

Curriculum Vitae

Raymond Joseph Mooney

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Education

B.S. in Computer Engineering, University of Illinois at Urbana-Champaign, High Honors, Bronze Tablet Award, 1983.

M.S. in Computer Science, University of Illinois at Urbana-Champaign, 1985.

Ph.D. in Computer Science, University of Illinois at Urbana-Champaign, 1988.

Professional Experience

September, 2000 – Present: Professor, Department of Computer Sciences, University of Texas at Austin.

September 1994 – August 2000: Associate Professor, Department of Computer Sciences, University of Texas at Austin.

January 1988 – August 1994: Assistant Professor, Department of Computer Sciences, University of Texas at Austin.

September 1983 – December 1987: Graduate Research Assistant and Teaching Assistant, Department of Electrical and Computer Engineering and Coordinated Science Laboratory, University of Illinois at Urbana-Champaign.

Thesis Title:

A General Explanation-Based Learning Mechanism and its Application to Narrative Understanding

Thesis Advisor:

Professor Gerald F. DeJong, Department of Computer Science, University of Illinois

Current Research Interests:

Artificial Intelligence; Machine Learning; Natural Language Understanding; Data Mining; Cognitive Science

Professional Societies:

American Association for Artificial Intelligence (AAAI)
Association for Computing Machinery (ACM)
ACM Special Interest Group on Knowledge Discovery and Data-Mining (SIGKDD)
Association for Computational Linguistics (ACL)
ACL Special Interest Group on Natural Language Learning (SIGNLL)
International Machine Learning Society (IMLS)
Cognitive Science Society

Grants

- Google Grant Program, “Unsupervised Induction of Semantic Lexicons Handling Both Synonymy and Polysemy,” \$50,000, May 2009 – April 2010.
- Army Research Office, Multi-disciplinary University Research Initiative (through subcontract from the University of Washington), “A Unified Approach to Abductive Inference,” \$378,267, May 2008 – April 2011.
- Microsoft Research, “Using Markov Logic Networks to Infer User Intent for Search Queries,” \$40,000, January 2008 – December 2008.
- National Science Foundation, “Learning Language Semantics from Perceptual Context,” (IIS-0712097), \$443,535, September 2007 – August 2010.
- Google Grant Program, “Global Extraction of Semantic Relations from Text Corpora by Learning from Weak Supervision,” \$60,000, January 2007 – December 2007.
- Cisco Systems, gift to support research on “Automated Malware Fingerprinting,” \$50,000, January 2007 – December 2007, (co-PI, PI: Yin Zhang).
- National Science Foundation, “Autonomic Systems: Integrating Machine Learning with Computer Systems,” (CNS-0615104), \$880,000, August 2006 – July 2009, (co-PI, PI: Emmett Witchel, other co-PI’s: Peter Stone, Yin Zhang, Vitaly Shmatikov)
- Defense Advanced Research Projects Agency (through subcontract from Institute for Study of Learning and Expertise), “Transfer Learning in Integrated Cognitive Systems,” (FA8750-05-2-0283) \$953,254 October 2005 – April 2009, (co-PI Peter Stone).
- Google Grant Program, “Accurate Record Linkage Using Joint Models for Learnable String Distance and Information Extraction,” \$90,000, September 2005 – August 2006.
- Defense Advanced Research Projects Agency (through subcontract from Lockheed Inc.), “Architecture for Cognitive Information Processing,” \$700,000, September 2004 – August 2006. (co-PI, PI: Emmett Witchel, other co-PI’s: Peter Stone, Michael Dahlin, Risto Miikkulainen, Doug Burger, Steve Keckler).
- Google Grant Program, “Using Weblog Constraints for Semi-Supervised Clustering of Query Results,” \$44,407, June 2004 – May 2005.
- Defense Advanced Research Projects Agency (through subcontract from Univ. of Wisconsin), “Interactive Learning from Advice and Reinforcements: Broadening the Communication Channel between Machine Learners and their Human Teachers,” (HR0011-04-1-0007), \$643,300, December 2003 – January 2006.

- National Science Foundation, Information Technology Research Award, “Feedback from Multi-Source Data Mining to Experimentation for Gene Network Discovery,” (IIS-0325116), October 2003 – September 2007, \$1,700,000. (PI, Co-PI’s are: D. Miranker, I. Dhillon, E. Marcotte, V. Iyer, J. Ghosh).
- International Business Machines, IBM Faculty Award, “Semi-supervised Clustering for Intelligent User Management,” January 2003 – December 2003, \$40,000.
- National Science Foundation, “Text Data Mining and Information Extraction” (IIS-0117308), October 2001 – September 2005, \$240,000.
- Defense Advanced Research Projects Agency (through subcontract from Univ. of Wisconsin), “Pattern Learning for Link Discovery Using Inductive Logic Programming,” (F30602-01-2-0571), October 2001 – December 2003, \$284,992.
- National Science Foundation, “Symbolic Learning for Natural-Language Processing: Integrating Information Extraction and Querying” (IRI-9704943), August 1997 – July 2001, \$339,563.
- Daimler-Benz Research and Technology North America Inc., “Learning Adaptive Natural-Language Parsers for Database Queries,” January 1997 - December 1998, \$55,000.
- National Science Foundation, “Learning Search-Control Heuristics for Logic Programs: Applications to Speedup Learning and Language Acquisition,” (IRI-9310819), March 1994 – February 1997, \$189,998.
- Texas Advanced Research Program, “Automated Refinement of Knowledge Bases for Rule-Based Systems,” (ARP-003658-114), January 1992 – December 1993, \$91,800.
- National Science Foundation, “Refining Concepts and Domain Theories by Combining Explanation-Based and Empirical Learning” (IRI-9102926), September 1991 – August 1993, \$106,284.
- NASA Ames Research Center, “Utility and Incomplete Theories: Addressing Two Important Problems in Explanation-Based Learning” (NCC 2-629), June 1989 – July 1992, \$224,886.

Publications

Books

1. Porter, B.W. and Mooney, R.J. (Eds.), *Proceedings of the Seventh International Conference on Machine Learning*, Morgan Kaufman Publishers, San Mateo, CA, 1990.
2. Mooney, R.J., *A General Explanation-Based Learning Mechanism and its Application to Narrative Understanding*, Morgan Kaufman Publishers, San Mateo, CA, 1990.

Journal Articles

1. Kulis, B., Basu, S., Dhillon, I., and Mooney, R.J., “Semi-supervised Graph Clustering: A Kernel Approach,” *Machine Learning*, 74, 1 (2009), pp. 1–22.
2. Ramani, A.K., Bunescu, R.C., Mooney, R.J. and Marcotte, E.M., “Consolidating the Set of Known Human Protein-Protein Interactions in Preparation for Large-Scale Mapping of the Human Interactome,” *Genome Biology*, 6, 5, r40 (2005).

3. Bunescu, R. C., Ge, R., Kate, R.J., Marcotte, E.M., Mooney, R.J., Ramani, A.K., and Wong, Y.W., "Comparative Experiments on Learning Information Extractors for Proteins and their Interactions," *Artificial Intelligence in Medicine* (Special Issue on Summarization and Information Extraction from Medical Documents), 33, 2 (2005), pp. 139–155.
4. Melville, P. and Mooney, R.J., "Creating Diversity in Ensembles Using Artificial Data," *Information Fusion* (Special Issue on Diversity in Multiple Classifier Systems), 6, 1 (2004), pp. 99–111.
5. Califf, M.E. and Mooney, R.J., "Bottom-Up Relational Learning of Pattern Matching Rules for Information Extraction," *Journal of Machine Learning Research*, 4 (2003) pp. 177–210.
6. Thompson, C. A. and Mooney, R. J., "Acquiring Word-Meaning Mappings for Natural Language Interfaces," *Journal of Artificial Intelligence Research*, 18 (2003), pp.1–44.
7. Califf, M.E. and Mooney, R.J., "Advantages of Decision Lists and Implicit Negatives in Inductive Logic Programming," *New Generation Computing*, 16, 3 (1998), pp. 263–281.
8. Baffes, P.T. and Mooney, R.J., "Refinement-based Student Modeling and Automated Bug Library Construction," *Journal of Artificial Intelligence in Education*, 7, 1 (1996), pp. 75–116.
9. Mooney, R.J. and Califf, M. E. "Induction of First-Order Decision Lists: Results on Learning the Past Tense of English Verbs," *Journal of Artificial Intelligence Research*, 3 (1995), pp. 1–24.
10. Richards, B.L and Mooney, R.J. "Automated Refinement of First-Order Horn-Clause Domain Theories," *Machine Learning* 19, 2 (1995), pp. 95–131.
11. Mooney, R.J., "Encouraging Experimental Results on Learning CNF," *Machine Learning* 19, 1 (1995), pp. 79–92.
12. Ourston, D. and Mooney, R.J., "Theory Refinement Combining Analytical and Empirical Methods," *Artificial Intelligence*, 66 (1994), pp. 311–344.
13. Baffes, P.T. and Mooney, R.J., "Extending Theory Refinement to M-of-N Rules," *Informatica*, 17 (1993), pp. 387–397.
14. Mahoney, J.J. and Mooney, R.J., "Combining Connectionist and Symbolic Learning to Refine Certainty Factor Rule Bases," *Connection Science*, 5 (1993), pp. 339–364.
15. Mooney, R.J., "Induction Over the Unexplained: Using Overly General Domain Theories to Aid Concept Learning," *Machine Learning*, 10, 1 (1993), pp. 79–110.
16. Ahn, W.K., Brewer, W.F., and Mooney, R.J., "Schema Acquisition from a Single Example," *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 18, 2 (1992), pp. 391–412.
17. Shavlik, J.W, Mooney, R.J. and Towell, G. "Symbolic and Neural Learning Algorithms: An Experimental Comparison," *Machine Learning*, 6, 2 (1991), pp. 111–143. (reprinted in *Readings in Knowledge Acquisition and Learning*, B. G. Buchanan and D. C. Wilkins (eds.), Morgan Kaufman, San Mateo, CA, 1993).
18. Mooney, R.J., "Learning Plan Schemata From Observation: Explanation-Based Learning for Plan Recognition," *Cognitive Science*, 14, 4 (1990), pp. 483–509.
19. DeJong, G.F. and Mooney, R.J., "Explanation-Based Learning: An Alternative View," *Machine Learning* 1, 2 (1986), pp. 145–176. (reprinted in *Readings in Machine Learning*, J. W. Shavlik and T. G. Dietterich (eds.), Morgan Kaufman, San Mateo, CA, 1990).

Magazine Articles, Editorials, Encyclopedia Articles, and Reviews

1. “Data Mining,” *World Book Online Reference Center*, World Book Inc., Oct, 2005.
2. Mooney, R. J. and Bunescu, R. C., “Mining Knowledge from Text Using Information Extraction,” *SIGKDD Explorations* (special issue on Text Mining and Natural Language Processing), 7, 1 (2005), pp. 3–10.
3. Bilenko, M., Mooney, R.J., Cohen, W.W., Ravikumar, P., and Fienberg, S.E., “Adaptive Name Matching in Information Integration,” *IEEE Intelligent Systems*, 18, 5 (2003), pp. 16–23.
4. “Artificial Intelligence,” *World Book Encyclopedia*, 2002.
5. Cardie, C. and Mooney, R.J., “Guest Editors’ Introduction: Machine Learning and Natural Language” *Machine Learning* (special issue on Natural Language Learning), 34, 1–3 (1999), pp. 5–9.
6. Brill, E. and Mooney, R.J., “An Overview of Empirical Natural Language Processing,” *AI Magazine*, 18, 4 (1997), pp. 13–24.
7. Mooney, R.J. and Zelle, J.M., “Integrating ILP and EBL,” *Sigart Bulletin*, 5, 1 (1994), pp. 12–21 (special issue on Inductive Logic Programming).
8. Mooney, R.J. “A Review of ‘An Empirical Comparison of ID3 and Backpropagation’ by Fisher and McKusick,” *Neural Network Review*, 4, 2 (1990), pp. 84–86.

Articles in Books

1. Bunescu, R. C. and Mooney, R.J., “Statistical Relational Learning for Natural Language Information Extraction,” in *Introduction to Statistical Relational Learning*, Getoor, L. and Taskar, B. (Eds.), pp. 535–552, MIT Press, Cambridge, MA, 2007.
2. Bunescu, R. C. and Mooney, R.J., “Extracting Relations from Text: From Word Sequences to Dependency Paths,” in *Natural Language Processing and Text Mining*, Kao, A. and Poteet, S. (Eds.), pp. 29–44, Springer Verlag, Berlin, 2007.
3. Basu, S., Bilenko, M., Banerjee, A., and Mooney, R.J., “Probabilistic Semi-Supervised Clustering with Constraints,” in *Semi-Supervised Learning*, Chapelle, O., Schoelkopf, B., and Zien, A. (Eds.), pp. 73–102, MIT Press, Cambridge, MA, 2006.
4. Mooney, R.J. and Nahm, U.Y., “Text Mining with Information Extraction,” in *Multilingualism and Electronic Language Management: Proceedings of the 4th International MIDP Colloquium, 22–23 September 2003, Bloemfontein, South Africa*, Daelemans, W., du Plessis, T., Snyman, C. and Teck, L. (Eds.), pp. 141–157, Van Schaik Pub., Pretoria, South Africa, 2005.
5. Mooney, R.J., Melville, P., Tang L. R., Shavlik J., Dutra I., Page D., and Costa, V. S., “Relational Data Mining with Inductive Logic Programming for Link Discovery,” in *Data Mining: Next Generation Challenges and Future Directions*, Kargupta, H., Joshi, A., Sivakumar K., and Yesha, Y. (Eds.), pp. 239–254, AAAI Press, Menlo Park, CA, 2004.
6. Mooney, R. J., “Machine Learning,” in *Oxford Handbook of Computational Linguistics*, R. Mitkov (Ed.), Oxford University Press, pp. 376–394, 2003.
7. Mooney, R. J., “Learning for Semantic Interpretation: Scaling Up Without Dumbing Down,” in *Learning Language in Logic*, J. Cussens and S. Džeroski (Eds.), pp. 57–66, Springer Verlag, Berlin, 2000.

8. Mooney, R.J., "Integrating Abduction and Induction in Machine Learning," in *Abduction and Induction*, P.A. Flach and A.C. Kakas (Eds.), pp. 181–191, Kluwer Academic Publishers, Norwell, MA, 2000.
9. Mooney R.J., "Inductive Logic Programming for Natural Language Processing," in *Inductive Logic Programming: Selected Papers from the 6th International Workshop*, S. Muggleton (Ed.), pp.3–22, Springer Verlag, Berlin, 1997.
10. Estlin, T. A. and Mooney R. J., "Hybrid Learning of Search Control for Partial-Order Planning," in *New Directions in AI Planning*, M. Ghallab and A. Milani (Eds.), pp. 129-140, IOS Press, Amsterdam, 1996.
11. Zelle, J.M. and Mooney, R.J., "Comparative Results on Using Inductive Logic Programming for Corpus-based Parser Construction," in *Connectionist, Statistical, and Symbolic Approaches to Learning for Natural Language Processing*, S. Wermter, E. Riloff, and G. Scheler (Eds.), pp. 355–369, Springer, Berlin, 1996.
12. Mooney, R.J. and Califf, M.E., "Learning the Past Tense of English Verbs Using Inductive Logic Programming," in *Connectionist, Statistical, and Symbolic Approaches to Learning for Natural Language Processing*, S. Wermter, E. Riloff, and G. Scheler (Eds.), pp. 370–384, Springer, Berlin, 1996.
13. Mooney, R.J. "A Preliminary PAC Analysis of Theory Revision," in *Computational Learning Theory and Natural Learning Systems, Vol. 3*, T. Petsche, S. Hanson, & J. Shavlik (Eds.), pp. 43–53, MIT Press, Cambridge, MA, 1995.
14. Mooney, R.J. and Ourston, D., "A Multistrategy Approach to Theory Refinement," in *Machine Learning: A Multistrategy Approach, Vol. IV*, R.S. Michalski & G. Teccuci (Eds.), pp.141–164, Morgan Kaufman, San Mateo, CA, 1994.
15. Mooney, R.J. "Integrating Theory and Data in Category Learning," in *Categorization by Humans and Machines: The Psychology of Learning and Motivation, Vol. 29*, G. Nakamura, R. Taraban, & D.L. Medin (Eds.), pp. 189–218, Academic Press, Orlando, FL, 1993.
16. Mooney, R.J., "Explanation Generalization in EGGs," in *Investigating Explanation-Based Learning*, G.F. DeJong (ed.), pp. 20-59, Kluwer Academic Publishers, Norwell, MA, 1993. (reprinted in in *Readings in Knowledge Acquisition and Learning*, B. G. Buchanan and D. C. Wilkins (eds.), Morgan Kaufman, San Mateo, CA, 1993).
17. Shavlik, J.W. and Mooney, R.J., "Generalizing Explanation Structures," in *Investigating Explanation-Based Learning*, G. F. DeJong (ed.), pp. 60-127, Kluwer Academic Publishers, Norwell, MA, 1993.
18. Mooney, R.J., "Case Study 2 – GENESIS: Learning Schemata for Narrative Text Understanding," in *Investigating Explanation-Based Learning*, G. F. DeJong (ed.), pp. 343-371, Kluwer Academic Publishers, Norwell, MA, 1993.
19. Mooney, R.J., "Explanation-Based Learning as Concept Formation," in *Concept Formation: Knowledge and Experience in Unsupervised Learning*, D. Fisher, M. Pazzani, and P. Langley (eds.), pp. 179-206, Morgan Kaufman Publishers, San Mateo, CA, 1991.
20. Mooney, R.J., "Generalizing Explanations of Narratives into Schemata," in *Machine Learning: A Guide to Current Research*, Mitchell, T.M., Carbonell, J.G., Michalski, R.S. (ed.), pp. 207-212, Kluwer Academic Publishers, Hingham, MA, 1986.

Articles in Conference Proceedings

1. Mihalkova, L. and Mooney, R.J., “Learning to Disambiguate Search Queries from Short Sessions,” *Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)*, Bled, Slovenia, Part 2, pp. 111–127, Sept. 2009.
2. Huynh, T.N. and Mooney, R.J., “Max-Margin Weight Learning for Markov Logic Networks,” *Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)*, Bled, Slovenia, Part 1, pp. 564–579, Sept. 2009.
3. Ge, R. and Mooney, R.J., “Learning a Compositional Semantic Parser using an Existing Syntactic Parser,” *Joint Conference of the 47th Annual Meeting of the Association for Computational Linguistics and the 4th International Joint Conference on Natural Language Processing of the Asian Federation of Natural Language Processing (ACL-IJCNLP)*, Singapore, pp. 611–619, August 2009.
4. Mihalkova, L. and Mooney, R.J., “Transfer Learning from Minimal Target Data by Mapping across Relational Domains,” *Proceedings of the Twenty-First International Joint Conference on Artificial Intelligence (IJCAI)*, Pasadena, CA, pp. 1163–1168, July 2009.
5. Gupta, S., Kim J., Grauman, K. and Mooney, R.J., “Watch, Listen & Learn: Co-training on Captioned Images and Videos,” *Proceedings of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD)*, Antwerp Belgium, pp. 457–472, Sept. 2008.
6. Mooney, R.J., “Learning to Connect Language and Perception,” *Proceedings of the 23rd AAAI Conference on Artificial Intelligence (AAAI)*, Senior Member Paper, Chicago, IL, pp. 1598–1601, July 2008.
7. Huynh, T.N. and Mooney, R.J., “Discriminative Structure and Parameter Learning for Markov Logic Networks,” *Proceedings of the 25th International Conference on Machine Learning (ICML)*, Helsinki, Finland, July 2008.
8. Chen, D.L. and Mooney, R.J., “Learning to Sportscast: A Test of Grounded Language Acquisition,” *Proceedings of the 25th International Conference on Machine Learning (ICML)*, Helsinki, Finland, July 2008.
9. Mihalkova, L., Huynh, T. and Mooney, R.J., “Mapping and Revising Markov Logic Networks for Transfer Learning,” *Proceedings of the 22nd AAAI Conference on Artificial Intelligence (AAAI)*, Vancouver, BC, pp. 608–614, July 2007.
10. Kate, R. and Mooney, R.J., “Learning Language Semantics from Ambiguous Supervision,” *Proceedings of the 22nd AAAI Conference on Artificial Intelligence (AAAI)*, Vancouver, BC, pp. 895–900, July 2007.
11. Bunescu, R. C. and Mooney, R.J., “Learning to Extract Relations from the Web using Minimal Supervision,” *Proceedings of the 45th Annual Meeting of the Association for Computational Linguistics (ACL)*, Prague, Czech Republic, pp. 576–583, June 2007.
12. Wong, Y.W. and Mooney, R.J., “Learning Synchronous Grammars for Semantic Parsing with Lambda Calculus,” *Proceedings of the 45th Annual Meeting of the Association for Computational Linguistic (ACL)*, Prague, Czech Republic, pp. 960–967, June 2007. (**Best Paper Award**)

13. Mihalkova, L. and Mooney, R.J., “Bottom-Up Learning of Markov Logic Network Structure,” *Proceedings of the 24th International Conference on Machine Learning (ICML)*, Corvallis, OR, June 2007.
14. Bunescu, R. C. and Mooney, R.J., “Multiple Instance Learning for Sparse Positive Bags,” *Proceedings of the 24th International Conference on Machine Learning (ICML)*, Corvallis, OR, June 2007.
15. Wong, Y.W. and Mooney, R.J., “Generation by Inverting a Semantic Parser that uses Statistical Machine Translation,” *Proceedings of Human Language Technologies: The Conference of the North American Chapter of the Association for Computational Linguistics (NAACL-HLT)*, pp. 172–179, Rochester, NY, April 2007.
16. Kate, R. and Mooney, R.J., “Semi-Supervised Learning for Semantic Parsing using Support Vector Machines,” *Proceedings of Human Language Technologies: The Conference of the North American Chapter of the Association for Computational Linguistics, Short Papers (NAACL-HLT)*, pp. 81–84, Rochester, NY, April 2007.
17. Mooney, R.J., “Learning for Semantic Parsing,” (invited paper) *Computational Linguistics and Intelligent Text Processing: Proceedings of the 8th International Conference, CICLing 2007, Mexico City*, A. Gelbukh (Ed.), pp. 311–324, Springer, Berlin, Germany, February 2007.
18. Bilenko, M., Kamath, B., and Mooney, R.J., “Adaptive Blocking: Learning to Scale Up Record Linkage,” *Proceedings of the 6th IEEE International Conference on Data Mining (ICDM)*, Hong Kong, pp. 87–96, December 2006.
19. Kate, R. and Mooney, R.J., “Using String-Kernels for Learning Semantic Parsers,” *Proceedings of the Joint Conference of the International Committee on Computational Linguistics and the Association for Computational Linguistics (COLING-ACL)*, Sydney, Australia, pp. 913–920, July 2006.
20. Ge, R. and Mooney, R.J., “Discriminative Reranking for Semantic Parsing,” (poster paper) *Proceedings of the Joint Conference of the International Committee on Computational Linguistics and the Association for Computational Linguistics (COLING-ACL)*, Sydney, Australia, pp. 263–270, July 2006.
21. Yang, S., Song, J., Rajamani, H., Cho, T., Zhang, Y., and Mooney, R., “Fast and Effective Worm Fingerprinting via Machine Learning,” (poster paper) *Proceedings of the 3rd IEEE International Conference on Autonomic Computing (ICAC)*, Dublin, Ireland, June 2006.
22. Wong, Y.W. and Mooney, R.J., “Learning for Semantic Parsing with Statistical Machine Translation,” *Proceedings of the Human Language Technology Conference and the North American Chapter of the Association for Computational Linguistics Annual Meeting (HLT-NAACL)*, New York, NY, pp. 439–446, June 2006.
23. Mihalkova, L. and Mooney, R.J., “Using Active Relocation to Aid Reinforcement Learning,” *Proceedings of the 19th International Florida Artificial Intelligence Research Society Conference (FLAIRS)*, pp. 580–585, May 2006.
24. Bunescu, R. C. and Mooney, R.J., “Subsequence Kernels for Relation Extraction,” in *Advances in Neural Information Processing Systems, Vol. 18: Proceedings of the 2005 Conference (NIPS)*, Y. Weiss, B. Schölkopf, J. Platt (Eds.), MIT Press, 2006.
25. Melville, P., Saar-Tsechansky, M., Provost, F. and Mooney, R.J., “An Expected Utility Approach to Active Feature-value Acquisition,” *Proceedings of the Fifth IEEE International Conference on Data Mining (ICDM)*, Houston, TX, pp. 745–748, November 2005.

26. Bunescu, R. C. and Mooney, R.J., “A Shortest Path Dependency Kernel for Relation Extraction,” *Proceedings of the Human Language Technology Conference and Conference on Empirical Methods in Natural Language Processing (HLT/EMNLP)*, Vancouver, B.C., pp. 724–731, October 2005.
27. Melville, P., Yang, S. M., Saar-Tsechansky, M., and Mooney, R.J., “Active Learning for Probability Estimation using Jensen-Shannon Divergence,” *Proceedings of the 16th European Conference on Machine Learning (ECML)*, Porto, Portugal, pp. 268–279, October 2005.
28. Suen, Y. L., Melville, P., and Mooney, R.J., “Combining Bias and Variance Reduction Techniques for Regression Trees,” *Proceedings of the 16th European Conference on Machine Learning (ECML)*, Porto, Portugal, pp. 741–749, October 2005.
29. Banerjee, A., Krumpelman, C., Basu, S., Mooney, R.J., and Ghosh, J., “Model-Based Overlapping Clustering,” *Proceedings of the Eleventh ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*, Chicago, IL, pp. 532–537, August 2005.
30. Kulis, B., Basu, S., Dhillon, I., and Mooney, R.J., “Semi-Supervised Graph Clustering: A Kernel Approach,” *Proceedings of the 22nd International Conference on Machine Learning (ICML)*, Bonn, Germany, pp. 457–464, August 2005. (**Distinguished Student Paper Award**)
31. Kate, R.J., Wong, Y. W., and Mooney, R.J., “Learning to Transform Natural to Formal Languages,” *Proceedings of the Twentieth National Conference on Artificial Intelligence (AAAI)*, Pittsburgh, PA, pp. 1062–1068, July 2005.
32. Ge, R. and Mooney, R.J., “A Statistical Semantic Parser that Integrates Syntax and Semantics,” *Proceedings of the Ninth Conference on Computational Natural Language Learning (CoNLL)*, Ann Arbor, MI, pp. 9–16, June 2005.
33. Wildstrom, J., Stone, P., Witchel, E., Mooney, R., and Dahlin, M., “Towards Self-Configuring Hardware for Distributed Computer Systems,” *Proceedings of the Second IEEE International Conference on Autonomic Computing (ICAC)*, Seattle, WA, pp. 241–249, June 2005.
34. Melville, P., Saar-Tsechansky, M., Provost, F. and Mooney, R.J., “Active Feature-Value Acquisition for Classifier Induction,” *Proceedings of the Fourth IEEE International Conference on Data Mining (ICDM)*, Brighton, U.K., pp. 483–486, November 2004.
35. Basu, S., Bilenko, M., and Mooney, R.J., “A Probabilistic Framework for Semi-Supervised Clustering,” *Proceedings of the Tenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*, Seattle, WA, pp. 59–68, August 2004. (**Best Research Paper Award**)
36. Bunescu, R. C. and Mooney, R.J., “Collective Information Extraction with Relational Markov Networks,” *Proceedings of the 42nd Annual Meeting of the Association for Computational Linguistics (ACL)*, Barcelona, Spain, pp. 439–446, July 2004.
37. Melville, P. and Mooney, R.J., “Diverse Ensembles for Active Learning,” *Proceedings of the 21st International Conference on Machine Learning (ICML)*, Banff, Canada, pp. 584–591, July 2004.
38. Bilenko, M., Basu, S., and Mooney, R.J., “Integrating Constraints and Metric Learning in Semi-Supervised Clustering,” *Proceedings of the 21st International Conference on Machine Learning (ICML)*, Banff, Canada, pp. 81–88, July 2004.

39. Basu, S., Banerjee, A. and Mooney, R.J., "Active Semi-Supervision for Pairwise Constrained Clustering," *Proceedings of the SIAM International Conference on Data Mining (SDM)*, Lake Buena Vista, FL, pp. 333–344, April 2004.
40. Bilenko, M. and Mooney, R.J., "Adaptive Duplicate Detection Using Learnable String Similarity Measures," *Proceedings of the Ninth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*, Washington, D.C., pp. 39–48, August 2003.
41. Melville, P. and Mooney, R.J., "Constructing Diverse Classifier Ensembles Using Artificial Training Examples," *Proceedings of the Eighteenth International Joint Conference on Artificial Intelligence (IJCAI)*, Acapulco, Mexico, pp. 505–510, August 2003.
42. Nahm, U.Y., and Mooney, R.J., "Mining Soft-Matching Association Rules," *Proceedings of the Eleventh International Conference on Information and Knowledge Management (CIKM)*, McLean, VA, pp. 681–683, November, 2002.
43. Melville, P., Mooney, R.J., and Ramadass, N. "Content-Boosted Collaborative Filtering for Improved Recommendations", *Proceedings of the Eighteenth National Conference on Artificial Intelligence (AAAI)*, Edmonton, Alberta, pp. 187–192, July 2002.
44. Basu, S., Banerjee, A. and Mooney, R.J., "Semi-supervised Clustering by Seeding", *Proceedings of the 19th International Conference on Machine Learning (ICML)*, Sydney, Australia, pp. 19–26, July 2002.
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10. DeJong, G.F., Segre, A.M., Ram, A., Mooney, R.J., and Edel, M., "A Natural Language Processor that Supports Learning," Working Paper 55, March 1984, AI Research Group, Coordinated Science Laboratory, University of Illinois at Urbana-Champaign.

Awards and Honors

- Fellow of the American Association for Artificial Intelligence (AAAI), Elected in 2005 "For significant contributions to machine learning, particularly explanation-based learning, theory refinement, and learning for natural-language processing."
- Best Paper Award, 45th Annual Meeting of the Association for Computational Linguistics (ACL-07) for "Learning Synchronous Grammars for Semantic Parsing with Lambda Calculus," by Y.W. Wong and R.J. Mooney.
- Distinguished Student Paper Award, 22nd International Conference on Machine Learning (ICML-05) for "Semi-Supervised Graph Clustering: A Kernel Approach," by B. Kulis, S. Basu, I. Dhillon, and R.J. Mooney.
- Best Research Paper Award, Tenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD-04) for "A Probabilistic Framework for Semi-Supervised Clustering," by S. Basu, M. Bilenko, and R.J. Mooney.
- One of 8 nominated for Best Paper Award, Sixteenth International Machine Learning Conference (ICML-99) for "Active Learning for Natural Language Parsing and Information Extraction" by C.A. Thompson, M.E. Califf, and R.J. Mooney.
- Best Paper Award, Thirteenth National Conference on Artificial Intelligence (AAAI-96) for "A Novel Application of Theory Refinement to Student Modeling" by P.T. Baffes and R.J. Mooney.

University Courses Taught

Undergraduate

Information Retrieval and Web Search
 Artificial Intelligence
 LISP and Symbolic Computation

Graduate

Machine Learning
Natural Language Processing
Artificial Intelligence II
Introduction to Cognitive Science

Tutorials and Short Courses Taught

- Tutorial on Text Mining at *19th Brazilian Symposium on Artificial Intelligence (SBIA-08)*, Salvador, Brazil, Oct. 29, 2008.
- Short course on “Empirical Approaches to Word Sense Disambiguation, Information Extraction, Semantic Role Labeling, and Semantic Parsing,” at the International Ph.D School on Language and Speech Technologies, Rovira i Virgili University, Tarragona, Spain, July 6–10, 2006.
- Short course on “Machine Learning for Natural Language Processing,” Universitat Internacional Menéndez Pelayo – Centre Ernest Lluch, Barcelona, Spain, July 5, 2006.
- Tutorial on Machine Learning, Johns Hopkins Summer School on Human Language Technology, Baltimore, MD, July 8, 2003.
- Tutorial on “Inductive Logic Programming for Natural Language Processing,” at the *Fourth Computational Natural Language Learning Workshop*, Lisbon, Portugal, September 15, 2000.
- Tutorial on “Symbolic Machine Learning for Natural Language Processing,” at the Belgian-Dutch Association for Artificial Intelligence (BNVKI) Tutorials on Artificial Intelligence and Language Processing, Tilburg, The Netherlands, Jan. 10, 2000.
- (with Claire Cardie) Tutorial on “Symbolic Machine Learning for Natural Language Processing,” at the *37th Annual Meeting of the Association for Computational Linguistics*, College Park, MD, June 20, 1999.
- Lectures on “Logical and Probabilistic Theory Refinement,” at the *I Brazilian School on Machine Learning and Knowledge Discovery in Databases*, Rio de Janeiro, Brazil, Sept. 28 – Oct. 2, 1998.
- Tutorial on “Applications of ILP to Natural Language in the U.S.,” at the *Eighth International Conference on Inductive Logic Programming*, Madison, WI, July 21, 1998.
- (with Patrick Langley) Tutorial on “Machine Learning for Planning, Problem Solving, and Natural Language,” *Tenth National Conference on Artificial Intelligence*, San Jose, CA, July 12, 1992.
- (with Bruce Porter) “Overview of Machine Learning” University of Houston at Clear Lake for employees of NASA Johnson Space Center, May 10 – 12, 1989.

Thesis Supervision

Ph.D. Theses Supervised

- Lilyana Mihalkova, “Learning with Markov Logic Networks: Transfer Learning, Structure Learning, and an Application to Web Query Disambiguation,” August 2009. Lily is now a post-doc with Prof. Lise Getoor at the University of Maryland College Park.

- Rohit Kate, “Learning For Semantic Parsing With Kernels Under Various Forms Of Supervision,” August 2007. Rohit is now my post-doc.
- Yuk Wah (John) Wong, “Learning For Semantic Parsing And Natural Language Generation Using Statistical Machine Translation Techniques,” August 2007. John is now a research scientist at Google Pittsburgh.
- Razvan Bunescu, “Learning for Information Extraction: From Named Entity Recognition and Disambiguation To Relation Extraction,” August 2007. Razvan is now an Assistant Professor at Ohio University, Athens, OH.
- Mikhail Bilenko, “Learnable Similarity Functions and their Application to Record Linkage and Clustering,” August 2006. Misha is now a research scientist at Microsoft Research.
- Prem Melville, “Creating Diverse Ensemble Classifiers to Reduce Supervision,” December 2005. Prem is now a research scientist at IBM TJ Watson Research Center.
- Sugato Basu, “Semi-supervised Clustering: Probabilistic Models, Algorithms, and Experiments,” May 2005. Sugato is now a research scientist at Google Research.
- Un Yong Nahm, “Text Mining with Information Extraction,” August 2004. Un Yong is now a research scientist at Yahoo Applied Research.
- Lap Poon Rupert Tang, “Integrating Top-down and Bottom-up Approaches in Inductive Logic Programming: Applications in Natural Language Processing and Relational Data Mining,” August 2003. Rupert is a now an Assistant Professor of Computer Science at the University of Texas at Brownsville.
- Cynthia A. Thompson, “Semantic Lexicon Acquisition for Learning Natural Language Interfaces,” December 1998. Cindi is now a research scientist at the Price Waterhouse Technology Centre, Menlo Park, CA.
- Mary Elaine Califf, “Relational Learning Techniques for Natural Language Information Extraction,” August 1998. Mary-Elaine is a Professor of Applied Computer Science at Illinois State University, Normal, IL.
- Tara A. Estlin, “Using Multi-Strategy Learning to Improve Planning Efficiency and Quality,” May 1998. Tara is a Research Scientist in the Artificial Intelligence Group at NASA’s Jet Propulsion Laboratory, Pasadena, CA.
- Sowmya Ramachandran, “Theory Refinement of Bayesian Networks with Hidden Variables,” May 1998. Sowmya is a Research Scientist at Stottler Henke Associates Inc., San Mateo, CA.
- Ulf Hermjakob, “Learning Parse and Translation Decisions From Examples With Rich Context,” May 1997. Ulf is a Research Scientist at the University of Southern California’s Information Sciences Institute, Marina Del Rey, CA.
- J. Jeffrey Mahoney, “Combining Symbolic and Connectionist Learning to Revise Certainty-Factor Rule Bases”, May 1996.
- John M. Zelle; “Using Inductive Logic Programming to Automate the Construction of Natural Language Parsers”, August 1995. John is currently a Professor of Computer Science at Wartburg College, Waverly, Iowa.

- Siddarth Subramanian, “Qualitative Multiple-Fault Diagnosis of Continuous Dynamic Systems Using Behavioral Modes,” August 1995.
- Paul T. Baffes, “Automatic Student Modeling and Bug Library Construction using Theory Refinement,” August 1994. Paul is Extreme Blue Projects Manager at IBM Austin.
- Bradley L. Richards, “An Operator-Based Approach To First-Order Theory Revision,” August 1992. Brad is a Professor of Computer Science at Furtwangen University of Applied Sciences, Germany.
- Hwee Tou Ng, “A General Abductive System with Applications to Plan Recognition and Diagnosis,” May 1992. Hwee Tou is an Associate Professor in the Department of Computer Science at the National University of Singapore.
- Dirk Ourston, “Using Explanation-Based and Empirical Methods in Theory Revision,” August 1991.

Masters Theses Supervised

- Srivatsan Ramanujam, “Factorial Hidden Markov Models for Full and Weakly Supervised Supertagging,” (co-supervisor: Prof. Jason Baldrige, Dept. of Linguistics), August 2009.
- Sonal Gupta, “Activity Retrieval in Closed Captioned Videos,” August 2009, Sonal continued as a Ph.D. student at Stanford University.
- Noppadon Kamolvilassatian, “Property Based Feature Extraction and Selection,” August 2002.
- Cynthia A. Thompson, “Inductive Learning for Abductive Diagnosis,” August 1993. Cindi continued as a Ph.D. student (see above).

Undergraduate Honors Theses Supervised

- Trevor Fountain, “FDL: A Feature Description Language for Semantic Role Labeling,” May 2008. (de facto supervisor, Katrin Erk, Linguistics)
- Jeff Rego, “Graphical Viewing of Relationships Extracted from Online Articles,” May 2008. (de facto supervisor, Jason Baldrige, Linguistics)
- Jiayun Chen, “Markov Logic Networks for Information Extraction,” May 2008.
- Mustafa Bilgic, “Explanation for Recommender Systems: Satisfaction vs. Promotion,” May 2004. Mustafa went on to be a Ph.D. student at the Univ. of Maryland.
- Edward Wild, “ELIXIR: A Library for Writing Wrappers in Java,” Dec. 2001, Ted went on to be a Ph.D. student at the Univ. of Wisconsin.
- Michael B. Cline, “Using HTML Structure and Linked Pages to Improve Learning for Text Categorization,” May 1999. Mike went on to be a graduate student at the University of British Columbia.
- Paul N. Bennett, “Text Categorization Through Probabilistic Learning: Applications to Recommender Systems,” May 1998. Paul went on to be a Ph.D. student at Carnegie Mellon University and is now a Research Scientist at Microsoft Research.
- Glenn Pfeffer, “Applying Theory Refinement to Thyroid Diagnosis,” December, 1990. Glenn went on to obtain a M.S. in our department.

Invited Lectures

Conference Invited Speaker Presentations

- Invited Speaker, “Bottom-up Search and Transfer Learning in SRL,” *Joint Meeting of the 19th International Conference on Inductive Logic Programming, International Workshop on Statistical Relational Learning, and the 7th International Workshop on Mining and Learning with Graphs (ILP/SRL/MLG)*, Leuven, Belgium, July 2, 2009.
- Invited Speaker, “Transfer Learning by Mapping and Revising Relational Knowledge,” *19th Brazilian Symposium on Artificial Intelligence (SBIA-08)*, Salvador, Brazil, Oct. 27, 2008.
- Invited Speaker, “Learning Language from its Perceptual Context,” *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD-08)*, Antwerp, Belgium, Sept. 16, 2008.
- Invited Speaker, “Learning for Semantic Parsing,” *8th International Conference on Computational Linguistics and Intelligent Text Processing (CICLing 2007)*, Mexico City, Mexico, Feb. 22, 2007.
- Invited Speaker, “Machine Learning for Recommender Systems,” *International Conference on Tools for Artificial Intelligence*, Dallas, TX, Nov. 9, 2001.
- Invited Speaker, “Learning to Improve Efficiency and Quality of Planning,” *Eleventh International Florida Artificial Intelligence Research Society Conference (FLAIRS-98)*, Sanibel Island, FL, May 1998.
- Keynote Speaker, “Relational Learning for Natural Language Parsing and Information Extraction,” *Fourteenth International Conference on Machine Learning*, Nashville, TN, July 9, 1997.
- Invited Speaker, “Inductive Logic Programming for Natural Language Processing” *Sixth International Inductive Logic Programming Workshop*, Stockholm, Sweden, August 30, 1996.

Colloquia and Invited Workshop Talks

- Invited Speaker, “Using Perception to Supervise Language Learning and Language to Supervise Perception,” *IJCAI-09 Workshop on Cross-Media Information Access and Mining*, Pasadena, CA, July 13, 2009.
- “Search Query Disambiguation from Short Sessions using Markov Logic,” *Microsoft Research Workshop: Beyond Search – Semantic Computing and Internet Economics*, Redmond, WA, Jun 10–11, 2009
- “Transfer Learning by Mapping and Revising Relational Knowledge,” Dept. of Computer Science and Engineering, University of Notre Dame, South Bend, IN, Apr. 17, 2009.
- “Learning Language from its Perceptual Context,” Dept. of Computer Science, University of Memphis, Memphis, TN, Feb. 6, 2009.
- “Learning Language from its Perceptual Context,” Dept. of Computer Science, Texas A&M University, College Station, TX, Jan. 28, 2009.
- “Acquiring Language from Perceptual Context: Learning to Sportscast,” DARPA Workshop on Computer Learning of Linguistic Representations of the Physical World, Arlington, VA, Dec. 2, 2008.

- “Learning Language from its Perceptual Context,” School of Computer Science, Carnegie Mellon University, Pittsburgh, PA, Nov. 21, 2008.
- “Learning to Extract Proteins and their Interactions from Biomedical Text,” Department of Computer Science, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil, Oct. 24, 2008.
- “Transfer Learning by Mapping and Revising Relational Knowledge,” Dept. of Computer Science and Engineering, University of Minnesota, Minneapolis, MN, August 7, 2008.
- “Learning Language from its Perceptual Context,” Dept. of Computer Science, University of Illinois, Urbana, IL, July 11, 2008.
- Invited Speaker, “Transfer Learning by Mapping and Revising Relational Knowledge,” *ICML-08 Workshop on Planning to Learn (PlanLearn)*, Helsinki, Finland, July 9, 2008.
- “Code Switching and Transfer Learning,” NSF Sponsored Workshop on Code-Switching, Tampa, FL, April 11, 2008.
- “Learning Language from its Perceptual Context,” Dept. of Computer Science, University of North Texas, Denton, TX, March 7, 2008.
- “Learning Language from its Perceptual Context,” Dept. of Computer Science, University of Texas at Dallas, Richardson, TX, March 6, 2008.
- “Learning for Semantic Parsing of Natural Language,” Center for Computational Learning Systems, Columbia University, New York, NY, Nov. 2, 2007.
- “Learning to Extract Proteins and their Interactions from Biomedical Text,” Department of Computer Science, University of Pittsburgh, Pittsburgh, PA, Dec. 8, 2006.
- “Learning for Semantic Parsing of Natural Language,” School of Computing, University of Utah, Salt Lake City, UT, Nov. 17, 2006.
- “Learning to Extract Proteins and their Interactions from Biomedical Text,” Department of Computer Science, Brigham Young University, Provo, UT, Nov. 16, 2006.
- Keynote Speaker, “Maximizing the Utility of Small Training Sets in Machine Learning,” *Texas Linguistics Society X: Computational Linguistics for Less-Studied Languages*, Austin, TX, Nov. 4, 2006.
- “Learning to Extract Proteins and their Interactions from Medline Abstracts,” Artificial Intelligence Center, SRI International, Menlo Park, CA, July 28, 2006.
- “Learning for Semantic Parsing of Natural Language,” Department of Computer Science, University of Illinois at Urbana-Champaign, April 28, 2006.
- “Learning for Semantic Parsing of Natural Language,” School of Computer Science, Carnegie Mellon University, Pittsburgh, Dec. 12, 2005.
- Invited Speaker, “Learning for Semantic Parsing of Natural Language,” *International Joint Conference on Artificial Intelligence (IJCAI) 2005 Workshop on Grammatical Inference Applications: Successes and Future Challenges*, Edinburgh, Scotland, Jul. 31, 2005.
- “Learning to Extract Proteins and their Interactions from Medline Abstracts,” Department of Computer Science, University of Washington, Seattle, WA, June 22, 2005.

- “Parsing Text into Logical Form,” *DARPA Workshop on Learning by Reading*, Seattle, WA, June 21, 2005.
- “Statistical Relational Learning for Natural-Language Information Extraction and Semantic Parsing,” *Dagstuhl Seminar on Probabilistic, Logical and Relational Learning – Towards a Synthesis*, Wadern, Germany, Jan. 31 – Feb. 4, 2005.
- “Learning to Extract Proteins and their Interactions from Medline Abstracts,” and “All You Really Need to Know About Computer Science Was Learned Pursuing Artificial Intelligence,” Department of Computer Science, Cornell University, Ithaca, NY, Oct. 21, 2004.
- “All You Really Need to Know About Computer Science Was Learned Pursuing Artificial Intelligence,” Dept. of Computer Sciences, Univ. of Texas at Austin, Sept. 1, 2004.
- “Semi-Supervised Clustering and its Application to Document Clustering and Record Linkage,” Google Inc., Mountain View, CA, March 25, 2004.
- “Learning to Extract Proteins and their Interactions from Medline Abstracts,” Department of Computer and Information Science, University of Pennsylvania, Philadelphia, PA, March 2, 2004.
- “Semi-Supervised Clustering and its Application to Document Clustering and Record Linkage,” Navy Center for Applied Research in Artificial Intelligence, Naval Research Laboratory, Washington D.C., Dec. 15, 2003.
- “Semi-Supervised Clustering and its Application to Document Clustering and Record Linkage,” Department of Computer Science, University of Maryland, College Park, MD, July 9, 2003.
- “Text Mining Using Information Extraction,” Department of Computer Science, University of Washington, and Microsoft Research, Seattle, WA, Dec. 10 & 11, 2002.
- “Text Mining Using Information Extraction,” Information Sciences Institute, University of Southern California, Marina Del Rey, CA, Sept. 15, 2002.
- “Artificial Intelligence,” Te Wananga-o-Raukawa (Maori College), Otaki, New Zealand, July 5, 2002,
- “Text Mining Using Information Extraction,” Department of Computer Science, Victoria University, Wellington, New Zealand, July 4, 2002.
- “Text Mining Using Information Extraction,” Department of Computer Science, and “Machine Learning for Recommender Systems,” Department of Library and Information Science, University of Waikato, Hamilton, New Zealand, June 28, 2002.
- “Text Mining Using Information Extraction,” Department of Computer Science, University of Wisconsin, Madison, WI, March 20, 2002.
- “Computing as an Experimental Science, or Exaggerated Formalist Rhetoric Considered Harmful,” Dept. of Computer Sciences, Univ. of Texas at Austin, Jan. 17, 2002.
- “AI & Atheism: AI - Mind without Mysticism: Atheism - Life, the Universe, and Everything without Mysticism,” debate with B. Kuipers on “AI and Religion,” Forum for Artificial Intelligence, University of Texas at Austin, Nov. 30, 2001.
- “Text Mining Using Information Extraction,” Department of Computer Science, Southern Methodist University, Dallas, TX, May 1, 2001.

- “Text Mining Using Information Extraction,” Language Technology Institute, Carnegie Mellon University, Pittsburgh, PA, April 24, 2001.
- “Content-based Book Recommending using Learning for Text Categorization,” and “Text Mining Using Information Extraction,” Department of Computer Science and Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, April 5–6, 2001.
- “Text Mining Using Information Extraction,” Department of Computer Science, University College Dublin, Dublin, Ireland, March 16, 2001.
- “Text Mining Using Information Extraction,” Information Technology Department, National University of Ireland, Galway, March 13, 2001.
- “Text Mining Using Information Extraction,” Data Mining Seminar Series, University of Texas, Austin, TX, Oct. 27, 2000.
- “Content-based Book Recommending using Learning for Text Categorization,” Department of Library and Information Science, University of Pittsburgh, Pittsburgh, PA, July 20, 2000.
- “Learning for Natural Language Information Extraction,” University of New Mexico, Department of Computer Science, Albuquerque, NM, Feb. 10, 2000.
- “Learning for Natural Language Information Extraction,” University of Antwerp, Antwerp, Belgium, Jan. 7, 2000.
- “Learning for Natural Language Information Extraction,”
 - IBM TJ Watson Research Center, Hawthorne, NY, Nov. 11, 1999
 - AT&T Research Labs, Florham Park, NJ, Nov. 12, 1999.
- “Content-based Book Recommending using Learning for Text Categorization,” Technical University of Graz, Graz, Austria, July 2, 1999. 19, 1999.
- Invited Speaker, “Learning for Semantic Interpretation: Scaling Up Without Dumbing Down,” *Learning Language in Logic Workshop*, Bled Slovenia, June 30th, 1999.
- “Content-based Book Recommending using Learning for Text Categorization,” Department of Computer Science, University of Wisconsin, Madison, WI, March 19, 1999.
- “Teaching Machines Human Language” Smithsonian Institute lecture series on “Understanding Artificial Intelligence,” Washington D.C., June 8, 1998.
- “Relational Learning for Natural Language Parsing and Information Extraction,” Center for Language and Speech Processing, Johns Hopkins University, Baltimore MD, April 14, 1998.
- “Relational Learning for Natural Language Parsing and Information Extraction,” Department of Computer Science, Carnegie-Mellon University, Pittsburgh, PA, November 11, 1997.
- “Theory Refinement for Student Modeling: An Application of Machine Learning to Intelligent Tutoring,” Learning Research and Development Center, University of Pittsburgh, Pittsburgh, PA, November 10, 1997.
- “Relational Learning for Natural Language Parsing and Information Extraction,” Department of Computer Science, Stanford University, March 27, 1997.

- “Inductive Logic Programming for Natural Language Learning,” Navy Center for Applied Research in Artificial Intelligence, Naval Research Lab, Washington, D.C., April 8, 1996.
- “Theory Refinement for Probabilistic Knowledge Bases,” Department of Computer Science, Stanford University, March 1, 1996.
- “Inductive Logic Programming for Natural Language Learning”
 - Information Sciences Institute, Marina Del Rey, CA, Jan. 16, 1996.
 - Department of Computer Science, University of California at San Diego, Jan, 19, 1996.
- “Theory Refinement for Probabilistic Knowledge Bases,” NASA Jet Propulsion Laboratory, Pasadena, CA, Jan. 17, 1996.
- “Inductive Logic Programming for Natural Language Learning” and “Theory Refinement for Probabilistic Knowledge Bases,” Department of Computer Science, University of California at Irvine, July 6-7, 1995.
- “Theory Refinement for Probabilistic Knowledge Bases,” Siemens Corporate Research, Princeton, NJ, June 9, 1995.
- “Inductive Logic Programming for Natural Language Learning”
 - AT&T Bell Laboratories, Murray Hill, NJ, June 12, 1995.
 - Department of Computer Science, Rutgers University, New Brunswick, NJ, June 13, 1995.
- “Machine Learning and Natural Language Acquisition” Department of Psychology, University of Louisville, Louisville, KY, January 11, 1995.
- “Constructing Natural Language Parsers from Corpora using Inductive Logic Programming,” Department of Computer Science, North Carolina State University, Raleigh, NC, January 10, 1995.
- “A Machine Learning Approach to Constructing Natural Language Parsers from Corpora,”
 - Basser Department of Computer Science, University of Sydney, Sydney, Australia, June 9, 1994.
 - Department of Computer Science, Australian National University, Canberra, Australia, July 12, 1994.
 - Department of Computer Science, Monash University, Melbourne, Australia, July 20, 1994.
- “A Machine Learning Approach to Constructing Natural Language Parsers from Corpora,” Department of Computer Science, University of Wisconsin, Madison, WI, January 10, 1994.
- “Automated Knowledge-Base Refinement,” *Space Operations, Applications, and Research Symposium (SOAR 93)*, NASA Johnson Space Center, Houston, TX, August 5, 1993.
- “A Machine Learning Approach to Language Acquisition,” Cognitive Science Center, University of Texas, Austin, TX, April 12, 1993.
- “Revising Knowledge Bases to Improve Accuracy and Speed,” Department of Electrical and Computer Engineering, University of Hawaii at Monoa, Honolulu, HI, March 15, 1993.
- “Automatically Revising Knowledge Bases to Improve Accuracy and Speed,” Computer Science Industrial Forum, Department of Computer Sciences, University of Texas, Austin, TX, February 15, 1993.

- “Refining Domain Theories to Improve Accuracy and Speed,”
 - Department of Computer Science, Carnegie-Mellon University, Pittsburgh, PA, December 8, 1992.
 - Department of Computer Science, George Mason University, Fairfax, VA, December 10, 1992.
- “Combining Symbolic and Neural Learning to Revise Probabilistic Domain Theories,” *Office of Naval Research Workshop on Hybrid Models of Complex Learning*, Woods Hole, MA, September 2-4, 1992.
- “Automated Refinement and Speedup of First-Order Horn-Clause Theories,” Department of Computer Science, University of Wisconsin, Madison, August 31, 1992.
- “Recent Progress in Abduction and Theory Revision,”
 - Artificial Intelligence Lab, NASA Ames Research Center, Moffet Field CA, March 23, 1992.
 - Artificial Intelligence Group, XEROX Palo Alto Research Center, CA, March 24, 1992.
- “An Overview of Machine Learning,” *Workshop on Automation and Robotics*, March 12, 1992, NASA Johnson Space Center, Houston, TX.
- “Integrating Theory and Data in Category Learning,” *Interfaces Conference on Categorization and Category Learning by Humans and Machines*, Texas Tech University, Lubbock, TX. October 11-12, 1991.
- “Automatic Refinement of Arbitrarily Imperfect Domain Theories,” Department of Computer Science, University of California at Irvine, July 24, 1991.
- “Comprehensive Theory Refinement using Abduction and Induction,”
 - Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana, March 11, 1991.
 - Institute for the Learning Sciences, Northwestern University, Evanston, IL, March 14, 1991.
 - Department of Computer Science, University of Wisconsin at Madison, March 15, 1991.
- “Using Abduction and Empirical Learning to Refine Approximate Domain Theories,” NASA Ames Research Center, August, 1990.
- “Explanation-Based Learning,” Artificial Intelligence Lab, Texas Instruments Inc., Dallas, TX, May 6, 1988.
- “Explanation-Based Learning: A General Learning Mechanism and its Application to Several Complex Domains,” *Complex Learning Workshop*, Grange Over Sands, England, April 22, 1987.

Professional Services

Positions in Professional Societies

- President, International Machine Learning Society (IMLS), May 2008–present.

Journal Editing and Editorial Boards

- Editorial Board member for the *Journal of Computational Linguistics* (2007–present)
- Editorial Board member for the *Journal of Machine Learning Research* (2000–present)
- Editorial Board member for the journal *Cognitive Science* (2004–present)
- Editorial Board member for the journal *New Generation Computing* (1997–present).
- Editorial Board member for the journal *Machine Learning* (1993–2001)
- Action Editor for the journal *Machine Learning* (1993-1999).
- Editorial Board member for the journal *Applied Intelligence* (1995-2000).
- Editorial Board member for the *Journal of Artificial Intelligence Research* (1994–1997).
- Co-editor (with Eric Brill) of special issue of the *AI Magazine* on Empirical Natural Language Processing, 18:4, 1997.
- Co-editor (with Claire Cardie) of special issue of the journal *Machine Learning* on Natural Language Learning, 34, 1999.

Conference Chair Positions

- Program Co-Chair (with Yolanda Gil) for the *Twenty-First National Conference on Artificial Intelligence*, Boston, MA, July 16–20, 2006.
- General Chair for the *Human Language Technology Conference and Conference on Empirical Methods in Natural Language Processing*, Vancouver, BC, October 6–8, 2005.
- Co-chair (with B. Porter) for the *Seventh International Machine Learning Conference* held at the University of Texas at Austin, June 21-23, 1990.
- Workshop Co-chair (with D. Leake), *Fifteenth National Conference on Artificial Intelligence*, Madison, WI, July 26-30, 1998.
- Workshop Chair, *Fourteenth National Conference on Artificial Intelligence*, Providence, RI, August 4-8, 1997.

Major Conference Program Committees

- Program Committee member for the *Conference on Empirical Methods in Natural Language Processing*, Singapore, August 6–7, 2009.
- Program Committee member for the *26th International Machine Learning Conference*, Montreal, Canada, June 16–19, 2009.
- Reviewer for the *22nd Conference on Neural Information Processing*, Vancouver, BC, December 8–10, 2008.
- Program Committee member for the *22nd International Conference on Computational Linguistics*, Manchester, England, August 18–22, 2008.

- Area Chair for the *46th Annual Meeting of the Association for Computational Linguistics*, Columbus, OH, June 15–20, 2008.
- Program Committee member for the *45th Annual Meeting of the Association for Computational Linguistics*, Prague, June 24–29, 2007.
- Program Committee member for the *Twentieth National Conference on Artificial Intelligence*, Pittsburgh, PA, July 9–13, 2005.
- Program Committee member for the *42nd Annual Meeting of the Association for Computational Linguistics*, Barcelona, Spain, July 21–26, 2004.
- Program Committee member for the *Tenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, Seattle, WA, August 22–25, 2004.
- Area Chair for Machine Learning for Natural Language, *41st Annual Meeting of the Association for Computational Linguistics*, Sapporo, Japan, July 7–12, 2003.
- Program Committee member for the *Ninth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, Washington D.C., August 24 – 27, 2003.
- Program Committee member for the *Eighteenth National Conference on Artificial Intelligence*, Edmonton, Alberta, July 28–Aug. 1, 2002.
- Program Committee member for the *First International Conference on Knowledge Capture*, Victoria, B.C., Oct. 21–23, 2001.
- Area Chair, *Eighteenth International Conference on Machine Learning*, Williams College, MA, June 28 – July 1, 2001.
- Program Committee, *Second Meeting of the North American Chapter of the Association for Computational Linguistics*, Pittsburgh, PA, June 2–7, 2001.
- Senior Program Committee member for the *Seventeenth National Conference on Artificial Intelligence*, Austin, TX, July 30 – August 3, 2000.
- Program Committee member for the *Sixteenth International Machine Learning Conference*, Bled, Slovenia, June 27–30, 1999.
- Program Committee member for the *International Conference on Computational Linguistics / 36th Annual Meeting of the Association for Computational Linguistics*, Montreal, Quebec, August 10–14, 1998.
- Program Committee member for the *Fourteenth National Conference on Artificial Intelligence*, Providence, RI, August 4–8, 1997.
- Senior Program Committee member for the *Thirteenth National Conference on Artificial Intelligence*, Portland, OR, August 4–8, 1996.
- Program Committee member for the *Thirteenth International Machine Learning Conference*, Bari, Italy, July 3–6, 1996.
- Program Committee member for the *Twelfth International Machine Learning Conference*, Tahoe City, CA, July 9–12, 1995.

- Program Committee member for the *Eleventh International Machine Learning Conference*, New Brunswick, NJ, July 10–13, 1994.
- Program Committee member for the *Eleventh National Conference on Artificial Intelligence*, Washington, D.C., July 11–16, 1993.
- Program Committee member for the *Tenth International Machine Learning Conference*, Amherst, MA, June 27–29, 1993.
- Program Committee member for the *Ninth International Machine Learning Conference*, Aberdeen, Scotland, July 1–3, 1992.
- Organizing Committee member for the *Eighth International Machine Learning Workshop*, Evanston, IL, June 1991.

Workshop and Specialized Conference Program Committees

- Program Committee member for the *19th International Inductive Logic Programming Conference*, Leuven, Belgium, July 2–4, 2009.
- Program Committee for the *NAACL-HLT Workshop on Active Learning for Natural Language Processing*, Boulder, CO, June 4-5, 2009.
- Program Committee for the *NAACL-HLT Workshop on Semi-Supervised Learning for Natural Language Processing*, Boulder, CO, June 4-5, 2009.
- Program Committee for the *AAAI-08 Workshop on Wikipedia and Artificial Intelligence: An Evolving Synergy*, Chicago, IL, July 13–14, 2008.
- Program Committee for *8th International Conference on Intelligent Text Processing and Computational Linguistics*, Mexico City, Feb. 18–24, 2007.
- Program Committee for *TLSX Texas Linguistics Society 10: Computational Linguistics for Less-Studied Languages*, Austin, TX, Nov. 3–5, 2006.
- Program Committee for the *HLT/NAACL Workshop on Computationally Hard Problems and Joint Inference in Speech and Language Processing*, New York, NY, June 9, 2006.
- Organizing Committee for the *AAAI-04 Workshop on Adaptive Text Extraction and Mining*, San Jose, CA, July 25, 2004.
- Program Committee member for the *Eighth Conference on Natural Language Learning*, Boston, MA, May 6–7, 2004.
- Program Committee member for the *KDD-03 Workshop on Data Cleaning, Record Linkage, and Object Consolidation*, Washington, D.C., August 27, 2003.
- Program Committee member for the *ICML-03 Workshop on the Continuum from Labeled to Unlabeled Data in Machine Learning and Data Mining*, Washington, D.C., August 21, 2003.
- Program Committee member for the *ACL-03 Workshop on Multilingual Summarization and Question Answering—Machine Learning and Beyond*, Sapporo Japan, July 11, 2003.

- Program Committee member for the *Seventh Conference on Natural Language Learning*, Edmonton, Canada, May 31 – June 1, 2003.
- Program Committee member for the *Sixth Conference on Natural Language Learning*, Taipei, Taiwan, August 31 – September 1, 2002.
- Program Committee member for the *ACL-02 Workshop on Word Sense Disambiguation: Recent Successes and Future Directions*, Philadelphia, PA, July, 2002.
- Program Committee member for the *Twelfth International Conference on Inductive Logic Programming*, Sydney, Australia, July 9–12, 2002.
- Program Committee member for the *Clustering High Dimensional Data and its Applications Workshop*, Second SIAM International Conference on Data Mining, Arlington, VA, April 13, 2002.
- Program Committee member for the *International Workshop on Web Document Analysis*, Seattle, WA, Sept. 8, 2001.
- Program Committee member for the *Fifth Computational Natural Language Learning Workshop*, Toulouse, France, July 6–7, 2001.
- Co-organizer, *IJCAI-01 Workshop on Adaptive Text Extraction and Mining*, Seattle, WA, Aug., 2001.
- Program Committee member for the *Workshop on Web Mining at the First SIAM International Conference on Data Mining*, April 7, 2001.
- Program Committee member for the *Fourth Computational Natural Language Learning Workshop*, Lisbon, Portugal, September 14, 2000.
- Program Committee member for the *UAI-2000 Workshop on Fusion of Domain Knowledge with Data for Decision Support*, Stanford, CA, June 30, 2000.
- Program Committee member for the *Tenth International Workshop on Inductive Logic Programming*, London, U.K., July 24–28, 2000.
- Program Committee member for the *ACL-99 Workshop on Unsupervised Learning in Natural Language Processing*, College Park, Maryland, June 21, 1999.
- Program Committee member for the *Ninth International Workshop on Inductive Logic Programming*, Bled, Slovenia, June 24–26, 1999.
- Program Committee for the *Sixth Workshop on Very Large Corpora*, Montreal, Quebec, August 15–16, 1998.
- Program Committee member for the *Eighth International Conference on Inductive Logic Programming*, Madison, WI, July 22–24, 1998.
- Program Committee member for the *AAAI Spring Symposium on Applying Machine Learning to Discourse Processing*, Stanford, CA, March 23–25, 1998.
- International Advisory Committee member for the Special Interest Group on Natural Language Learning, Association for Computational Linguistics, 1997–present
- Program Committee member for the *International Conference on Computational Natural Language Learning*, Adelaide, Australia, January 22–24, 1998.

- Program Committee member for the *IJCAI-97 Workshop on Abduction and Induction in AI*, Nagoya, Japan, August 24, 1997.
- Program Committee member for the *IJCAI-97 Workshop on Frontiers of Inductive Logic Programming*, Nagoya, Japan, August 25, 1997.
- Program Committee member for the *Third International Colloquium on Grammatical Inference*, Montpellier (France), September 25–27, 1996.
- Program Committee member for the *Third International Workshop on Multistrategy Learning*, Harpers Ferry, W. Va., May 23–25, 1996.
- Program Committee member for the *Conference on Empirical Methods in Natural Language Processing*, Philadelphia, PA, May 17–18, 1996.
- Program Committee member for the *Sixth International Workshop on Inductive Logic Programming*, Stockholm, Sweden, August 28–30, 1996.
- Program Committee member for the *Fifth International Workshop on Inductive Logic Programming*, Leuven, Belgium, September 4–6, 1995.
- Program Committee member for the *IJCAI-93 Workshop on Machine Learning and Knowledge Acquisition*, Chambéry, France, August 29, 1993.
- Program Committee member for the *Second Singapore International Conference on Intelligent Systems*, Singapore, November 14–17, 1994.
- Program Committee member for the *Second International Workshop on Multistrategy Learning*, Harpers Ferry, W. Va., May 26–29, 1993.
- Program Committee member for *Applications of Artificial Intelligence XI: Knowledge-Based Systems in Aerospace and Industry*, Orlando, FL, April 12–16, 1993.
- Program Committee member for the 1991 Florida AI Research Symposium held in Coco Beach, Florida, April 1991.
- Workshop Committee member for the “Learning from Theory and Data” session of the *Eighth International Machine Learning Workshop*, held at Northwestern University, June 1991.

Journal, Conference, and Book Reviewing

- Reviewer for about 120 journal articles for *Artificial Intelligence*; *Cognitive Science*; *Machine Learning*; *Journal of Artificial Intelligence Research*; *Journal of Machine Learning Research*; *Computational Linguistics*; *Bioinformatics*; *Communications of the Association for Computing Machinery*; *Nature*; *Data Mining and Knowledge Discovery*; *New Generation Computing*; *Connection Science*; *IEEE Computer*; *IEEE Transactions on Knowledge and Data Engineering*; *IEEE Transactions on Systems, Man, and Cybernetics*; *IEEE Transactions on Pattern Analysis and Machine Intelligence*; *Decision Support Systems*; *The Journal of the Learning Sciences*; *The International Journal of Expert Systems: Research & Applications*; *Applied Intelligence*; *Annals of Mathematics and Artificial Intelligence*; and *International Journal on Artificial Intelligence Tools*.

- Reviewer for numerous papers for technical conferences: *National Conference on Artificial Intelligence* (1986, 1987, 1988), *International Joint Conference on Artificial Intelligence* (1989, 1991, 1993, 1995, 1997), *Annual Meeting of the Association for Computational Linguistics* (2000), *International Conference on Principles of Knowledge Representation and Reasoning* (1989), and *European Conference on Artificial Intelligence* (1990, 1992).
- Reviewer for technical books for Kluwer Academic Publishers, Morgan Kaufman Publishers, Benjamin/Cummings Publishers, MIT Press, J. Wiley & Sons, Addison-Wesley, Cambridge University Press, and McGraw Hill Publishers.

Grant Proposal Reviewing

- Member of the National Science Foundation Proposal Review Panel, Directorate for Computer Science and Engineering, 2007.
- Member of the National Institutes of Health Proposal Review Panel, 2005.
- Member of the National Science Foundation Proposal Review Panel, Directorate for Computer Science and Engineering, 2003.
- Member of the National Science Foundation Proposal Review Panel, Directorate for Computer Science and Engineering, 1999.
- Member of the National Science Foundation Proposal Review Panel, Directorate for Computer Science and Engineering, 1995.
- Member of the National Science Foundation Review Panel, Directorate for Computer Science and Engineering, 1992.
- Reviewer for 8 other National Science Foundation grant proposals.
- Reviewer of grant proposals for NASA, Canadian National Science and Engineering Research Council, the Australian Research Council, Swedish Research Council for Engineering Sciences, Alberta Ingenuity Fund Canada, Science Foundation Ireland, and the Cooperative Grants Program of the U.S. Civilian Research and Development Foundation.

Other Service

- Panelist, 2007 SIGART/AAAI Doctoral Consortium (panel for advising Ph.D. students on dissertation proposals).
- External Advisory Board Member, Pittsburgh Science of Learning Center, 2005–present.
- Site Visit Review Panelist, National Science Foundation, Pittsburgh Science of Learning Center, May 2005.
- Invited Panelist, National Research Council Study on “Information Fusion in Counter-Terrorism”, June 10–11, 2002.
- Panelist, SIGART AAAI-99 Doctoral Consortium (panel for advising Ph.D. students on dissertation proposals).