

**Haym Hirsh**  
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## Education

- Ph.D., Computer Science, Stanford University, June 1989
- M.S., Computer Science: Artificial Intelligence, Stanford University, June 1985
- B.S., Mathematics–Computer Science, University of California, Los Angeles, June 1983  
*Summa cum laude, Phi Beta Kappa, U.C. Regents Scholar, Departmental Highest Honors, Math/Computer Science Senior Prize*

## Employment History

- Rutgers University, Department of Computer Science
  - Professor I: July 2002–present
  - Department Chair: July 2003–October 2006
  - Associate Professor: July 1995–June 2002
  - Assistant Professor: September 1989–June 1995
- Stanford University  
Department of Computer Science
  - Research Assistant/Teaching Assistant/Fellowship Holder: September 1983–June 1989Department of Mechanical Engineering
  - Research Assistant: July 1987–March 1988
- NASA Ames Research Center, AI Branch
  - Research Assistant: July–September 1988
- University of Southern California, Information Sciences Institute
  - Research Assistant: March–August 1983
- Selected Consulting: Apple Computer, AT&T Bell Laboratories, Sarnoff Corporation, Telcordia

## Visiting Positions

- Massachusetts Institute of Technology, Sloan School of Management, Center for Collective Intelligence
  - Visiting Scholar: September 2010–August 2011
- National Science Foundation, Directorate of Computer and Information Science and Engineering, Division of Information and Intelligent Systems
  - Director: October 2006–August 2010
- University of Zurich, Department of Informatics
  - Visiting Professor: May–June 2006
- New York University, Information Systems Department, Stern School of Business
  - Visiting Scholar: September 2001–August 2002
  - Visiting Professor: September 2000–August 2001
- Massachusetts Institute of Technology  
Department of Electrical Engineering and Computer Science
  - Visiting Associate Professor: August–December 1997Artificial Intelligence Laboratory
  - Visiting Scholar: August–December 1997
- Carnegie Mellon University, School of Computer Science
  - Visiting Professor: August–December 1995
- Bar-Ilan University, Department of Computer Science
  - Visiting Scientist: July–August 1995; January 1997; May 1998; May–June 2000

- Carnegie Mellon University, School of Computer Science  
- Visiting Scholar: September 1988–August 1989
- University of Pittsburgh, Department of Computer Science  
- Visiting Graduate Student: September 1988–August 1989

## Awards

- Best Teacher Award: Rutgers Computer Science Graduate Student Society, May 1994
- Best Paper Award: Haym Hirsh and Michiel Noordewier, Tenth IEEE Conference on Artificial Intelligence for Applications, March 1994

## Invited Keynote and Plenary Talks:

- “Socially Intelligent Computing”  
5th International Conference on Collaborative Computing  
Arlington, VA, November 2009
- “Emerging Areas for Data Technologies”  
IARPA KDD Workshop  
Oak Ridge, TN, December 2008
- “Artificial, Natural, and Social Intelligence”  
Finnish Academy of Science and Letters, “Computer Science Without Limits”  
Event Marking the Finnish Academy’s 100<sup>th</sup> Anniversary  
Helsinki, Finland, September 2008
- “Artificial, Natural, and Social Intelligence”  
Hadassah College, “Computers and Thought”  
Event for the inauguration of a new graduate program in Computer Science  
Jerusalem, Israel, September 2008
- “What’s Going Wrong in Data Mining”  
What Went Wrong and Why: Lessons from AI Research and Applications, Workshop at the Twenty  
Third AAAI Conference on Artificial Intelligence  
Chicago, IL, July 2008
- “Mining Text”  
Johnson and Johnson Text Mining Symposium  
Raritan, NJ, May 2008
- “Improving Text Classification Using Background Knowledge”  
2003 International Conference on Machine Learning and Applications  
Los Angeles, CA, June 2003
- “Integrating Background Knowledge into Nearest-Neighbor Text Classification”  
Sixth European Conference on Case-Based Reasoning  
Aberdeen, Scotland, September 2002
- “Integrating Multiple Information Sources in Text Classification”  
Workshop on Knowledge Discovery from Heterogeneous, Distributed, Autonomous, Dynamic Data and  
Knowledge Sources, International Joint Conference on Artificial Intelligence  
Seattle, Washington, August 2001.
- “Learning From and About Users”  
Seventeenth International Conference on Machine Learning  
Stanford, California, June 2000
- “Text Classification via Ad Hoc Queries”  
Second Bar-Ilan Workshop on Knowledge Discovery and Learning  
Bar-Ilan University, Ramat-Gan, Israel, June 2000
- “Learning from Ambiguous Data: 1988-1998”  
Workshop on Learning from Ambiguous and Complex Examples  
Twelfth Annual Conference on Neural Information Processing Systems  
Breckenridge, Colorado, December 1998

- “Human Performance on Clustering Web Pages”.  
Bar-Ilan Workshop on Knowledge Discovery in Databases.  
Bar-Ilan University, Ramat-Gan, Israel, May 1998

## Recent Invited Panel Presentations

- Data-Driven Research at Web Scale  
Microsoft Software Summit 2011  
Paris, April 2011
- Government Use of Social Media  
2010 International AAAI Conference on Weblogs and Social Media  
Washington, DC, May 2010
- Data Mining and Sustainability of the Environment  
2009 IEEE International Conference on Data Mining  
Miami, FL, December 2009
- AI Funding Seminar  
AAAI Fall Symposium Series  
Arlington, VA, November 2009
- Hot Computing Research Topics  
Second US-China Computer Science Leadership Summit  
Arlington, VA, July 2008
- AI Funding Seminar  
AAAI Fall Symposium Series  
Arlington, VA, November 2007
- Mining at the Crossroads: Successes, Failures and Learning From Them  
2007 ACM SIGKDD International Conference on Knowledge Discovery and Data Mining  
San Jose, California, August 2007
- Data Mining Research: Current Status and Future Opportunities  
2007 SIAM International Conference on Data Mining  
Minneapolis, Minnesota, April 2007

## Selected Other Invited Presentations

- Bar-Ilan University; CENDI (the Federal Science and Technical Information Managers Group); Columbia University; Computing Research Association Computing Community Consortium; Georgia Tech; Hebrew University; Helsinki University of Technology; MIT; North Carolina State University; NYU; Princeton University; Sarnoff Corporation; Siemens; Stanford University; Tufts University; UC Irvine; UCLA; University of Illinois Urbana Champaign; University of Maryland (College Park); University of Maryland (Baltimore County); University of Michigan; University of Minnesota; University of Ottawa; University of Pittsburgh; University of Southern California; University of Washington; University of Zurich; U.S. Office of Science and Technology Policy; UT Austin; Yale University

## Publications

### Books:

1. Haym Hirsh (1990).  
Incremental Version-Space Merging: A General Framework for Concept Learning.  
Kluwer Academic Publishers.

### Edited Collections:

2. Zachary Dodds, Haym Hirsh, and Kiri Wagstaff (2008).  
*Working Notes of the AAAI 2008 Workshop on Artificial Intelligence Education*.  
AAAI Press.
3. Haym Hirsh and Steven Chien (2001).  
*Proceedings of the Thirteenth Conference on Innovative Applications of Artificial Intelligence*.  
AAAI Press/MIT Press.
4. Robert Englemore and Haym Hirsh (editors) (2000).  
*Proceedings of The Twelfth Innovative Applications of Artificial Intelligence Conference (IAAI-2000)*.  
AAAI Press/MIT Press.
5. Marti Hearst and Haym Hirsh (1996).  
*Working Notes of the AAAI Spring Symposium on Machine Learning in Information Access*.  
AAAI Press.
6. William W. Cohen and Haym Hirsh (1994).  
*Machine Learning: Proceedings of the Eleventh International Conference*.  
Morgan Kaufmann Publishers.
7. Haym Hirsh (1992).  
*Working Notes of the AAAI Spring Symposium on Artificial Intelligence and NP-Hard Problems*.  
AAAI Press.

### Journal Articles:

8. Haym Hirsh (2008)  
Data Mining Research: Current Status and Future Opportunities  
*Statistical Analysis and Data Mining*, 1(2):104-107
9. Sarah Zelikovitz, William Cohen, and Haym Hirsh (2007)  
Extending WHIRL with Background Knowledge for Improved Text Classification.  
*Information Retrieval*, 10(1): 35-67.
10. Haym Hirsh, Nina Mishra, and Leonard Pitt (2004)  
Version Spaces and the Consistency Problem.  
*Artificial Intelligence* 156(2):115-138.
11. Sofus A. Macskassy, Haym Hirsh, Arunava Banerjee, and Aynur A. Dayanik (2003).  
Converting Numerical Classification into Text Classification.  
*Artificial Intelligence*, 143(1):51-77.
12. Chumki Basu, Haym Hirsh, William W. Cohen, and Craig Nevill-Manning (2001).  
Technical Paper Recommendation: A Study in Combining Multiple Information Sources.  
*Journal of Artificial Intelligence Research*, 14:231–252.
13. Haym Hirsh, Chumki Basu, and Brian Davison (2000).  
Learning to Personalize.  
*Communications of the ACM*, 43(8):102–106.
14. Khaled Rasheed and Haym Hirsh (1999).  
Learning to be Selective in Genetic-Algorithm-Based Design Optimization.  
*Artificial Intelligence for Engineering Design, Analysis and Manufacturing*, 13:157–169.

15. Ronen Feldman, Ido Dagan, and Haym Hirsh (1998).  
Mining Text Using Keyword Distributions.  
*Intelligent Information Systems*, 10(3):281–300.
16. Mark Schwabacher, Tom Ellman, and Haym Hirsh (1998).  
Learning to Set Up Numerical Optimizations of Engineering Designs.  
*Artificial Intelligence for Engineering Design, Analysis and Manufacturing*, 12:173–192.
17. Ronen Feldman and Haym Hirsh (1997).  
Exploiting Background Information in Knowledge Discovery from Text.  
*Intelligent Information Systems*, 9(1):83–97.
18. Khaled Rasheed, Haym Hirsh, and Andrew Gelsey (1997).  
A Genetic Algorithm for Continuous Design Space Search.  
*Artificial Intelligence in Engineering*, 11(3):295–305.
19. William W. Cohen and Haym Hirsh (1994).  
The Learnability of Description Logics with Equality Constraints.  
*Machine Learning*, 17(2):169–199.
20. Haym Hirsh (1994).  
Generalizing Version Spaces.  
*Machine Learning*, 17(1):5–45.
21. Haym Hirsh and Michiel Noordewier (1994).  
Using Background Knowledge to Improve Inductive Learning: A Case Study in Molecular Biology.  
*IEEE Expert*, 9(5):3–6.
22. Derek Sleeman, Haym Hirsh, Ian Ellery, and In-Yung Kim (1990).  
Extending Domain Theories: Two Case Studies in Student Modeling.  
*Machine Learning*, 5(1):11–37.
23. Armand E. Prieditis, Thomas G. Dietterich, Haym Hirsh, Smadar T. Kedar-Cabelli, Richard V. Kempinski, Steven Minton, and Devika Subramanian (1987).  
AAAI-86 Learning Papers: Topics, Summaries, and Trends.  
*Machine Learning*, 2(1):83–96.

#### Refereed Conference Articles:

24. Seyda Ertekin, Haym Hirsh, and Cynthia Rudin (2011).  
Learning to Predict the Wisdom of Crowds.  
*Proceedings of Collective Intelligence 2012*.
25. Alexander Strehl, Christopher Mesterharm, Michael Littman, and Haym Hirsh (2006).  
Experience-Efficient Associative Reinforcement Learning  
*Proceedings of the 23rd International Conference on Machine Learning*.
26. Sofus Macskassy and Haym Hirsh (2003).  
Adding Numbers to Text Classification.  
*Proceedings of the Twelfth International Conference on Information and Knowledge Management (CIKM-2003)*
27. Sarah Zelikovitz and Haym Hirsh (2001).  
Using LSI for Text Classification in the Presence of Background Text.  
*Proceedings of the Tenth International Conference on Information and Knowledge Management (CIKM2001)*.  
ACM Press.
28. Sofus A. Macskassy, Haym Hirsh, Foster Provost, Ramesh Sankaranarayanan, and Vasant Dhar (2001).  
Intelligent Information Triage.  
*Proceedings of the 24th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR2001)*.  
ACM Press.

29. Sofus A. Macskassy, Haym Hirsh, Arunava Banerjee, Aynur A. Dayanik (2001).  
Using Text Classifiers for Numerical Classification.  
*Proceedings of the Seventeenth International Joint Conference on Artificial Intelligence (IJCAI2001)*.
30. Gary Weiss and Haym Hirsh (2000).  
A Quantitative Study of Small Disjuncts.  
*Proceedings of the Seventeenth National Conference on Artificial Intelligence (AAAI2000)*.  
AAAI Press/MIT Press.
31. Sarah Zelikovitz and Haym Hirsh (2000).  
Improving Short-Text Classification Using Unlabeled Background Knowledge to Assess Document Similarity.  
*Proceedings of the Fifteenth International Conference on Machine Learning (ICML2000)*.  
Morgan Kaufmann Publishers.
32. Khaled Rasheed and Haym Hirsh (2000).  
Informed Operators: Speeding up Genetic-Algorithm-Based Design Optimization Using Reduced Models.  
*Proceedings of the Genetic and Evolutionary Computation Conference (GECCO2000)*.
33. William W. Cohen and Haym Hirsh (1998).  
Joins that Generalize: Text Classification Using WHIRL.  
*Proceedings of the Fourth International Conference on Knowledge Discovery and Data Mining (KDD98)*.  
AAAI Press/MIT Press.
34. Sofus Macskassy, Arunava Banerjee, Brian Davison, and Haym Hirsh (1998).  
Human Performance on Clustering Web Pages: A Preliminary Study.  
*Proceedings of the Fourth International Conference on Knowledge Discovery and Data Mining (KDD98)*.  
AAAI Press/MIT Press.
35. Gary M. Weiss and Haym Hirsh (1998).  
Learning to Predict Rare Events in Categorical Times-Series Data.  
*Proceedings of the Fourth International Conference on Knowledge Discovery and Data Mining (KDD98)*.  
AAAI Press/MIT Press.
36. Chumki Basu, Haym Hirsh, and William W. Cohen (1998).  
Recommendation as Classification: Using Social and Content-Based Information in Recommendation.  
*Proceedings of the Fifteenth National Conference on Artificial Intelligence (AAAI98)*.  
AAAI Press/MIT Press.
37. Daniel Kudenko and Haym Hirsh (1998).  
Feature Generation for Sequence Categorization.  
*Proceedings of the Fifteenth National Conference on Artificial Intelligence (AAAI98)*.  
AAAI Press/MIT Press.
38. Gary M. Weiss and Haym Hirsh (1998).  
The Problem with Noise and Small Disjuncts.  
*Proceedings of the Fifteenth International Conference on Machine Learning (ICML98)*.  
Morgan Kaufmann Publisher
39. David Loewenstern, Helen Berman, and Haym Hirsh (1998).  
Maximum A Posteriori Classification of DNA Structure from Sequence Information.  
*Proceedings of the Pacific Symposium on Biocomputing (PSB98)*.
40. Haym Hirsh and Daniel Kudenko (1997).  
Representing Sequences in Description Logics.  
*Proceedings of the Fourteenth National Conference on Artificial Intelligence (AAAI97)*.  
AAAI Press/MIT Press.
41. Haym Hirsh, Nina Mishra, and Leonard Pitt (1997).  
Version Spaces Without Boundary Sets.  
*Proceedings of the Fourteenth National Conference on Artificial Intelligence (AAAI97)*.  
AAAI Press/MIT Press.

42. Khaled Rasheed and Haym Hirsh (1997).  
Using Case-Based Learning to Improve Genetic-Algorithm-Based Design Optimization.  
*Proceedings of the Seventh International Conference on Genetic Algorithms (ICGA97)*.
43. Brian D. Davison and Haym Hirsh (1997).  
Toward An Adaptive Command Line Interface.  
*Proceedings of the Seventh International Conference on Human-Computer Interaction (HCI97)*.  
Elsevier Science Publishers.
44. Haym Hirsh and Brian D. Davison (1997).  
An Adaptive UNIX Command-Line Assistant.  
*Proceedings of the First International Conference on Autonomous Agents (Agents97)*.
45. Ronen Feldman and Haym Hirsh (1996).  
Mining Associations in Text in the Presence of Background Knowledge.  
*Proceedings of the Second International Conference on Knowledge Discovery and Data Mining (KDD96)*.
46. Mark Schwabacher, Thomas Ellman, Haym Hirsh, and Gerard Richter (1996).  
Learning to Choose a Reformulation for Numerical Optimization of Engineering Designs.  
*Proceedings of the Artificial Intelligence in Design Conference (AID96)*.
47. Ido Dagan, Ronen Feldman, and Haym Hirsh (1996).  
Keyword-Based Browsing and Analysis of Large Document Sets.  
*Proceedings of the Symposium on Document Analysis and Information Retrieval (SDAIR96)*.
48. Haym Hirsh and Nathalie Japkowicz (1994).  
Bootstrapping Training Data Representations for Inductive Learning: A Case Study in Molecular Biology.  
*Proceedings of the Twelfth National Conference on Artificial Intelligence (AAAI94)*.  
AAAI Press/MIT Press.
49. William W. Cohen and Haym Hirsh (1994).  
Learning the Classic Description Logic: Theoretical and Experimental Results.  
*Proceedings of the Fourth International Conference on Principles of Knowledge Representation and Reasoning (KR94)*.
50. Haym Hirsh and Michiel Noordewier (1994).  
Using Background Knowledge to Improve Inductive Learning of DNA Sequences.  
*Proceedings of the Tenth IEEE Conference on Artificial Intelligence for Applications (CAIA94)*.  
IEEE Computer Society Press.
51. Mark Schwabacher, Haym Hirsh, and Thomas Ellman (1994).  
Inductive Learning of Prototype Selection Rules for Case-Based Iterative Design.  
*Proceedings of the Tenth IEEE Conference on Artificial Intelligence for Applications (CAIA94)*, pages 56-62.  
IEEE Computer Society Press.
52. Steven W. Norton and Haym Hirsh (1993).  
Learning DNF Via Probabilistic Evidence Combination.  
*Proceedings of the Tenth International Conference on Machine Learning (ICML93)*, pages 220-227.  
Morgan Kaufmann Publishers.
53. William W. Cohen, Alex Borgida, and Haym Hirsh (1992).  
Computing Least Common Subsumers in Description Logics.  
*Proceedings of the Tenth National Conference on Artificial Intelligence (AAAI92)*, pages 754-760.  
AAAI Press/MIT Press.
54. Haym Hirsh (1992).  
Polynomial-Time Learning with Version Spaces.  
*Proceedings of the Tenth National Conference on Artificial Intelligence (AAAI92)*, pages 117-122.  
AAAI Press/MIT Press.
55. Steven W. Norton and Haym Hirsh (1992).  
Classifier Learning from Noisy Data as Probabilistic Evidence Combination.

- Proceedings of the Tenth National Conference on Artificial Intelligence (AAAI92)*, pages 141-146.  
AAAI Press/MIT Press.
56. William W. Cohen and Haym Hirsh (1992).  
Learnability of Description Logics.  
*Proceedings of the Fifth Annual Workshop on Computational Learning Theory (COLT92)*, pages 116-127.  
ACM Press.
  57. Haym Hirsh (1991).  
Theoretical Underpinnings of Version Spaces.  
*Proceedings of the Twelfth International Joint Conference on Artificial Intelligence (IJCAI91)*, pages 665-670.  
Morgan Kaufmann Publishers.
  58. Haym Hirsh (1990).  
Incremental Version-Space Merging.  
*Proceedings of the Seventh International Conference on Machine Learning (ICML90)*, pages 330-338.  
Morgan Kaufmann Publishers.
  59. Haym Hirsh (1990).  
Learning from Data with Bounded Inconsistency.  
*Proceedings of the Seventh International Conference on Machine Learning (ICML90)*, pages 32-39.  
Morgan Kaufmann Publishers.
  60. Haym Hirsh (1988).  
Reasoning about Operability for Explanation-Based Learning.  
*Proceedings of the Fifth International Conference on Machine Learning (ICML88)*, pages 214-220.  
Morgan Kaufmann Publishers.
  61. Haym Hirsh (1987).  
Explanation-Based Generalization in a Logic-Programming Environment.  
*Proceedings of the Tenth International Joint Conference on Artificial Intelligence (IJCAI87)*, pages 221-227.  
Morgan Kaufmann Publishers.

#### Book Chapters:

62. Mark Schwabacher, Tom Ellman, and Haym Hirsh (2001).  
Learning to Set Up Numerical Optimizations of Engineering Designs.  
In Dan Braha, editor, *Data Mining for Design and Manufacturing: Methods and Applications*.  
Kluwer Academic Publishers.
63. Ronen Feldman and Haym Hirsh (1997).  
Finding Associations in Collections of Text.  
In R.S. Michalski, I. Bratko, and M. Kubat, editors, *Machine Learning and Data Mining: Methods and Applications*, pages 223-240.  
John Wiley and Sons.
64. Leon Shklar and Haym Hirsh (1997).  
Imposing Bounds on the Number of Categories for Incremental Concept Formation.  
In R. Greiner, T. Petsche, and S.J. Hanson, editors, *Computational Learning Theory and Natural Learning Systems, Volume IV*, pages 36-49.  
MIT Press.
65. Haym Hirsh and William W. Cohen (1994).  
Learning from Data with Bounded Inconsistency: Theoretical and Experimental Results.  
In S. Hanson, G. Drastal, and R. Rivest, editors, *Computational Learning Theory and Natural Learning Systems, Constraints and Prospects*, pages 355-380.  
MIT Press.
66. Haym Hirsh (1990).  
Conditional Operability and Explanation-Based Generalization.  
In R. Michalski and Y. Kodratoff, editors, *Machine Learning: An Artificial Intelligence Approach*,

*Volume III*, pages 383-395.  
Morgan Kaufmann Publishers.

67. Haym Hirsh (1990).  
Knowledge As Bias.  
In D.P. Benjamin, editor, *Change of Representation and Inductive Bias*, pages 209-221.  
Kluwer Academic Publishers.
68. Haym Hirsh (1990).  
Overgenerality in Explanation-Based Generalization.  
In P. Brazdil and K. Konolige, editors, *Machine Learning, Meta-Reasoning, and Logics*, pages 121-134.  
Kluwer Academic Publishers.

#### Other Papers, Reports, Notes:

1. Seyda Ertekin, Haym Hirsh, and Cynthia Rudin (2011).  
Approximating the Wisdom of the Crowd.  
*Proceedings of the Second Workshop on Computational Social Science and the Wisdom of Crowds*,  
Twenty-Fifth Annual Conference on Neural Information Processing Systems (NIPS 2011), Sierra  
Nevada, Spain.
2. Haym Hirsh (2010).  
How Do You Cite a Crowd?  
“Changing the Conduct of Science in the Information Age” Workshop, National Science Foundation,  
November 2010.
3. A. de Strulle, J. Ferrini-Mundy, H. Hirsh, S.-S. Lim, M. Maher, E. Rom, J.M. Wing, and S. Winter  
(2010).  
Connecting Learning and Education for a Knowledge Society.  
National Science Foundation Internal Task Force on Innovation in Learning and Education.
4. Haym Hirsh (2009).  
Socially Intelligent Computing.  
Internal white paper, National Science Foundation.
5. Alex Borgida, Thomas J. Walsh, and Haym Hirsh (2005).  
Towards measuring similarity in description logics.  
*2005 International Workshop on Description Logics*
6. Matthew Stone and Haym Hirsh (editors) (2005)  
Artificial Intelligence: The Next Twenty-Five Years.  
*AI Magazine*, 26(4):85-97.
7. Michael L. Littman, Thu Nguyen, Haym Hirsh, Eitan M. Fenson, and Richard Howard (2003).  
Cost-sensitive fault remediation for autonomic computing.  
*Workshop on AI and Autonomic Computing: Developing a Research Agenda for Self-Managing  
Computer Systems*.
8. Sarah Zelikovitz and Haym Hirsh (2002).  
Integrating Background Knowledge into Nearest-Neighbor Text Classification.  
*Proceedings of the 6th European Conference on Case Based Reasoning*,  
Springer Verlag. (Published version of invited talk.)
9. Steve A. Chien and Haym Hirsh (2002).  
The Thirteenth Innovative Applications of Artificial Intelligence Conference (IAAI-2001).  
*AI Magazine* 23(2): 9-10 (2002)
10. Sarah Zelikovitz and Haym Hirsh (2001).  
Improving Text Classification with LSI Using Background Knowledge.  
*Working Notes of the Workshop on Text Learning: Beyond Supervision*,  
Seventeenth International Joint Conference on Artificial Intelligence (IJCAI-2001).
11. Sofus A. Macskassy, Haym Hirsh, Foster Provost, Ramesh Sankaranarayanan, Vasant Dhar (2001).  
Information Triage using Prospective Criteria.

- Working Notes of the Workshop on Machine Learning, Information Retrieval and User Modeling, Eighth International Conference on User Modeling (UM-2001).*
12. Robert Engelmores and Haym Hirsh (2001).  
The Twelfth Innovative Applications of Artificial Intelligence Conference (IAAI-2001).  
*AI Magazine*, 22(2):13-14.
  13. Gary M. Weiss and Haym Hirsh (2000).  
Learning to Predict Extremely Rare Events.  
*Working Notes of the Workshop on Learning from Imbalanced Data Sets, The Seventeenth National Conference on Artificial Intelligence (AAAI-2000).*
  14. Sofus A. Macskassy, Aynur A. Dayanik, and Haym Hirsh (2000).  
Information Valets for Intelligent Information Access.  
*Working Notes of the AAAI Spring Symposia Series on Adaptive User Interfaces (AUI-2000).*
  15. Haym Hirsh (editor) (2000)  
Trends and Controversies: Genetic Programming.  
*IEEE Intelligent Systems*, 15(3):74-84.
  16. Marti A. Hearst and Haym Hirsh (editors) (2000)  
AI's Greatest Trends and Controversies.  
*IEEE Intelligent Systems*, 15(1):8-17.
  17. Sofus A. Macskassy, Aynur A. Dayanik, and Haym Hirsh (1999).  
EmailValet: Learning User Preferences for Wireless Email.  
*Working Notes of the Workshop on Learning about Users, and Working Notes of the Workshop on Machine Learning for Information Filtering, Sixteenth International Joint Conference on Artificial Intelligence (IJCAI99).*
  18. Chumki Basu, Haym Hirsh, William Cohen, and Craig Nevill-Manning (1999).  
Recommending Papers by Mining the Web.  
*Working Notes of the Workshop on Learning about Users, and Working Notes of the Workshop on Machine Learning for Information Filtering, Sixteenth International Joint Conference on Artificial Intelligence (IJCAI99).*
  19. Chumki Basu and Haym Hirsh (1999).  
Learning User Models for Recommendation  
*Working Notes of the Workshop on Machine Learning for User Modeling, International Conference on User Modeling (UM99).*
  20. Sofus A. Macskassy, Aynur A. Dayanik, Haym Hirsh (1999).  
EmailValet: Learning Email Preferences for Wireless Platforms.  
*Working Notes of the Workshop on Machine Learning for User Modeling, International Conference on User Modeling (UM99).*
  21. Daniel Kudenko and Haym Hirsh (1999).  
Feature-Based Learners for Description Logics.  
*Proceedings of the International Workshop on Description Logics (DL99).*
  22. Haym Hirsh (editor) (1999)  
Trends and Controversies: Playing with AI.  
*IEEE Intelligent Systems*, 14(6):8-18.
  23. Haym Hirsh (editor) (1999)  
Trends and Controversies: A Quantum Leap for AI.  
*IEEE Intelligent Systems*, 14(4):9-16.
  24. Haym Hirsh (editor) (1999)  
Trends and Controversies: Room Service, AI-Style.  
*IEEE Intelligent Systems*, 14(2):8-19.
  25. Ronen Feldman, Moshe Fresko, Haym Hirsh, Yonatan Aumann, Orly Liphstat, Yonatan Schler, and Martin Rajman (1998).

- Knowledge Management: A Text Mining Approach.  
*Proceedings of the Second International Conference on Practical Aspects of Knowledge Management.*
26. Brian D. Davison and Haym Hirsh (1998).  
Predicting Sequences of User Actions.  
*Working Notes of the Joint Workshop on Predicting the Future: AI Approaches to Time Series Analysis*,  
Fifteenth National Conference on Artificial Intelligence (AAAI98)/Fifteenth International Conference  
on Machine Learning (ICML98).  
AAAI Press.
  27. Gary M. Weiss and Haym Hirsh (1998).  
Learning to Predict Rare Events in Categorical Time-Series Data.  
*Working Notes of the Joint Workshop on Predicting the Future: AI Approaches to Time Series Analysis*,  
Fifteenth National Conference on Artificial Intelligence (AAAI98)/Fifteenth International Conference  
on Machine Learning (ICML98).  
AAAI Press.
  28. Chumki Basu, Haym Hirsh, and William W. Cohen (1998).  
Recommendation as Classification: Using Social and Content-Based Information in Recommendation.  
*In Working Notes of the Workshop on Recommender Systems*.  
Fifteenth National Conference on Artificial Intelligence (AAAI98).  
AAAI Press.
  29. Brian D. Davison and Haym Hirsh (1998).  
Probabilistic Online Action Prediction.  
*Working Notes of the AAAI Spring Symposium on Intelligent Environments*, pages 148-154.  
AAAI Press.
  30. Sofus A. Macskassy, Arunava Banerjee, Brian D. Davison, and Haym Hirsh (1998).  
Human Performance on Clustering Web Pages.  
Rutgers University Computer Science Department Technical Report DCS-TR-355
  31. Haym Hirsh (editor) (1998)  
Trends & Controversies: Interactive Fiction.  
*IEEE Intelligent Systems* 13(6):12-21.
  32. Ronen Feldman, Amihood Amir, Y. Aumann, A. Zilberstein, and Haym Hirsh (1997).  
Incremental Algorithms for Association Generation.  
*Proceedings of the 1st Pacific Asia Conference on Knowledge Discovery and Data Mining*.
  33. Brian D. Davison and Haym Hirsh (1997).  
Experiments in UNIX Command Prediction. (Student Abstract).  
*Proceedings of the Fourteenth National Conference on Artificial Intelligence (AAAI97)*
  34. Kwong Bor Ng, Haym Hirsh, Paul B. Kantor, David Loewenstern, and Chumki Basu, (1997).  
Data Fusion of Machine-Learning Methods for the TREC5 Routing Task (and other work).  
*Proceedings of the Fifth Text REtrieval Conference (TREC-5)*, pages 477-488.  
NIST Special Publication 500-238.
  35. Haym Hirsh and Daniel Kudenko (1997).  
Representing Sequences in Description Logics Using Suffix Trees.  
*1997 Workshop on Description Logics*.
  36. Brian D. Davison and Haym Hirsh (1997).  
Experiments in UNIX Command Prediction.  
Rutgers University Computer Science Department Technical Report ML-TR-41.
  37. Khaled Rasheed and Haym Hirsh (1997).  
Guided Crossover: A New Operator for Genetic Algorithm Based Optimization.  
Rutgers University Computer Science Department Technical Report HPCD-TR-50.
  38. Haym Hirsh (1996).  
Boundaries of Tractability for Artificial Intelligence.  
Introduction to Special Issue, *Annals of Mathematics and Artificial Intelligence*.

39. Mark Schwabacher, Thomas Ellman, and Haym Hirsh (1996).  
Inductive Learning for Engineering Design Optimization. (Research abstract).  
*Artificial Intelligence for Engineering Design, Analysis and Manufacturing (AIEDAM)*, 10:179-180.
40. Mark Schwabacher, Haym Hirsh, and Tom Ellman (1996).  
Learning To Select Prototypes and Reformulations for Design.  
*Working Notes of the Workshop on Machine Learning in Design*.  
Artificial Intelligence in Design Conference (AID96).
41. Mark Schwabacher, Tom Ellman, Haym Hirsh, and Gerard Richter (1995).  
Learning When Reformulation is Appropriate for Iterative Design.  
*Working Notes of the Workshop on Machine Learning in Engineering*.  
Fourteenth International Joint Conference on Artificial Intelligence (IJCAI95).  
(Also Rutgers University Computer Science Department Technical Report HPCD-TR-28.)
42. Arunava Banerjee, Haym Hirsh, and Thomas Ellman (1995).  
Inductive Learning of Feature Tracking Rules for Scientific Visualization.  
*Working Notes of the Workshop on Machine Learning in Engineering*.  
Fourteenth International Joint Conference on Artificial Intelligence (IJCAI95).  
(Also Rutgers University Computer Science Department Technical Report HPCD-TR-29.)
43. Mark Schwabacher, Haym Hirsh, and Thomas Ellman (1995).  
Inductive Learning for Engineering Design Optimization.  
*Working Notes of the Workshop on Applying Machine Learning in Practice*.  
Fourteenth International Joint Conference on Artificial Intelligence (IJCAI95).
44. Mark Schwabacher, Tom Ellman, Haym Hirsh, and Gerard Richter (1995).  
Learning When Reformulation is Appropriate for Iterative Design.  
*Working Notes of the Symposium on Abstraction, Reformulation, and Approximation*.
45. Haym Hirsh, Thomas Ellman, Arunava Banerjee, David Drischel, Hongbing Yao, and Norman Zabusky (1995).  
Reduced Model Formation for 2D Vortex Interactions Using Machine Learning.  
*Working Notes of the AAAI Spring Symposium on Systematic Methods of Scientific Discovery*.
46. David Loewenstern, Haym Hirsh, Peter Yianilos, and Michiel Noordewier (1995).  
DNA Sequence Classification Using Compression-Based Induction.  
Rutgers University Computer Science Department Technical Report LCSR-TR-240, DIMACS  
Technical Report 95-04.
47. Haym Hirsh (1994).  
What Should a Graduate of AI-101 Be Expected to Know?  
*Working Notes of the AAAI Fall Symposium on Improving Instruction of Introductory Artificial  
Intelligence*.
48. Nathalie Japkowicz and Haym Hirsh (1994).  
Towards a Bootstrapping Approach to Constructive Induction.  
*Working Notes of the Workshop on Constructive Induction and Change of Representation*, pages 27-32.  
Eleventh International Conference on Machine Learning (ICML94).
49. Mark Schwabacher, Haym Hirsh, and Tom Ellman (1993).  
Inductive Learning of Prototype-Selection Rules for Case-Based Iterative Design.  
*Working Notes of the Workshop on Artificial Intelligence in Design*.  
Thirteenth International Joint Conference on Artificial Intelligence (IJCAI93).
50. James Crawford and Haym Hirsh (1993).  
AAAI 1993 Spring Symposium Report: AI and NP-Hard Problems.  
*AI Magazine*, 14(4):32-34.
51. Paul S. Rosenbloom, Haym Hirsh, William W. Cohen, and Benjamin D. Smith (1993).  
Two Frameworks for Integrating Knowledge in Induction.  
*Proceedings of the Seventh Annual Workshop on Space Operations, Applications and Research*, pages  
226-233.  
NASA Conference Publication 3240.

52. Haym Hirsh (1992).  
The Computational Complexity of the Candidate-Elimination Algorithm.  
Rutgers University Computer Science Department Technical Report ML-TR-36.
53. Steven W. Norton and Haym Hirsh (1991).  
Classifier Learning from Noisy Data as Reasoning Under Uncertainty.  
Rutgers University Computer Science Department Technical Report ML-TR-34.
54. Haym Hirsh (1989).  
Combining Empirical and Analytical Learning with Version Spaces.  
*Proceedings of the Sixth International Machine Learning Workshop*, pages 29-33.  
Morgan Kaufmann Publishers.
55. Scott H. Clearwater, Tze-Pin Cheng, Haym Hirsh, and Bruce G. Buchanan (1989).  
Incremental Batch Learning.  
*Proceedings of the Sixth International Machine Learning Workshop*, pages 366-370.  
Morgan Kaufmann Publishers.
56. Mellisa P. Chase, Monte Zweben, Richard L. Piazza, John D. Burger, Paul P. Maglio, and Haym Hirsh (1989).  
Approximating Learned Search Control Knowledge.  
*Proceedings of the Sixth International Machine Learning Workshop*, pages 218-220.  
Morgan Kaufmann Publishers.
57. Haym Hirsh (1988).  
Empirical Techniques for Repairing Imperfect Theories.  
Working Notes of the AAAI Spring Symposium on Explanation-Based Learning, pages 57–61.

#### Tutorials:

1. Collective Intelligence.  
2012 National Conference on Artificial Intelligence (AAAI-12).  
Haym Hirsh.
2. Collective Intelligence.  
2011 National Conference on Artificial Intelligence (AAAI-11).  
Haym Hirsh.
3. Collective Intelligence and Machine Learning.  
2011 International Conference on Machine Learning (ICML-11).  
Haym Hirsh.
4. User Modeling and Adaptive Interfaces.  
2000 International Conference on Autonomous Agents.  
Pat Langley and Haym Hirsh.
5. Symbolic and Neural-Network Approaches to Machine Learning.  
1993 National Conference on Artificial Intelligence (AAAI-93).  
Haym Hirsh and Jude Shavlik.
6. Symbolic and Neural-Network Approaches to Machine Learning.  
1993 IEEE Conference on Artificial Intelligence for Applications (CAIA-93).  
Haym Hirsh.
7. Machine Learning for Classification Tasks.  
1992 National Conference on Artificial Intelligence (AAAI-92).  
Haym Hirsh and Jude Shavlik.

## Grants

### Principal Investigator:

- Collective Self-Assessment for Reliable Machine Learning  
Microsoft Research  
1 September 2011–31 August 2012  
\$120,000
- Intelligent Web Prefetching to Reduce Client Latencies  
National Science Foundation  
15 August 2000–31 December 2004  
\$438,020
- Integrating Heterogenous Information in Text Mining  
NASA  
1 February 2001–31 December 2004  
\$260,001
- Agent Architecture for the Web  
Pencom Web Works  
1 June 1998–31 January 1999  
\$20,600
- Web Analysis Tools for Text Mining and Knowledge Discovery  
PIs: Haym Hirsh, Amihood Amir (Bar-Ilan University), Oren Etzioni (University of Washington), Ronen Feldman (Bar-Ilan University)  
Binational Science Foundation  
1 October 1997–30 September 2000  
\$71,000
- Scaling Up Version Spaces  
National Science Foundation  
1 July 1992–31 December 1994  
\$59,594

### Co-Principal Investigator:

- New Jersey Center for Pervasive Information Technology  
PI: Wayne Wolf (Electrical Engineering, Princeton)  
New Jersey Commission on Science and Technology  
1 September 2000–31 January 2006  
\$1,450,283 (Rutgers/Hirsh portion: \$226,007)
- A Query-Based Approach to Database Mining: Database Tools for Rule Discovery  
PI: Tomasz Imielinski  
National Science Foundation  
1 June 1995–28 February 1999  
\$384,036

### Investigator:

- Self-Adaptive Software for Automated Design of Complex Engineering Systems  
PI: Saul Amarel  
Defense Advanced Research Projects Agency  
1 July 1998–31 October 2000  
\$532,354
- Hypercomputing and Design  
PI: Saul Amarel  
Defense Advanced Research Projects Agency

14 October 1993–31 December 1998  
\$7,751,000

- Computer Aided Productivity  
PI: Saul Amarel  
Defense Advanced Research Projects Agency  
1 October 1991–30 September 1993  
\$1,914,683.

Rutgers Internal Funding:

- Institute for Computer and Information Security (ICIS)  
PI: Haym Hirsh  
Academic Excellence Fund Award  
2005-2007  
\$180,000
- A Knoesphere for Structural Biology  
PIs: Helen Berman and Haym Hirsh  
Strategic Research Opportunities Analysis (SROA-5) Award  
2000-2002  
\$85,000
- Wireless ValetWare: Intelligent Software Agents for Wireless Access to Heterogeneous Information.  
PI: Haym Hirsh  
Information Sciences Council (ISC) Pilot Award  
1999-2000  
\$30,215.
- Rutgers Distributed Laboratory for Digital Libraries  
PI: Paul Kantor  
Strategic Research Opportunities Analysis (SROA-3) Award  
1998-1999  
\$125,000
- Laboratory for Human-Computer Interaction  
PIs: Beth Adelson and Zenon Pylyshyn.  
Strategic Research Opportunities Analysis (SROA-2) Award  
1997-1998  
\$135,000
- Laboratory for Human-Computer Interaction  
PIs: Beth Adelson and Zenon Pylyshyn.  
Strategic Research Opportunities Analysis (SROA-1) Award  
1996-1997  
\$15,000

Other:

- June 2001: Arranged for donation of ownership of all software and patents for the WHIRL and Slipper systems from AT&T to Rutgers, donation valuation: \$2,800,000

## Professional Service

### Computing Research Association

- Member, Government Affairs Committee, January 2011–present
- Member, Computing Research Funding Task Force, June 2005–September 2006

### American Association for Artificial Intelligence

- Chair, Government Affairs Committee, January 2011–present
- Member, Executive Council, July 2003–June 2006

### ACM Special Interest Group on Artificial Intelligence (SIGART)

- Member, Advisory Board, September 2010–present

### U.S. Office of Science and Technology Policy

- Member, Interagency Robotics Working Group, December 2009–August 2010
- Member, Interagency Education Technology Working Group, July 2009–August 2010

### National Library of Medicine

- Member (Ex Officio), Board of Regents, October 2007–August 2010

### Institute for the Study of Learning and Expertise (ISLE), Palo Alto, CA

- Member, Board of Directors, October 1999–October 2006

### Journals:

- *IEEE Intelligent Systems*  
Advisory Board: July 2005–present  
Editorial Board: August 1999–July 2005  
Contributing Editor, “Trends and Controversies” Feature: September 1998–December 2000
- *Journal of Machine Learning Research*  
Action Editor: March 2001–December 2010  
Editorial Board: January 2001–April 2001
- *Journal of Artificial Intelligence Research*  
Advisory Board: January 2001–December 2005  
Associate Editor: November 1997–December 2000  
Editorial Board: January 1995–December 1997
- *User Modeling and User-Adapted Interaction*  
Editorial Board: June 1999–December 2002
- *Machine Learning*  
Editor: October 1999–March 2002  
Editorial Board: January 1999–October 1999
- *Annals of Mathematics and Artificial Intelligence*  
Guest Editor, “Boundaries of Tractability for Artificial Intelligence”: September 1996
- *Applied Intelligence*  
Review Board: January 1995–February 1999

#### Major Conference Chairmanships:

- Thirteenth International Conference on Innovative Applications of Artificial Intelligence (IAAI-2001)  
Haym Hirsh, Chair; Steven Chien (JPL), Co-Chair: August 2001
- Twelfth International Conference on Innovative Applications of Artificial Intelligence (IAAI-2000)  
Robert Englemore (Stanford University), Chair; Haym Hirsh, Co-Chair: August 2000
- Eleventh International Conference on Machine Learning (ICML-94)  
William Cohen (AT&T Bell Laboratories) and Haym Hirsh, Co-Chairs: July 1994

#### Other Chairmanships:

- Discovery Informatics: Science Challenges for Intelligent Systems Workshop  
Yolanda Gil and Haym Hirsh Co-Chairs: February 2012
- Workshop on Artificial Intelligence Education  
Twenty-Third AAAI Conference on Artificial Intelligence  
Zachary Dodds (Harvey Mudd College), Haym Hirsh, and Kiri Wagstaff (JPL) Co-Chairs: July 2008
- Workshop on Text Mining: Foundations, Techniques and Applications  
Sixteenth International Joint Conference on Artificial Intelligence  
Ronen Feldman (Bar-Ilan University) and Haym Hirsh, Co-Chairs: August 1999
- AAAI Spring Symposium on Machine Learning in Information Access  
Marti Hearst (Xerox Palo Alto Research Center) and Haym Hirsh, Co-Chairs: March 1995
- AAAI Spring Symposium on AI and NP-Hard Problems  
Haym Hirsh, Chair: March 1993

#### Major Conference Committee Memberships:

- International Conference on User Modeling, Adaptation and Personalization (UMAP)  
Program Committee: July 2011, July 2012
- IEEE International Conference on Data Mining (ICDM)  
Panels Chair: December 2009  
Program Committee: December 2011
- AAAI Symposium on Educational Advances in Artificial Intelligence (EAAI)  
Organizing Committee: August 2011
- International Joint Conference on Artificial Intelligence (IJCAI)  
Senior Program Committee: July 2011  
Program Committee: August 2001  
Review Committee: August 1999
- Collaboration, Electronic messaging, Anti-Abuse and Spam Conference (was previously Conference on Email and Anti-Spam) (CEAS)  
Program Committee: July 2005, July 2006, July 2008, July 2009, July 2010
- International Conference on Knowledge Discovery and Data Mining (KDD)  
Senior Program Committee: August 2006, August 2007, August 2008  
Program Committee: August 1997, August 2003
- International ACM SIGIR Conference on Research and Development in Information Retrieval  
Program Committee: July 1997, July 2008  
Review Committee: August 1999
- International Conference on Machine Learning (ICML)  
Chair: June 1994  
Area Chair: August 2003  
Advisory Committee: July 1995, June 1997, July 2000  
Program Committee: June 1993, July 2004, August 2005, June 2006

- European Conference on Machine Learning (ECML) / European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD)  
Program Committee: September 2003, September 2004, October 2005
- International Conference on User Modeling (UM)  
Program Committee: June 2003, July 2005
- National Conference on Artificial Intelligence (AAAI)  
Senior Program Committee: July 1998  
Program Committee: August 1996, July 2005
- International World Wide Web Conference (WWW)  
Program Committee: May 2002, May 2004
- International Conference on Autonomous Agents  
Program Committee: February 1997, February 1998, May 1999, June 2000
- ACM Conference on Computational Learning Theory (COLT)  
Advisory Committee: June 1997  
Program Committee: July 1995
- IEEE Conference on Artificial Intelligence Applications (CAIA)  
Program Committee: March 1994, March 1995
- International Conference on Principles of Knowledge Representation and Reasoning (KR)  
Program Committee: October 1992

#### Other Committee Memberships:

- First Workshop on Recent Advances in Behavior Prediction and Pro-Active Pervasive Computing  
10th International Conference on Pervasive Computing  
Technical Program Committee: June 2012
- New York Academy of Sciences Machine Learning Symposium  
Steering Committee: October 2006
- European Web Mining Forum (EWMF 2005)  
European Conference on Machine Learning  
Program Committee: October 2005
- Workshop on Fielding Applications of Artificial Intelligence  
Nineteenth National Conference on Artificial Intelligence/Sixteenth Innovative Applications of Artificial Intelligence  
Program Committee: July 2004
- Workshop on Artificial Intelligence for Web Search  
Seventeenth National Conference on Artificial Intelligence (AAAI2000)  
Organizing Committee: August 2000
- 2<sup>nd</sup> Workshop on Web Information and Data Management (WIDM99)  
ACM International Conference on Information and Knowledge Management (CIKM99)  
Program Committee: November 1999
- Workshop on Recommender Systems  
Twenty-Second Annual International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR99)  
Program Committee: August 1999
- Workshop on Learning about Users  
Sixteenth International Joint Conference on Artificial Intelligence (IJCAI99)  
Program Committee: August 1999
- Second Workshop on Adaptive Systems and User Modeling on the World Wide Web  
8th International World Wide Web Conference/7th International Conference on User Modeling  
Program Committee: May/June 1999

- Workshop on Recommender Systems  
Fifteenth National Conference on Artificial Intelligence (AAAI98)  
Organizing/Program Committee: July 1998
- ADL'96, Forum on Research and Technology Advances in Digital Libraries  
Program Committee: May 1996
- Workshop on Applying Machine Learning in Practice  
Twelfth International Conference on Machine Learning  
Organizing/Program Committee: July 1995
- AAAI Fall Symposium on Improving Instruction of Introductory Artificial Intelligence  
Organizing/Program Committee: November 1994
- Workshop on Constraining Learning with Prior Knowledge  
Tenth National Conference On Artificial Intelligence (AAAI92)  
Organizing/Program Committee: July 1992
- Workshop on Learning from Knowledge and Data  
Eighth International Machine Learning Conference (ICML91)  
Organizing/Program Committee: June 1991

## PhD Students:

### Doctoral Thesis Committee Chair:

2007

- Jon Christopher Mesterharm  
"Improving On-line Learning"  
First Position: Visiting Assistant Professor, Department of Computer and Information Sciences, Fordham University  
Current Position: Research Scientist, Rutgers University

2003

- Sofus Macskassy  
"New Techniques in Information Filtering"  
First Position: Associate Research Scientist, Department of Information, Operations, and Management Sciences, Stern School of Business, New York University  
Current Position: Senior Computer Scientist, Information Sciences Institute, University of Southern California
- Gary Weiss  
"The Effect of Small Disjuncts and Class Distribution on Decision Tree Learning"  
First Position: Senior Member of Technical Staff, AT&T Labs  
Current Position: Assistant Professor and Interim Department Chair, Department of Computer and Information Sciences, Fordham University

2002

- Chumki Basu  
"Recommendation as Classification and Recommendation as Matching: Two Information-Centered Approaches to Recommendation"  
First Position: Member of Technical Staff, Sarnoff Corporation  
Current Position: Program Manager, IBM Research Bangalore
- Brian Davison  
"The Design and Evaluation of Web Prefetching and Caching Techniques"  
First Position: Assistant Professor, Department of Computer Science and Engineering, Lehigh University  
Current Position: Associate Professor, Department of Computer Science and Engineering, Lehigh University
- Sarah Zelikovitz  
"Using Background Knowledge to Improve Text Classification"  
First Position: Assistant Professor, Department of Computer Science, College of Staten Island  
Current Position: Associate Professor, Department of Computer Science, College of Staten Island

2001

- Arunava Banerjee  
"The Phase-Space Dynamics of Systems of Spiking Neurons"  
2000 Rutgers FAS Dean's Research Award recipient  
First Position: Postdoctoral Fellow, Brain and Cognitive Sciences, University of Rochester  
Current Position: Associate Professor, Department of Computer and Information Science and Engineering, University of Florida

1999

- David Loewenstern (Peter Yianilos, external chair, NEC)  
"Sequence Classification Learning using Methods Derived from Entropy Estimation"

First Position: Postdoctoral Fellow, NEC Research Institute

Current Position: Advisory Engineer, IBM Research

1998

- Daniel Kudenko  
"Feature Generation for Sequence Categorization"  
First/Current Position: Lecturer, University of York, UK
- Khaled Rasheed  
"GADO: A Genetic Algorithm for Continuous Design Optimization"  
First Position: Postdoctoral Fellow, Department of Computer Science, Rutgers University  
Current Position: Associate Professor, Department of Computer Science, University of Georgia

1997

- Vipul Kashyap (Amit Sheth, external chair, Bellcore)  
"Information Brokering over Heterogeneous Digital Data — A Metadatabased Approach"  
First Position: Microelectronics and Computer Technology Corporation (MCC), Austin, TX  
Current Position: Director, Clinical Decision Support and Knowledge Management, CIGNA

1995

- Steven W. Norton  
"Classifier Induction from Imperfect Data as Reasoning Under Uncertainty"  
First Position: Member Technical Staff, AT&T, Murray Hill, NJ  
Current Position: Vice President, Investment Technology Group, Boston, MA

1994

- David Lubinsky (with Sholom Weiss)  
"Bivariate Splits and Consistent Split Criteria in Dichotomous Classification Trees"  
First Position: Assistant Professor, Department of Computer Science, University of Witwatersrand  
Current Position: Associate Professor, Department of Mathematics, University of Witwatersrand;  
Managing Director, OPSI Systems

1993

- Lorien Pratt (with Jack Mostow)  
"Transferring Previously Learned Back-Propagation Neural Networks to New Learning Tasks"  
First Position: Assistant Professor, Colorado School of Mines  
Current Position: CTO, Quantellia, Inc.

Member of Doctoral Thesis Committee:

Rutgers University Computer Science:

- 2007: Alex Strehl  
Department of Computer Science, Rutgers University  
"Probably Approximately Correct (PAC) Exploration in Reinforcement Learning"  
Advisor: Michael Littman
- 2001: C. Greg Hagerty  
Department of Computer Science, Rutgers University  
"Data Abstraction and Analysis Using Qualitative Scaling"  
Advisor: Casimir Kulikowski
- 1998: Aashu Virmani  
Department of Computer Science, Rutgers University  
"Second Generation Data Mining: Concepts and Implementation"  
Advisor: Tomasz Imielinski

- 1997: Leon Shklar  
Department of Computer Science, Rutgers University  
"Web Access to Heterogeneous Information: Methods and Applications"  
Advisor: Thorne McCarty
- 1996: Michael W. Barley  
Department of Computer Science, Rutgers University  
"Model-Based Refinement of Search Biases"  
Advisor: Louis Steinberg
- 1996: Valerie B. Barr  
Department of Computer Science, Rutgers University  
"Applications of Rule-Base Coverage Measures to Expert Systems"  
Advisor: Casimir Kulikowski
- 1996: Deborah McGuinness  
Department of Computer Science, Rutgers University  
"Explaining Reasoning in Description Logics"  
Advisor: Alex Borgida
- 1996: Mark Schwabacher  
Department of Computer Science, Rutgers University  
"The Use of Artificial Intelligence to Improve the Numerical Optimization of Complex Engineering Designs"  
Advisors: Tom Ellman, Andrew Gelsey
- 1994: Dawn Cohen  
Department of Computer Science, Rutgers University  
"Knowledge-Based Generation of Machine Learning Experiments: Learning to Predict DNA Hydration"  
Advisor: Casimir Kulikowski
- 1992: Neeraj Bhatnagar  
Department of Computer Science, Rutgers University  
"On-Line Learning from Search Failures"  
Advisor: Jack Mostow
- 1990: William Cohen  
Department of Computer Science, Rutgers University  
"Explanation-Based Learning as an Abstraction Mechanism in Concept Learning"  
Advisor: Alex Borgida
- 1990: Armand Frieditis  
Department of Computer Science, Rutgers University  
"Discovering Effective Admissible Heuristics by Abstraction and Speedup: A Transformational Approach"  
Advisor: Jack Mostow

#### Other Doctoral Committees:

- 2005: Rickard Cöster  
Department of Computer and System Sciences, Stockholm University  
"Algorithms and Representations for Personalized Information Access"  
Advisor: Lars Asker  
(Role: "Opponent")
- 2000: Wen-Hua Ju  
Department of Statistics, Rutgers University  
"Statistical Modeling of UNIX Users and Processes with Application to Computer Intrusion Detection"  
Advisor: Yehuda Vardi
- 1998: Mohamed Arteimi  
Department of Computer Science, University of Witwatersrand

"Rule Refinement in Inductive Knowledge-Based Systems"

Advisor: David Lubinsky

- 1995: Stefano Bertolo  
Department of Philosophy, Rutgers University  
"Learnability Properties of Parametric Models for Natural Language Acquisition"  
Advisor: Bob Matthews

## Courses Taught

- Undergraduate:
  - CS 112: Data Structures
  - CS 206: Discrete Structures II
  - CS 323: Numerical Analysis
  - CS 436: Databases
  - CS 440: Introduction to Artificial Intelligence
  - CS 442: Social Computing and Collective Intelligence
  - MSIS 410: Telecommunications Network Systems in Business (Rutgers Business School)
  - IS 2317: Information and Internet Technologies (NYU Stern School of Business)
- Graduate:
  - CS 520: Introduction to Artificial Intelligence
  - CS 536: Machine Learning
  - CS 671: Graduate Seminar (1990): Research Topics in Explanation-Based Learning
  - CS 672: Graduate Seminar (1995): Information Systems in Networked Computing Environments
  - CS 672: Graduate Seminar (2011): Crowdsourcing, Human Computation, and Collective Intelligence
  - CS 673: Graduate Seminar (1999): Intelligent Information Access

## Department Service

- Chair: July 2003–October 2006
- Executive Committee: Member: July 2011–present
- Awards Committee: Chair: July 2011–present
- Hiring Committee: Chair: 1996–1998, Member: 1989–1992, 1998–1999
- Graduate Advising, Examinations, and Scholastic Standing Committee: Member: 1993–1997
- Graduate Curriculum Committee: Member: 1993–1996
- Graduate Examination Revision Committee: Member: 1993–1994
- Undergraduate Curriculum Committee: Member: 1990–1993, 2001–2003, 2011–present
- Graduate Admissions Committee: Member: 1989–1990

## University Service

- Computing Coordinating Council:  
Chair: October 2005–October 2006
- DIMACS:  
Member, Executive Committee: January–December 2005  
Member, Associate Director Search Committee: September 2005–April 2006
- Rutgers Center for Cognitive Science:  
Member, Executive Committee: September 2004–present
- Information Technology Strategic Planning Committee: November 2004–April 2006
- President's Faculty Advisory Council: September 2004–October 2006
- Search Committee, Center for Advanced Information Processing Directorship:  
Chair: July 2004–December 2004
- Undergraduate Education Task Force: April 2004–July 2005  
Member, Steering Committee

- Co-Chair, Campus Planning and Facilities Working Group
- Member, Structure Working Group
- All Funds Budgeting Task Force: November 2003–August 2004  
Member, Task Force  
Member, Indirect Cost Return Subcommittee
- Rutgers University Senate:  
Senator Representing Rutgers College, September 1999–August 2005  
Elected Member, Executive Committee, September 2001–August 2005  
Member, Faculty Affairs and Personnel Committee, September 2000–August 2005  
Member, Planning Committee: September 1999–August 2000
- New Brunswick Faculty Council:  
Representative, Department of Computer Science, September 1997–August 2006  
Chair: September 2003–August 2004  
Vice Chair: September 2002–August 2003  
Executive Cabinet: September 2002–August 2005  
Budget and Planning Committee: Chair, September 2004–August 2005  
Library Committee: Chair: September 2001–August 2003, Member: September 2000–August 2001  
Research Committee: Member: September 1997–June 2000
- Rutgers College:  
Member, Rutgers College Fellows Executive Committee, September 1999–August 2005
- Faculty of Arts and Sciences:  
Member, Physical Sciences Area Committee: September 2001–August 2003  
Member, Committee on Appointments and Promotions: Spring 1999  
Member, Council on Structural Bioinformatics: Fall 1998
- President's Advisory Committee on the Proposed College of Applied and Professional Studies (CAPS):  
Member: May 2001–October 2001

## Other Service

- University of Iowa Department of Computer Science  
Chair, External Review Committee: March 2012
- Governor's Commission on Health Science, Education and Training  
Review, Planning, and Implementation Steering Committee  
University Committee–Central  
Member: May 2002–October 2003  
Co-Chair, Administrative Disparities Subcommittee: June 2002–September 2003
- Middlesex County College Department of Computer Science  
Member, Advisory Committee, September 2005–August 2006
- Crohn's and Colitis Foundation of America, New Jersey Chapter:  
Member, Board of Trustees: 2004–2006