Big-Graph Analytics  
N. Ahmed, N. Duffield, J. Neville, and R. Kompella  
*Proceedings of the 20<sup>th</sup> ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*,  
10 pages, 2014. (Acceptance rate: 15%)
20. Attributed Graph Models: Modeling network structure with correlated attributes  
J. Pfeiffer III, S. Moreno, T. La Fond, J. Neville, and B. Gallagher  
*Proceedings of the 23<sup>rd</sup> International World Wide Web Conference (WWW)*, 11 pages, 2014 (Acceptance rate: 13%)

21. Network Hypothesis Testing Using Mixed Kronecker Product Graph Models  
S. Moreno and J. Neville  
*Proceedings of the 13<sup>th</sup> IEEE International Conference on Data Mining (ICDM)*, 6 pages, 2013. (Acceptance rate: 19%)
22. Learning Mixed Kronecker Product Graph Models with Simulated Method of Moments  
S. Moreno, J. Neville and S. Kirshner  
*Proceedings of the 19<sup>th</sup> ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 9 pages, 2013. (Acceptance rate: 17%)
23. Collective Inference for Network Data with Copula Latent Markov Networks  
R. Xiang and J. Neville  
*Proceedings of the 6<sup>th</sup> ACM International Conference on Web Search and Data Mining (WSDM)*, 10 pages, 2013. (Acceptance rate: 19%)
24. Modeling Dynamic Behavior in Large Evolving Graphs  
R. Rossi, B. Gallagher, J. Neville and K. Henderson  
*Proceedings of the 6<sup>th</sup> ACM International Conference on Web Search and Data Mining (WSDM)*, 10 pages, 2013. (Acceptance rate: 19%)
25. An Analysis of How Ensembles of Collective Classifiers Improve Predictions in Graphs  
H. Eldardiry and J. Neville  
*Proceedings of the 21<sup>st</sup> ACM International Conference on Information and Knowledge Management (CIKM)*, 10 pages, 2012. (Acceptance rate: 13%)
26. Fast Generation of Large Scale Social Networks While Incorporating Transitive Closures  
J. Pfeiffer III, T. La Fond, S. Moreno, and J. Neville  
*Proceedings of the 4<sup>th</sup> ASE/IEEE International Conference on Social Computing (SocialCom)*, 12 pages, 2012. (Acceptance rate (full paper): 10%)
27. The Impact of Communication Structure and Interpersonal Dependencies on Distributed Teams  
T. La Fond, D. Roberts, J. Neville, J. Tyler, and S. Connaughton  
*Proceedings of the 4<sup>th</sup> ASE/IEEE International Conference on Social Computing (SocialCom)*, 8 pages, 2012. (Acceptance rate (short paper): 17%)
28. Network Sampling Designs for Relational Classification  
N. Ahmed, J. Neville, and R. Kompella  
*Proceedings of the 6<sup>th</sup> International AAAI Conference on Weblogs and Social Media (ICWSM)*, 4 pages, 2012. (Acceptance rate (short paper): 26%)
29. Time-Evolving Relational Classification and Ensemble Methods  
R. Rossi and J. Neville  
*Proceedings of the 16<sup>th</sup> Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, 12 pages, 2012. (Acceptance rate: 36%)
30. Structured Comparative Analysis of Systems Logs to Diagnose Performance Problems  
K. Nagaraj, C. Killian, and J. Neville.  
*Proceedings of the 9<sup>th</sup> USENIX Symposium on Networked Systems Design and Implementation (NSDI)*, 2012. (Acceptance rate: 18%)
31. Understanding Propagation Error and Its Effect on Collective Classification  
R. Xiang and J. Neville  
*Proceedings of the 11<sup>th</sup> IEEE International Conference on Data Mining*, 10 pages, 2011. (Acceptance rate (full paper): 12%)
32. Correcting Bias in Statistical Tests for Network Classifier Evaluation  
T. Wang, J. Neville, B. Gallagher, and T. Eliassi-Rad  
*Proceedings of the 21<sup>st</sup> European Conference on Machine Learning*, 16 pages, 2011, (Acceptance rate: 20%)

33. Relational Active Learning for Joint Collective Classification Models  
A. Kuwadekar and J. Neville  
*Proceedings of the 28<sup>th</sup> International Conference on Machine Learning*, 8 pages, 2011. (Acceptance rate: 25%)
34. Across-Model Collective Ensemble Classification  
H. Eldardiry and J. Neville  
*Proceedings of the 25<sup>th</sup> Conference on Artificial Intelligence*, 7 pages, 2011. (Acceptance rate: 25%)
35. Methods to Determine Node Centrality and Clustering in Graphs with Uncertain Structure  
J. Pfeiffer III and J. Neville  
*Proceedings of the 5<sup>th</sup> International AAAI Conference on Weblogs and Social Media*, 4 pages, 2011.
36. Relational Learning with One Network: An Asymptotic Analysis  
R. Xiang, J. Neville  
*Proceedings of the 14<sup>th</sup> International Conference on Artificial Intelligence and Statistics (AISTAT)*, 11 pages, 2011. (Oral presentation, acceptance rate: 8%)
37. ERACER: A Database Approach for Statistical Inference and Data Cleaning  
C. Mayfield, J. Neville, and S. Prabhakar  
*Proceedings of the 2010 ACM SIGMOD Conference*, 12 pages, 2010. (Acceptance rate: 19%)
38. Predicting Prex Availability in the Internet  
R. Khosla, S. Fahmy, C. Hu, and J. Neville  
*Proceedings of the 29<sup>th</sup> IEEE Conference on Computer Communications (INFOCOM) Mini-Conference*, 5 pages, 2010. (Acceptance rate: 24%)
39. Randomization tests for distinguishing social influence and homophily effects  
T. LaFond and J. Neville  
*Proceedings of the 19<sup>th</sup> International World Wide Web Conference (WWW)*, 10 pages, 2010. (Acceptance rate: 14%)
40. Modeling Relationship Strength in Online Social Networks  
R. Xiang, J. Neville, and M. Rogati  
*Proceedings of the 19<sup>th</sup> International World Wide Web Conference (WWW)*, 10 pages, 2010. (Acceptance rate: 14%)
41. Using Transactional Information to Predict Link Strength in Online Social Networks  
I. Kahanda and J. Neville  
*Proceedings of the the 3<sup>rd</sup> Int'l AAAI Conference on Weblogs and Social Media*. 8 pages 2009.
42. Evaluating Statistical Tests for Within-Network Classifiers of Relational Data.  
J. Neville, B. Gallagher, and T. Eliassi-Rad. **Best Paper Award Runner-Up**  
*Proceedings of the 9<sup>th</sup> IEEE International Conference on Data Mining*, 10 pages, 2009. (Acceptance rate (full paper): 9%)
43. Temporal-Relational Classifiers for Prediction in Evolving Domains.  
U. Sharan and J. Neville  
*Proceedings of the 8<sup>th</sup> IEEE International Conference on Data Mining*, 10 pages, 2008. (Acceptance rate (full paper): 10%)
44. A Shrinkage Approach for Modeling Non-Stationary Relational Autocorrelation.  
P. Angin and J. Neville  
*Proceedings of the 8<sup>th</sup> IEEE International Conference on Data Mining*, 6 pages, 2008. (Acceptance rate (short paper): 20%)
45. Pseudolikelihood EM for Within-Network Relational Learning.  
R. Xiang and J. Neville

- Proceedings of the 8<sup>th</sup> IEEE International Conference on Data Mining*, 6 pages, 2008. (Acceptance rate (short paper): 20%)
46. Database support for probabilistic attributes and tuples.  
S. Singh, C. Mayfield, R. Shah, S. Prabhakar, S. Hambrusch, J. Neville, R. Cheng.  
*The 24<sup>th</sup> International Conference on Data Engineering*, 9 pages, 2008. (Acceptance rate: 19%)
  47. Bias/Variance Analysis for Relational Domains.  
J. Neville and D. Jensen.  
*The 17<sup>th</sup> International Conference on Inductive Logic Programming, Lecture Notes in Artificial Intelligence 4894*, pages 27-28, 2007. (Acceptance rate: 34%)
  48. Leveraging Relational Autocorrelation with Latent Group Models.  
J. Neville and D. Jensen.  
*Proceedings of the 5<sup>th</sup> IEEE International Conference on Data Mining*, pages 322-329, 2005. (Acceptance rate: 11%)
  49. Using Relational Knowledge Discovery to Prevent Securities Fraud.  
J. Neville, O. Simsek, D. Jensen, J. Komoroske, K. Palmer and H. Goldberg.  
*Proceedings of the 11<sup>th</sup> ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, pages 449-458, 2005. (Acceptance rate: 19%)
  50. Dependency Networks for Relational Data.  
J. Neville and D. Jensen.  
*Proceedings of the 4<sup>th</sup> IEEE International Conference on Data Mining*, pages 170-177, 2004. (Acceptance rate: 9%)
  51. Why Collective Inference Improves Relational Classification.  
D. Jensen, J. Neville and B. Gallagher.  
*Proceedings of the 10<sup>th</sup> ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, pages 593-598, 2004. (Acceptance rate: 25%)
  52. Simple Estimators for Relational Bayesian Classifiers.  
J. Neville, D. Jensen and B. Gallagher.  
*Proceedings of the 3<sup>rd</sup> IEEE International Conference on Data Mining*, pages 609-612, 2003. (Acceptance rate: 23%)
  53. Learning Relational Probability Trees.  
J. Neville, D. Jensen, L. Friedland and M. Hay.  
*Proceedings of the 9<sup>th</sup> ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, pages 625-630, 2003. (Acceptance rate: 27%)
  54. Avoiding Bias When Aggregating Relational Data with Degree Disparity.  
D. Jensen, J. Neville and M. Hay.  
*Proceedings of the 20<sup>th</sup> International Conference on Machine Learning*, pages 274-281, 2003. (Acceptance rate: 32%)
  55. Autocorrelation and Linkage Cause Bias in Evaluation of Relational Learners.  
D. Jensen and J. Neville.  
*Proceedings of the 12<sup>th</sup> International Conference on Inductive Logic Programming*, pages 101-116, 2002. (Acceptance rate: 54%)
  56. Linkage and Autocorrelation Cause Feature Selection Bias in Relational Learning.  
D. Jensen and J. Neville.  
*Proceedings of the 19<sup>th</sup> International Conference on Machine Learning*, pages 259-266, 2002. (Acceptance rate: 33%)

### **Referred Workshop Papers**

57. Deep Dynamic Relational Classifiers: Exploiting Dynamic Neighborhoods in Complex Networks  
H. Park, J. Moore, and J. Neville  
*Proceedings of the Mining Actionable Insights from Social Networks Workshop*, WSDM, 7 pages, 2017.
58. Online Spike-and-slab Inference with Stochastic Expectation Propagation  
S. Zhe, K. Lee, K. Zhang, and J. Neville  
*Proceedings of the 2016 Workshop on Advances in Approximate Bayesian Inference*, NIPS, 2016.
59. Generating Local Explanations of Network Anomalies via Score Decomposition  
T. La Fond, J. Neville, and B. Gallagher  
*Proceedings of the ODD 4.0: Outlier Definition, Detection, and Description on Demand*, KDD, 6 pages, 2016.
60. Investigating the Impact of Graph Structure and Attribute Correlation on Collective Classification Performance  
G. Zeno and J. Neville  
*Proceedings of the 13<sup>th</sup> Workshop on Mining and Learning with Graphs*, KDD, 8 pages, 2016.
61. Combining Gradient Boosting Machines with Collective Inference to Predict Continuous Values  
I. Alodah and J. Neville  
*Proceedings of the 6<sup>th</sup> International Workshop on Statistical Relational AI*, IJCAI, 7 pages, 2016.
62. Better Together: Combining Language and Social Interactions into a Shared Representation  
Y. Lai, C. Li, D. Goldwasser, and J. Neville  
*Proceedings of the TextGraphs 2016*, (NAACL), 5 pages, 2016.
63. Analyzing the Transferability of Collective Inference Models Across Networks  
R. Niu, S. Moreno and J. Neville  
*Proceedings of the International Workshop on Information Analysis and Data Mining Over Social Network*, (ICDM), 9 pages, 2015.
64. Using Bayesian Network Representations for Effective Sampling from Generative Network Models  
P. Robles, S. Moreno, and J. Neville  
*Proceedings of the 5<sup>th</sup> International Workshop on Statistical Relational AI*, UAI, 6 pages, 2015.
65. Assortativity in Chung Lu Random Graph Models  
S. Mussmann, J. Moore, J. Pfeiffer III, and J. Neville  
*Proceedings of the 8th SNA-KDD Workshop*, KDD, 8 pages, 2014.
66. Anomaly Detection in Networks with Changing Trends  
T. La Fond, J. Neville, and B. Gallagher  
*Proceedings of the Outlier Detection & Description under Data Diversity Workshop*, KDD, 10 pages, 2014.
67. Block Kronecker Product Graph Models  
S. Moreno, P. Robles, and J. Neville  
*Proceedings of the 11<sup>th</sup> Workshop on Mining and Learning with Graphs*, KDD, 6 pages, 2013.
68. Combining Active Sampling with Parameter Estimation and Prediction in Single Networks  
J. Pfeiffer III, J. Neville, and P. Bennett  
*Proceedings of the Structured Learning: Inferring Graphs from Structured and Unstructured Inputs Workshop*, ICML, 6 pages, 2013.
69. Space-Efficient Sampling from Social Activity Streams  
N. Ahmed, J. Neville, and R. Kompella  
Space-Efficient Sampling from Social Activity Streams. *Proceedings of the 1<sup>st</sup> International Workshop on Big Data, Streams and Heterogeneous Source Mining*, KDD, 8 pages, 2012.

70. Using Latent Communication Styles to Predict Individual Characteristics  
J. Bates, J. Neville, and J. Tyler  
*Proceedings of the 3<sup>rd</sup> Workshop on Social Media Analytics, KDD*, 8 pages, 2012.
71. Active Sampling of Networks  
J. Pfeiffer III, J. Neville, and P. Bennett  
*Proceedings of the 10<sup>th</sup> Workshop on Mining and Learning with Graphs, ICML*, 8 pages, 2012.
72. On the Mismatch Between Learning and Inference for Single Network Domains  
R. Xiang and J. Neville  
*Proceedings of the Workshop on Infering: Interactions between Inference and Learning, ICML*, 6 pages, 2012.
73. Role-Dynamics: Fast Mining of Large Dynamic Networks  
R. Rossi, Brian Gallagher, J. Neville, and Keith Henderson  
*Proceedings of the 1<sup>st</sup> International Workshop on Large Scale Network Analysis, WWW*, 9 pages, 2012.
74. Understanding Propagation Error and Its Effect on Collective Classification  
R. Xiang and J. Neville  
*Proceedings of the 9th Workshop on Mining and Learning with Graphs, KDD*, 8 pages, 2011.
75. Modeling the Variance of Network Populations with Mixed Kronecker Product Graph Models  
S. Moreno and J. Neville and S. Kirshner and S.V.N. Vishwanathan. **Most Promising Paper Award**  
*Proceedings of the Workshop on Analyzing Networks and Learning with Graphs, NIPS*, 8 pages, 2010.
76. Reconsidering the Foundations of Network Sampling  
N. Ahmed, J. Neville, and R. Kompella  
*Proceedings of the 2nd Workshop on Information in Networks*, 5 pages, 2010.
77. Time-Based Sampling of Social Network Activity Graphs  
N. Ahmed, F. Berchmans, J. Neville, and R. Kompella  
*Proceedings of the 8th Workshop on Mining and Learning with Graphs, KDD*, 8 pages, 2010.
78. Multi-Network Fusion for Collective Inference  
H. Eldardiry and J. Neville  
*Proceedings of the 8th Workshop on Mining and Learning with Graphs, KDD*, 8 pages, 2010.
79. Probabilistic Paths and Centrality in Time  
J. Pfeiffer III and J. Neville  
*Proceedings of the 4th SNA-KDD Workshop, KDD*, 8 pages, 2010.
80. Combining Semi-supervised Learning and Relational Resampling for Active Learning in Network Domains  
A. Kuwadekar and J. Neville. **Best Paper Award**  
*Proceedings of the Budgeted Learning Workshop, ICML*, 8 pages, 2010.
81. Modeling the Evolution of Discussion Topics and Communication to Improve Relational Classification  
R. Rossi and J. Neville  
*Proceedings of the 1st Workshop on Social Media Analytics, KDD*, 8 pages, 2010.
82. GDR: A System for Guided Data Repair  
M. Yakout, A. Elmagarmid, J. Neville, M. Ouzzani  
*Demonstration in the 2010 ACM SIGMOD Conference (SIGMOD)*, 3 pages, 2010.
83. Ranking for Data Repairs  
M. Yakout, A. Elmagarmid, and J. Neville  
*Proceedings of the 4<sup>th</sup> International Workshop on Ranking in Databases, ICDE*, 6 pages, 2010.



84. Modeling Relationship Strength in Online Social Networks.  
R. Xiang and J. Neville  
*Proceedings of the Workshop on Analyzing Networks and Learning with Graphs, NIPS*, 8 pages, 2009.
85. An Investigation of the Distributional Characteristics of Generative Graph Models.  
S. Moreno and J. Neville.  
*Proceedings of the the 1<sup>st</sup> Workshop on Information in Networks*, 5 pages, 2009.
86. A Shrinkage Approach for Modeling Non-Stationary Relational Autocorrelation.  
P. Angin and J. Neville.  
*Proceedings of the 2<sup>nd</sup> Social Network Analysis Workshop, KDD*, 6 pages, 2008.
87. A Resampling Technique for Relational Data Graphs.  
H. Eldardiry and J. Neville.  
*Proceedings of the 2<sup>nd</sup> Social Network Analysis Workshop, KDD*, 6 pages, 2008.
88. Pseudolikelihood EM for Within-Network Relational Learning.  
R. Xiang and J. Neville  
*Proceedings of the 2<sup>nd</sup> Social Network Analysis Workshop, KDD*, 8 pages, 2008.
89. Exploiting Time-Varying Relationships in Statistical Relational Models.  
U. Sharan and J. Neville.  
*Proceedings of the 1<sup>st</sup> Social Network Analysis KDD Workshop, KDD*, 7 pages, 2007.
90. Bias/Variance Analysis for Network Data.  
J. Neville and D. Jensen.  
*Proceedings of the Workshop on Statistical Relational Learning, ICML*, 8 pages, 2006.
91. Structure Learning for Statistical Relational Models.  
J. Neville.  
*Proceedings of the 20<sup>th</sup> National Conference on Artificial Intelligence (Doctoral Consortium)*, pages 1656-1657, 2005.
92. Autocorrelation and Relational Learning: Challenges and Opportunities.  
J. Neville, O. Simsek and D. Jensen.  
*Proceedings of the Workshop on Statistical Relational Learning, ICML*, 8 pages, 2004.
93. Collective Classification with Relational Dependency Networks. J. Neville and D. Jensen.  
*Proceedings of the 2<sup>nd</sup> Multi-Relational Data Mining Workshop, KDD*, pages 77-91, 2003.
94. Statistical Relational Learning: Four Claims and a Survey.  
J. Neville, M. Rattigan and D. Jensen.  
*Proceedings of the Workshop on Learning Statistical Models from Relational Data, IJCAI*, 5 pages, 2003.
95. Clustering Relational Data Using Attribute and Link Information.  
J. Neville, M. Adler and D. Jensen.  
*Proceedings of the Text Mining and Link Analysis Workshop, IJCAI*, 6 pages, 2003.
96. Schemas and Models.  
D. Jensen and J. Neville.  
*Proceedings of the Multi-Relational Data Mining Workshop, KDD*, 15 pages, 2002.
97. Supporting Relational Knowledge Discovery: Lessons in Architecture and Algorithm Design.  
J. Neville and D. Jensen.  
*Proceedings of the Data Mining Lessons Learned Workshop, ICML*, pages 57-64, 2002.

98. Correlation and Sampling in Relational Data Mining.  
D. Jensen and J. Neville.  
*Proceedings of the 33<sup>rd</sup> Symposium on the Interface of Computing Science and Statistics*, 14 pages, 2001.
99. Iterative Classification in Relational Data.  
J. Neville and D. Jensen.  
*Proceedings of the Workshop on Learning Statistical Models from Relational Data, AAAI*, pages 42-49, 2000.

### ***Book Chapters***

100. Relational Dependency Networks.  
J. Neville and D. Jensen.  
*Introduction to Statistical Relational Learning*, L. Getoor and B. Taskar, editors, pages 239-268, 2007.

### ***Invited Papers***

101. Tied Kronecker Product Graph Models to Capture Variance in Network Populations  
S. Moreno and S. Kirshner and J. Neville and S.V.N. Vishwanathan  
*Proceedings of the 48th Annual Allerton Conference on Communications, Control and Computing*, 8 pages, 2010.
102. Data Mining in Social Networks.  
D. Jensen and J. Neville.  
*National Academy of Sciences Symposium on Dynamic Social Network Analysis*, 13 pages, 2002.

### ***Technical Reports***

103. Network Sampling via Edge-based Node Selection with Graph Induction.  
N. Ahmed, J. Neville, R. Kompella.  
Purdue University, CSD TR 11-0016, 2011.
104. Spectral Clustering with Links and Attributes.  
J. Neville, M. Adler and D. Jensen.  
University of Massachusetts Amherst, Technical Report 04-42, 2004.
105. Randomization Tests for Relational Learning.  
D. Jensen, J. Neville and M. Rattigan.  
University of Massachusetts Amherst, Technical Report 03-05, 2003.

### **Invited Presentations**

- AI-Easy vs AI-Hard (**invited speaker**), Dawn or Doom Symposium, Purdue University, West Lafayette, IN, 2016.
- Statistical methods for modeling network distributions (**invited keynote talk**),  
*Workshop on Mining and Learning from Graphs*, KDD, San Francisco, CA, 2016.
- Statistical methods for modeling network distributions, *MIT Lincoln Laboratory*, Boston, MA, 2016.
- AI-Easy vs AI-Hard: Machine learning and its impact on the development of AI systems (**invited speaker**),  
Purdue Student Pugwash Midwest Regional Conference, West Lafayette, IN, 2016.
- Network machine learning: How to exploit relationships to improve node-level predictions (**invited speaker**),  
Institute of Science and Technology Austria, Young Scientist Symposium, Klosterneuburg, Austria, 2016.

Statistical methods for modeling network distributions (**invited speaker**), Mathematical Biosciences Institute Workshop on Generalized Network Structures and Dynamics, Columbus, Ohio, 2016.

Learning in networks: How to exploit relationships to improve predictions (**distinguished lecture**), Max Planck Institute for Informatics, Saarbrücken, Germany, 2016.

Exploiting User Relationships to Accurately Predict Preferences in Large Scale Networks (**invited speaker**), Netflix Workshop on Personalization, Recommendations, and Search, Los Gatos, CA, 2016.

Learning How to Transfer Collective Classification Models Across Networks (**invited speaker**), Santa Fe Institute Workshop: Inference on Networks, Santa Fe, New Mexico, 2015.

Collective Classification in Large-Scale Networks (**invited tutorial**), *Data Science and Advanced Analytics* (DSAA-15), Paris, France, 2015.

Sampling Attributed Networks From Generative Graph Models (**invited speaker**) Workshop on Information in Networks (WIN), New York, NY, 2015.

Network machine learning: How to use friends to your advantage algorithmically, 2<sup>nd</sup> European Network Intelligence Conference (**invited keynote**), Karlskrona, Sweden, 2016.

Machine learning methods for accurate estimation and prediction in partially-labeled complex networks, Skytree, San Jose, CA, 2015.

Network Sampling: Methods and Applications (**tutorial**), with Mohammad Al Hasan and Nesreen Ahmed, *SIAM International Conference on Data Mining* (SDM-15), Vancouver, Canada, 2015.

An introduction to big data: Opportunities for CS/AG collaborations, Purdue Big Data in Agriculture Seminar Series, West Lafayette, IN, 2015.

Predicting user behavior in networks: The impact of structure on machine learning methods, Indiana University, Bloomington, IN, 2014.

Predicting user behavior in networks: The impact of structure on machine learning methods. Data, Society, and Inference Seminar, *Stanford University*, Palo Alto, CA, 2014.

Predictive modeling for online social networks: Machine learning methods for networks (**invited speaker**), Westwood Colloquium, Purdue University, West Lafayette, IN, 2014.

Are we too smart for our own good? How large-scale machine learning systems can vastly exceed human level decision-making abilities (**invited speaker**), Dawn or Doom: The New Technology Explosion, Purdue University, West Lafayette, IN, 2014.

How to Exploit Network Properties to Improve Learning in Relational Domains, IBM Thomas J Watson Research Center, Yorktown Heights, NY, 2014.

Prediction in complex networks: The impact of structure on learning and inference (**invited keynote**), 27th International Conference of the Florida Artificial Intelligence Research Society, Pensacola, FL, 2014.

How to learn from a single network to support classification and hypothesis testing in graphs, iCeNSA Seminar, *Notre Dame*, Notre Dame, IN, 2014.

Strengthening Computer Science, with Sunil Prabhakar, *Purdue President's Council*, Mollenkopf/Keyes Weekend, Naples, FL, 2014.

Network Sampling: Methods and Applications (**tutorial**), with Mohammad Al Hasan and Nesreen Ahmed, *International Conference on Data Mining* (ICDM-13), Dallas, TX, 2013.

Prediction in complex networks: The impact of structure on learning and inference (**invited keynote**), Women in Machine Learning Workshop, NIPS 2013, Lake Tahoe, CA, 2013.

Supporting hypothesis testing over graphs (**invited speaker**),  
 Workshop on the Frontiers of network analysis: Methods, models, and applications, NIPS 2013, Lake Tahoe, CA, 2013.

Prediction in complex networks: The impact of structure on learning and inference,  
 RAIN Seminar, *Stanford University*, Stanford, CA, 2013.

The impact of network structure on relational learning and inference,  
 Simons Institute, *University California Berkeley*, Berkeley, CA, 2013.

Purdue Moves: Growth in Computer Science, with Sunil Prabhakar,  
*President's Forum*, Purdue University, November 2013.

How to learn from a single network to support classification and hypothesis testing in graphs,  
*SRI International*, Menlo Park, CA, 2013.

How to learn from a single network to support classification and hypothesis testing in graphs,  
*Facebook*, Menlo Park, CA, 2013.

Prediction in complex networks: The impact of structure on learning and inference,  
*PARC*, Palo Alto, CA, 2013.

Prediction in complex networks: The impact of structure on learning and inference,  
 Neyman Seminar, *University of California Berkeley*, Berkeley, CA, 2013.

Machine learning methods for diagnosis, maintenance, and repair of data,  
 AMP Lab, *University California Berkeley*, Berkeley, CA, 2013.

Prediction in complex networks: The impact of structure on learning and inference,  
*Google*, Mountain View, CA, 2013.

How to learn from a single network to support classification and hypothesis testing in graphs,  
*Sandia National Laboratory*, Livermore, CA, 2013.

Network Sampling: Methods and Applications (**tutorial**), with Mohammad Al Hasan and Nesreen Ahmed,  
*International Conference on Knowledge Discovery and Data Mining (KDD-13)*, Chicago, IL, 2013.

Supporting Statistical Hypothesis Testing over Graphs, (**invited session**)  
 Statistical Inference for Networks, *2013 Joint Statistical Meetings (JSM)*, Montreal, QC, Canada, 2013.

Supporting Statistical Hypothesis Testing over Graphs, (**invited speaker**)  
*International Conference on Network Science (NetSci)*, Copenhagen, Denmark, 2013.

Mining Social Network Activity to Understand and Predict User Behavior,  
*Smith College*, Northampton, MA, 2013.

Prediction in complex networks: The impact of structure on learning and inference, (**invited speaker**)  
 Graph Exploitation Symposium, MIT Lincoln Laboratory, MA, 2013.

Prediction in complex networks: The impact of structure on learning and inference,  
 Statistics Department Colloquia, *Carnegie Mellon University*, Pittsburgh, PA, 2013.

Active Exploration in Networks,  
*CSoI Big Data Workshop*, Honolulu, HI, 2013.

Prediction in complex networks: The impact of structure on learning and inference,  
 Computer Science Colloquia, *University of Alberta*, Edmonton, AB, Canada, 2013.

Prediction in complex networks: The impact of structure on learning and inference,  
*Microsoft Research*, Redmond, WA, 2012.

How to learn from a single network: Statistical relational learning for social network domains,  
Computer Science Colloquia, *University of Maryland College Park*, College Park, MD, 2012.

Prediction in complex networks: The impact of structure on learning and inference,  
Computer Science Colloquia, *Ohio State University*, Columbus, OH, 2012.

How to learn from a single network: Statistical relational learning for social network domains,  
Statistics Colloquia, *Columbia University*, New York, NY, 2012.

Prediction in complex networks: The impact of structure on learning and inference, (**invited speaker**)  
Workshop on Information in Networks (WIN), New York, NY, 2012.

How to learn from a single network: Relational learning for social networks, (**invited speaker**)  
Workshop on Machine Learning: Theory and Computation, *Institute for Mathematics and Its Applications* (IMA), Minnesota, MN, 2012.

Supporting Statistical Hypothesis Testing Over Graphs, (**invited speaker**)  
Workshop on Network Links: Connecting Social, Communication & Biological Network Analysis, *Institute for Mathematics and Its Applications* (IMA), Minnesota, MN, 2012.

How to learn from a single network: Statistical relational learning for social network domains,  
Computer Science Colloquia, *Duke University*, Durham, NC, 2011.

How to learn from one sample? Statistical relational learning for single network domains,  
AI Seminar, *University of Texas Austin*, Austin, TX, 2011.

Modeling online social networks to understand and predict user behavior,  
IROM Seminar, *McCombs School of Business*, Austin, TX, 2011.

Understanding the Effects of Collective Classification on Learning and Inference (**invited keynote talk**),  
*Workshop on Collective Learning and Inference for Structured Data*, ECML, Athens, Greece, 2011.

Mining Social Network Activity to Understand and Predict User Behavior (**invited keynote talk**),  
*Workshop on Enriching Information Retrieval*, SIGIR, Beijing, China, 2011.

Modeling Complex Social Networks: Challenges and Opportunities for Statistical Learning and Inference,  
(**invited speaker**), *Machine Learning Summer School*, Purdue, West Lafayette, IN, 2011.

Modeling Complex Social Networks: Challenges and Opportunities for Statistical Learning and Inference,  
(**invited speaker**), *Science of Information Summer School*, Purdue, West Lafayette, IN, 2011.

Statistical Relational Learning in Single Network Domains,  
PRiML Seminar, *University of Pennsylvania*, Philadelphia, PA, 2011.

Modeling and Mining Social Networks,  
Fantastic Lectures in Computer Science Series, *Bryn Mawr College*, Bryn Mawr, PA, 2011.

Hypothesis testing methods for social network mining,  
AI Seminar, *Information Sciences Institute*, Marina Del Ray, CA, 2010.

Hypothesis testing methods for social network mining,  
Neyman Seminar, *University of California Berkeley*, Berkeley, CA, 2010.

Hypothesis testing methods for social network mining,  
IS Research Seminar, *New York University Stern School of Business*, New York, NY, 2010.

Capturing the Natural Variability of Real Networks with Kronecker Product Graph Models,  
*Sandia National Laboratory*, Livermore, CA, 2010.

Evaluation Strategies for Network Classification Models (**invited keynote talk**),  
*Workshop on Mining and Learning from Graphs*, KDD, Washington, DC, 2010.

Evaluation Strategies for Network Classification Models,  
*University of Maryland College Park*, College Park, MD, 2010.

Modeling Relationship Strength in Online Social Networks,  
*IUPUI*, Indianapolis, IN, 2010.

Modeling Relationship Strength in Online Social Networks,  
 DAIS Seminar, *University of Illinois Urbana-Champaign*, Urbana, IL, 2010.

Predictive Modeling with Social Networks (**invited tutorial**), with Foster Provost,  
*International Conference on Weblogs and Social Media (ICWSM-09)*, San Jose, CA, 2009.

Social Network Mining (tutorial), with Foster Provost,  
*International Conference on Knowledge Discovery and Data Mining (KDD-08)*, Henderson, NV, 2008.

Social Network Mining (**invited tutorial**), with Foster Provost,  
*National Conference on Artificial Intelligence (AAAI-08)*, Chicago, IL, 2008.

Exploiting Temporal Variations in Relational Domains,  
*Lawrence Livermore National Laboratory*, Livermore, CA, 2008.

Exploiting Temporal Variations in Relational Domains,  
*University of Maryland College Park*, College Park, MD, 2008.

Statistical Models for Learning and Inference in Complex Relational Domains.  
*National Security Agency*, Fort Meade, MD, 2007.

Leveraging Autocorrelation with Latent Group Models.  
 Auton Lab, School of Computer Science, *Carnegie Mellon University*, Pittsburgh, PA, 2005.

Leveraging Autocorrelation with Latent Group Models.  
 Dagstuhl Seminar on Probabilistic, Logical and Relational Learning: Towards a Synthesis. *Schloss  
 Dagstuhl*, Wadern, Germany, 2005.

Knowledge Discovery with Relational Dependency Networks.  
 Weekly Computer Science Colloquium, *Williams College*, Williamstown, MA, 2004.

Dependency Networks for Relational Data.  
*The Boeing Company*, Phantom Works, Mathematics & Computing Technology Unit, Seattle, WA,  
 2004.

Collective Classification with Relational Dependency Networks (*poster*).  
 DARPA IPTO Cognitive Systems Conference, Washington, DC, 2003.

Knowledge Discovery in Networks.  
 Talent Advancement Program Seminar, Computer Science Department, University of Massachusetts,  
 Amherst, MA, 2003.

Clustering Relational Data (*poster*).  
 Grace Hopper Celebration of Women in Computing, Vancouver, BC, 2002.

Data Mining in Networks.  
 International Sunbelt Social Network Conference XXII, New Orleans, LA, 2002.

## Sponsored Research<sup>1</sup>

### *Transfer Learning Within & Across Networks for Collective Classification*

NSF/CISE/IIS, Primary Investigator  
\$495,308 (100% of total), 07/01/16 - 06/30/19

### *Models, Algorithms, and Software for Spatial-Relational Networks*

NSF/CISE/IIS, co-Primary Investigator  
\$300,000 (33% of total), 09/01/15 - 08/31/19

### *Frontiers of Science of Information*

NSF/Science & Technology Center, Senior Personnel  
*approx.* \$200,000 (0.8% of total), 08/01/15 - 07/31/20

### *A Heterogeneous Inference Framework for 3D Modeling and Rendering of Sites*

NSF/CISE/CVG, co-Primary Investigator  
\$297,782 (50% of total), 07/01/13 - 06/30/16

### *Parametric Statistical Models to Support Statistical Hypothesis Testing over Graphs*

NSF/CISE/IIS, co-Primary Investigator  
\$245,920 (25% of total), 09/01/12 - 08/31/15

### *Career: Machine Learning Methods and Statistical Analysis Tools for Single Network Domains*

NSF/CISE/IIS, Primary Investigator  
Amount: \$496,638 (100% of total), 01/01/12 - 12/31/16

### *Toward Intrusion Tolerant Clouds*

DARPA/I2O, co-Primary Investigator (subcontract from Johns Hopkins)  
\$367,028 (9% of total), 11/01/11 - 10/31/15

### *Modeling Tools to Support Advanced Analysis of Multi-Source Network Data*

IARPA/KDD, co-Primary Investigator (subcontract from SAIC)  
\$563,950 (5% of total), 11/01/10 - 01/31/15

### *Sampling and Modeling Dynamic Streaming Networks*

CISCO, co-Primary Investigator  
\$102,076 (50% of total), 02/07/11 - 02/07/99

### *Towards Better Modeling of Communication Activity Dynamics in Large-Scale Online Social Networks*

NSF/CISE/NETSE, Primary Investigator  
\$248,226 (50% of total), 09/01/10 - 08/31/13

### *Emerging Frontiers of Science of Information*

NSF/Science & Technology Center, Senior Personnel  
*approx.* \$200,000 (0.8% of total), 08/01/10 - 07/31/15

### *Algorithms for Sampling Similar Graphs Using Subgraph Signatures*

NSF/CISE/IIS, co-Primary Investigator  
\$164,846 (33% of total), 09/01/09 - 08/31/11

### *Machine Learning Techniques to Model the Impact of Relational Communication on Distributed Team Effectiveness*

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<sup>1</sup>Reported amounts reflect Neville's share of multi-PI grants.

NSF/SES/IOS, Primary Investigator  
\$205,311 (50% of total), 09/01/08 - 08/31/11

*MAASCOM: Modeling, Analysis, and Algorithms for Stochastic Control of Multi-Scale Networks*

ARO/MURI, co-Primary Investigator (subcontract from Ohio State)  
\$250,000 (5% of total), 5/29/08–10/28/08

*Fusion and Analysis of Multi-Source Relational Data*

DARPA/ISO, Primary Investigator  
\$499,877 (100% of total), 06/23/08–06/22/10

*Learning Compositional Simulation Models*

IARPA/Proactive Intelligence, co-Primary Investigator (subcontract from UMass)  
\$122,217 (33% of total), 04/01/07–02/09/09

*Mining Transaction Streams to Infer Semantic Relations*

Microsoft, Primary Investigator  
\$50,000 (100% of total), 06/01/07–06/01/99

*Statistical Models and Algorithms to Improve Decision-Making in Relational Domains*

DARPA/ISO, Primary Investigator  
\$100,000 (100% of total), 04/01/07–12/31/07

## **Service**

Program committee chair

ACM International Conference on Web Search and Data Mining (WSDM): 2016

Associate chair

International Joint Conference on Artificial Intelligence (IJCAI), Machine Learning Track: 2015

National Conference on Artificial Intelligence (AAAI), Machine Learning Track: 2013

Area chair

ACM International Conference on Knowledge Discovery and Data Mining (KDD): 2016, 2017

ACM International Conference on on Web Search and Data Mining (WSDM): 2013, 2014

International Conference on Machine Learning (ICML): 2011, 2015

International Joint Conference on Artificial Intelligence (IJCAI), 2016

National Conference on Artificial Intelligence (AAAI): 2014

Neural Information Processing Systems (NIPS): 2014, 2017

IEEE International Conference on Data Mining (ICDM): 2014, 2015

SIAM conference on Data Mining (SDM): 2013, 2014

Program committees

ACM International Conference on Knowledge Discovery and Data Mining (KDD): 2008-2012, 2014

European Conference on Machine Learning (ECML/PKDD): 2007, 2008, 2012

IEEE International Conference on Data Mining (ICDM): 2007, 2009-2012

International Conference on Artificial Intelligence and Statistics (AISTATS): 2009, 2011

International Conference on Inductive Logic Programming (ILP): 2007

International Conference on Machine Learning (ICML): 2006, 2008-2012, 2016



International Joint Conference on Artificial Intelligence (IJCAI): 2009  
International World Wide Web Conference (WWW): 2011  
National Conference on Artificial Intelligence (AAAI): 2006-2008, 2012  
Neural Information Processing Systems (NIPS): 2012  
SIAM Conference on Data Mining (SDM), 2006

Journal editorial boards

Journal of Artificial Intelligence Research, 2010-2013  
Machine Learning Journal, 2011-present  
Data Mining and Knowledge Discovery, 2014-present

Journal reviewing

Journal of Machine Learning Research  
Machine Learning Journal  
Transactions on Knowledge Discovery  
Data Mining and Knowledge Discovery Journal

Proposal reviewing

NSF Expeditions Blue Ribbon Panel, 2015  
NSF Information & Intelligent Systems Panel, 2005, 2008, 2010-2016  
NSF Information & Intelligent Systems CAREER Panel, 2012, 2016  
NASA Earth Science Technology Office Proposals, 2005

Conference/workshop organization

Best Paper Award Committee Chair: ACM International Conference on Knowledge Discovery and Data Mining (KDD): 2017  
Best Paper Award Committee: ACM International Conference on Knowledge Discovery and Data Mining (KDD): 2015  
Co-Chair: Unifying Theory and Experiment for Large-Scale Networks, Simons Institute, UC Berkeley, CA: 2014  
Dissertation Award Committee: ACM International Conference on Knowledge Discovery and Data Mining (KDD): 2011-2013  
Organizer: Unconventional WSDM: Working Group on Gender Diversity, at Web Search and Data Mining (WSDM): 2013  
Organizer: Machine Learning Summer School, Purdue: 2011  
Panelist: White House Office of Science and Technology Policy, Workshop on AI and Social Good, 2016  
PC Co-Chair: 4th ACM SIGSPATIAL International Workshop on Location-Based Social Networks (LBSN): 2012  
PC Co-Chair and Organizer: 9<sup>th</sup> Workshop on Mining and Learning with Graphs (MLG): 2011  
Session organizer: Statistical Issues with Modeling of Networks, 8th International Purdue Symposium on Statistics: 2012  
Tutorial Chair: ACM International Conference on Knowledge Discovery and Data Mining (KDD): 2012, 2015  
Tutorial Chair: International Conference on Machine Learning (ICML): 2009, 2015  
Treasurer: International Machine Learning Society (IMLS): 2009-2013

## Outreach

CS197: *Topics in Computer Sciences (Honors)*, 2008, 2010, 2012  
CS291: *Sophomore Development Seminar*, 2008  
CS591C: *Research Seminar for Graduate Students*, 2006, 2007, 2008, 2010  
MA108: *Mathematics as a Profession and a Discipline*, 2006  
STAT VIGRE Seminar: *Exploring Statistical Sciences Research*, 2006, 2008, 2010  
College of Science Woman for Purdue event, 2010  
College of Science Alumni Board Meeting, 2010  
CSWN events with women faculty, 2008, 2010  
Purdue President and Provost, Tour of the College of Science, 2010  
STAR lunches with incoming freshman, 2009  
Undergrad Research Bonanza, 2009  
Women in CS Career Day: *Purdue CS outreach event for high school girls*, 2008, 2009, 2010  
Diversity and Inclusion Symposium, Panel Moderator, Purdue University, 2014  
Purdue Conference for Pre-Tenure Women, Mentor, 2014  
TechPoint Indianapolis: Dawn or Doom Panel, 2015  
Purdue Faculty Search Committee OIE Facilitator, 2014-2016

## Professional societies

Association for the Advancement of Artificial Intelligence (AAAI)  
Association for Computing Machinery (ACM)  
ACM Special Interest Group on Knowledge Discovery and Data Mining (SIGKDD)  
Institute of Electrical and Electronics Engineers (IEEE)  
International Machine Learning Society (IMLS)  
Sigma Xi

## Teaching/Students

### Course Development

Development of graduate data mining course, with Chris Clifton (2007)  
Development of undergraduate artificial intelligence course (2008)  
Development of joint MS program for CS/Stat, with Sergey Kirshner (2009-10)  
Development of undergrad machine learning course for Machine Intelligence track (2011)  
Development of undergrad major in Data Science, with Susanne Hambrusch (2016)

### Teaching

*Web Information Search and Management*, Undergraduate Course, CS — Fall 2016  
*Data Mining and Machine Learning*, Undergraduate Course, CS — Spring 2012, 2013, 2014, Fall 2015  
*Data Structures and Algorithms*, Undergraduate Course, CS — Spring 2011  
*Data Mining*, Graduate Course, CS/STAT (cross-listed) — Fall 2010, Spring 2009, Fall 2007, Fall 2012, Spring 2015  
*Artificial Intelligence*, Undergraduate Course, CS — Fall 2008  
*Statistical Network Analysis*, Graduate Seminar, STAT/CS (cross-listed) — Spring 2008, Spring 2010, Spring 2016

Current Graduate Students

Sait Celebi (CS), Passed Qual 2  
Ahmed Elbagoury (CS), Pre-quals  
Guilherme Gomes (Statistics), Passed Quals  
Pablo Robles Granda (CS), Passed Prelim  
Mengyue Hang (CS), Pre-quals  
Yi-Yu (Ellen) Lai (CS), Passed Qual 2  
Changping (Jason) Meng (CS), Passed Qual 2  
Hogun Park (CS), Passed Qual 2  
Xi Tan (CS), Passed Prelim  
Heqin Wang (CS), MS student  
Jiasen Yang (Statistics), Passed Quals  
Giselle Zeno (CS), Pre-quals  
Shandian Zhe (CS), Passed Prelim

Current Undergraduate Students

Elizabeth Tigner  
Benjamin Staiger  
Shubhika Barjatya  
Aviral Mansingka  
Gouthami Kamalnath

Graduated Students

Iman Alodah  
Degree: MSc, Dec 2016  
Research project: Boosting for Collective Regression  
Current location: TBD

John Moore  
Degree: MSc, Dec 2016  
Thesis: Deep Collective Inference  
Current location: Microsoft

Timothy La Fond  
Degree: PhD, July 2016  
Thesis: Controlling for Confounding Network Properties in Hypothesis Testing and Anomaly Detection  
Current location: Lawrence Livermore National Laboratories

Ransen Niu  
Degree: BSc, May 2016  
Research project: Transfer learning in networks Current location: PhD Program, CS, Cornell University

Nesreen Ahmed  
Degree: PhD, July 2015  
Thesis: Scaling Up Network Analysis and Mining: Statistical Sampling, Estimation, and Pattern Discovery  
Current location: Research Scientist, Technicolor Research

Stephen Mussmann  
Degree: BSc, May 2015  
Research project: Assortativity in statistical models of graphs  
Current location: PhD Program, CS, Stanford University

Joseph Pfeiffer III  
Degree: PhD, May 2015  
Thesis: Overcoming Uncertainty for Within-Network Relational Machine Learning  
Current location: Applied Researcher, Microsoft

Sebastian Moreno  
Degree: PhD, August 2014  
Thesis: Network Hypothesis Testing for Relational Data  
Current location: Faculty, Universidad Adolfo Ibanez, Chile

Seong Lee  
Degree: BSc, May 2014  
Research project: Sentiment Analysis of Facebook Messages

Suvidha Kancharla  
Degree: MSc, May 2014  
Current location: Software Engineer, Microsoft

Karthik Nagaraaj  
Degree: PhD, October 2013  
Thesis: Enabling Richer Insight Into Runtime Execution of Systems  
Current location: Software Engineer, Google

Dan Coroian  
Degree: BSc, May 2013  
Research project: An Application of SARSA Learning to Klondike Solitaire  
Current location: PhD Program, Computer Science, Duke University

Brian Donovan  
Degree: BSc, May 2013  
Research project: Using Facebook Text to Predict Social Characteristics  
Current location: PhD Program, Civil Engineering, UIUC

Christopher Cole  
Degree: BSc, May 2013  
Research project: Analysis of Dynamic Email Graphs  
Current location: Software Engineer, Amazon

Daniel Roberts  
Degree: BSc, May 2013  
Research project: The Impact of Interpersonal Dependencies on Distributed Teams  
Current location: Software Engineer, EMC Isilon

Rongjing Xiang  
Degree: PhD, August 2012  
Thesis: Statistical Relational Learning for Single Network Domains  
Current location: Software Engineer, Google

Jordan Bates  
Degree: BSc, May 2012  
Research project: Style vs. topic analysis of political speeches in congress  
Current location: PhD Program, Applied Math and Life and Social Sciences, Arizona State University

Hoda Eldardiry  
Degree: PhD, February 2012  
Thesis: Ensemble Classification Techniques for Relational Domains  
Current location: Manager, Machine Learning Group, Palo Alto Research Center (PARC)

Chris Mayfield (co-advised with Sunil Prabhakar)

Degree: PhD, Aug 2011

Thesis: Statistical Inference and Data Cleaning in Relational Database Systems

Current location: Associate Professor, James Madison University

Ankit Kuwadekar

Degree: BSc, May 2010

Research project: Active Learning for Relational Domains

Current location: Software Engineer, Amazon

Umang Sharan

Degree: MSc, May 2008

Thesis: Temporal-Relational Classifiers for Prediction in Evolving Domains

Current location: Software Engineer, YouTube (Google)