

## Curriculum Vitae

### PATRICK PANTEL, PH.D.

Microsoft Research  
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#### Education

Ph.D., University of Alberta, Computing Science (Dissertation Title: *Clustering by Committee*), June 2003.

B.Sc. Hons. (University Gold Medal and First Class Honors), University of Manitoba, Computer Science, May 1998.

#### Work Experience

Partner Research Manager (2010-present), Microsoft Research. Redmond, WA.

Senior Research Manager (2007-2010), Yahoo! Inc. Sunnyvale, CA.

Research Assistant Professor (2005–2010), Computer Science Department, University of Southern California, Los Angeles, CA.

Research Scientist (2003–2008), Information Sciences Institute, University of Southern California, Los Angeles, CA.

Deputy Director (2006–2008), Department of Homeland Security Center for Large-Scale Strategic Knowledge Integration and Discovery from Multiple Media, Los Angeles, CA.

Research Assistant (2000-2003), University of Alberta, Canada.

Computer Systems Analyst (2000–2002), iGazoo, Edmonton, Canada.

Research Assistant (1998-2000), University of Manitoba, Canada.

Computer Systems Analyst (1995–1998), Encore Business Solutions, Winnipeg, Canada.

#### Research Interests

Natural language processing, text mining, information extraction, large-scale data processing, and machine learning.

#### Languages

English and French (fluent).

#### Patents

Automatic Fact Validation (co-inventor) – US Patent Pending 12/476,055 – A facility for fulfilling searches and determining the validity of a large set of noisy facts and rank the set of facts according to a validity score.

Identification of Related Bid Phrases and Categories Using Co-Bidding Information (co-inventor) – US Patent Pending 12/465,077 – A method and system for determining related bid terms and other advertising information.

Mixing Knowledge Sources for Improved Entity Extraction (co-inventor) – US Patent Pending 12/509,278 – A facility for extracting entities from multiple sources by mixing knowledge extractors with different sources of evidence of knowledge.

Mixing Knowledge Sources with Auto Learning For Improved Entity Extraction (co-inventor) – US Patent Pending 12/509,310 – A facility for automatically acquiring labeled examples for training entity extractors that leverage multiple sources of knowledge and evidence.

Discovery of Inference Rules from Text (co-inventor) – US Patent #7,146,308 – A facility for discovering a set of inference rules (or paraphrases) by analyzing a corpus of natural language text.

## **Honors and Awards**

Richard Montague Award for Best Presentation, Conference on Inference in Computational Semantics, 2006.

World Science Forum Delegate, National Science Foundation, 2005 – member of U.S. delegation of twelve scientists.

Honorary Izaak Walton Killam Memorial Scholarship, University of Alberta, Canada, 2002 – for a doctoral student likely to contribute to the advancement of learning or to win distinction in their profession (the university's most prestigious award).

Ralph Steinhauer Award of Distinction, Government of Alberta, Canada, 2002.

Andrew Stewart Memorial Award, University of Alberta, Canada, 2002 – for recognition of excellence in research at the doctoral level acknowledging outstanding accomplishment and potential in pursuit of new knowledge.

iCORE Scholarship, University of Alberta, Canada, 2002.

Queen's University School of Business and Natural Sciences and Engineering Research Council Scholarship, Queen's University, Canada, 2001.

Natural Sciences and Engineering Research Council Postgraduate Scholarship B, Government of Canada, 2000 – two-year national scholarship.

iCORE Scholarship, University of Alberta, Canada, 2000 (2 years).

Walter H Johns Graduate Fellowship, University of Alberta, Canada, 2000 (2 years).

Faculty of Science Graduate Scholarship, University of Alberta, Canada, 2000.

Rhodes Scholarship Finalist, Rhodes Scholarship Trust, 1999 – one of nine candidates interviewed in the 1999 prairie regional finals.

University Gold Medal, University of Manitoba, Canada, 1998 – for highest academic achievement in the Faculty of Science.

Natural Sciences and Engineering Research Council Postgraduate Scholarship A, Government of Canada, 1998 – two-year national scholarship.

Sony Science Scholarship, Sony of Canada Limited, 1997.

Isbister Scholarship, University of Manitoba, Canada, 1997 – for highest standing in the Faculty of Science in any but the graduating year.

UMSU Scholarship, University of Manitoba, Canada, 1997.

Faculty of Science Undergraduate Research Award, University of Manitoba, Canada, 1997.

Isbister Scholarship, University of Manitoba, Canada, 1995 – for highest standing in the Faculty of Science in any but the graduating year.

Academic Excellence Scholarship, Collège universitaire de Saint-Boniface, Canada, 1994.

Governor General Bronze Medal, Government of Canada, 1994 – for highest academic achievement.

## Grants

*DHS Center for Large-Scale Strategic Knowledge Integration and Discovery from Multiple Media*. DHS Award, 2007-2009, co-PI with Eduard Hovy and Dennis McLeod. \$2,400,000.

*MapReduce Curriculum Development*. Google Award, 2007, PI. \$10,000.

*Data Catalysis Center Initiative*. USC Information Sciences Institute, 2007-2008, PI. \$300,000.

## Publications

### Magazine articles

Patrick Pantel, Andrew Philpot and Eduard Hovy. 2005. Data Alignment and Integration. *IEEE Computer Magazine*, 38(12):43-50.

### Journal articles

Peter Turney and Patrick Pantel. 2010. From Frequency to Meaning: Vector Space Models of Semantics. *Journal of Artificial Intelligence Research (JAIR)*, 37(1):141-188. AI Access Foundation.

Dekang Lin and Patrick Pantel. 2001. Discovery of Inference Rules for Question Answering. *Natural Language Engineering*, 7(4):343-360.

### Book chapters

Andrew Philpot, Eduard Hovy and Patrick Pantel. 2010. The Omega Ontology. In Chu-Ren Huang, Nicoletta Calzolari, Aldo Gangemi, Alessandro Lenci, Alessandro Oltramari, and Laurent Prévot (Eds.) *Ontology and the Lexicon*. ISBN: 978-0-52188-659-8. Cambridge University Press.

Patrick Pantel and Marco Pennacchiotti. 2008. Automatically Harvesting and Ontologizing Semantic Relations. In Paul Buitelaar and Philipp Cimiano (Eds.) *Ontology Learning and Population: Bridging the Gap between Text and Knowledge - Selected Contributions to Ontology Learning and Population from Text*. pp. 171-198. ISBN: 978-1-58603-818-2. IOS Press.

### Refereed conference papers

Ashequl Qadir, Michael Gamon, Patrick Pantel, Ahmed Hassan Awadallah. 2016. Activity Modeling in Email. In *Proceedings of North American Association for Computational Linguistics / Human Language Technology (NAACL HLT 16)*. pp. 1452-1462. San Diego, CA.

Kristina Toutanova, Danqi Chen, Patrick Pantel, Hoifung Poon, Pallavi Choudhury, Michael Gamon. 2015. Representing Text for Joint Embedding of Text and Knowledge Bases. In *Proceedings of Conference on Empirical Methods in Natural Language Processing (EMNLP-15)*. pp. 1499-1509. Lisbon, Portugal.

Patrick Pantel, Michael Gamon, Ariel Fuxman. 2014. Smart Selection. In *Proceedings of Association for Computational Linguistics (ACL-14)*. pp. 1524-1533. Baltimore, MD.

Michael Gamon, Arjun Mukherjee, Patrick Pantel. 2014. Predicting Interesting Things in Text. In *Proceedings of Conference on Computational Linguistics (COLING-14)*. pp. 1477-1488. Dublin, Ireland.

Jianfeng Gao, Patrick Pantel, Michael Gamon, Xiaodong He, Li Deng. 2014. Modeling Interestingness with Deep Neural Networks. In *Proceedings of Conference on Empirical Methods in Natural Language Processing (EMNLP-14)*. pp. 2-13. Doha, Qatar.

- Ahmed Hassan Awadallah, Ryen W. White, Patrick Pantel, Susan T. Dumais, Yi-Min Wang. 2014. Supporting Complex Search Tasks. In *Proceedings of ACM Conference on Information and Knowledge Management (CIKM-14)*. pp. 829-838. Shanghai, China.
- Ariel Fuxman, Patrick Pantel, Yuanhua Lv, Ashok Chandra, Pradeep Chilakamarri, Michael Gamon, David Hamilton, Bernhard Kohlmeier, Dhyanesh Narayanan, Evangelos Papalexakisz, Bo Zhao. 2014. Contextual Insights. In *Proceedings of Companion Publication of the World Wide Web Conference (WWW-14)*. pp. 265-266. Seoul, South Korea.
- Michael Gamon, Tae Yano, Xinying Song, Johnson Apacible, Patrick Pantel. 2013. Identifying Salient Entities in Web Pages. In *Proceedings of ACM Conference on Information and Knowledge Management (CIKM-13)*. pp. 2375-2380. Burlingame, CA.
- Patrick Pantel, Michael Gamon, Omar Alonso, Kevin Haas. 2012. Social Annotations: Utility and Prediction Modeling. In *Proceedings of ACM Special Interest Group on Information Retrieval (SIGIR-12)*. pp. 285-294. Portland, OR.
- Thomas Lin, Patrick Pantel, Michael Gamon, Anitha Kannan, Ariel Fuxman. 2012. Active Objects: Actions for Entity-Centric Search. In *Proceedings of World Wide Web Conference (WWW-12)*. pp. 589-598. Lyon, France.
- Patrick Pantel, Thomas Lin, Michael Gamon. 2012. Mining Entity Types from Query Logs via User Intent. In *Proceedings of Association for Computational Linguistics (ACL-12)*. pp. 563-571. Jeju Island, South Korea.
- Hassan Sajjad, Patrick Pantel, Michael Gamon. 2012. Underspecified Query Refinement via Natural Language Question Generation. In *Proceedings of Conference on Computational Linguistics (COLING-10)*. pp. 2341-2356. Mumbai, India.
- Yoav Artzi, Patrick Pantel, Michael Gamon. 2012. Predicting Responses to Microblog Posts. In *Proceedings of North American Association for Computational Linguistics / Human Language Technology (NAACL HLT 12)*. pp. 602-606. Montreal, Canada.
- Omar Alonso, Michael Gamon, Kevin Haas, Patrick Pantel. 2012. Diversity and Relevance in Social Search. In *Proceedings of Web Search and Data Mining Workshop on Diversity in Document Retrieval (DDR-12)*. Seattle, WA.
- Patrick Pantel and Ariel Fuxman. 2011. Jigs and Lures: Associating Web Queries with Strongly-Typed Entities. In *Proceedings of Association for Computational Linguistics – Human Language Technology (ACL-HLT-11)*. pp. 83-92. Portland, OR.
- Marco Pennacchiotti and Patrick Pantel. 2011. Automatically Building Training Examples for Entity Extraction. In *Proceedings of Computational Natural Language Learning (CONLL-11)*. pp. 163-171. Portland, OR.
- Eric Crestan and Patrick Pantel. 2011. Web-Scale Table Census and Classification. In *Proceedings of Web Search and Data Mining (WSDM-11)*. pp. 545-554. Hong Kong.
- Alpa Jain and Patrick Pantel. 2011. How do they Compare? Automatic Identification of Comparable Entities on the Web. In *IEEE Conference on Information Reuse and Integration (IEEE-IRI-11)*. pp. 228-233. Las Vegas, NV.
- Alpa Jain and Patrick Pantel. 2010. FactRank: Random Walks on a Web of Facts. In *Proceedings of Conference on Computational Linguistics (COLING-10)*. pp. 501-509. Beijing, China.
- Ana-Maria Popescu, Patrick Pantel and Gilad Mishne. 2010. Semantic Lexicon Adaptation for Use in Query Interpretation. In *Proceedings of World Wide Web Conference (WWW-10)*. pp. 1167-1168. Raleigh, NC.
- Eric Crestan and Patrick Pantel. 2010. Web-Scale Knowledge Extraction from Semi-Structured Tables. In *Proceedings of World Wide Web Conference (WWW-10)*. pp. 1081-1082. Raleigh, NC.

- Marco Pennacchiotti and Patrick Pantel. 2009. Entity Extraction via Ensemble Semantics. In *Proceedings of Conference on Empirical Methods in Natural Language Processing (EMNLP-09)*. pp. 238-247. Singapore, Singapore.
- Patrick Pantel, Eric Crestan, Arkady Borkovsky, Ana-Maria Popescu and Vishnu Vyas. 2009. Web-Scale Distributional Similarity and Entity Set Expansion. In *Proceedings of Conference on Empirical Methods in Natural Language Processing (EMNLP-09)*. pp. 938-947. Singapore, Singapore.
- Vishnu Vyas, Patrick Pantel and Eric Crestan. 2009. Helping Editors Choose Better Seed Sets for Entity Expansion. In *Proceedings of ACM Conference on Information and Knowledge Management (CIKM-09)*. pp. 225-234. Hong Kong.
- Alpa Jain and Patrick Pantel. 2009. How do they compare? Automatic Identification of Comparable Entities on the Web. In *Proceedings of ACM Conference on Information and Knowledge Management (CIKM-09)*. pp. 1661-1664. Hong Kong.
- Soo-Min Kim, Patrick Pantel, Lei Duan and Scott Gaffney. 2009. Improving Web Page Classification by Label-Propagation over Click Graphs. In *Proceedings of ACM Conference on Information and Knowledge Management (CIKM-09)*. pp. 1077-1086. Hong Kong.
- Vishnu Vyas and Patrick Pantel. 2009. Semi-Automatic Entity Set Refinement. In *Proceedings of North American Association for Computational Linguistics / Human Language Technology (NAACL/HLT-09)*. pp. 290-298. Boulder, CO.
- William Chang, Patrick Pantel, Ana-Maria Popescu, and Evgeniy Gabrilovich. 2009. Towards Intent-Driven Bidterm Suggestion. In *Proceedings of Conference on World Wide Web (WWW-09)*. pp. 1093-1094. Madrid, Spain.
- Patrick Pantel and Vishnu Vyas. 2008. A Joint Information Model for  $n$ -best Ranking. In *Proceedings of Conference on Computational Linguistics (COLING-08)*. pp. 681-688. Manchester, UK.
- Vishnu Vyas and Patrick Pantel. 2008. Explaining Similarity of Terms. In *Proceedings of Conference on Computational Linguistics (COLING-08)*. pp. 131-134. Manchester, UK.
- Rahul Bhagat, Patrick Pantel and Eduard Hovy. 2007. LEDIR: An Unsupervised Algorithm for Learning Directionality of Inference Rules. In *Proceedings of Conference on Empirical Methods in Natural Language Processing (EMNLP-07)*. pp. 161-170. Prague, Czech Republic.
- Patrick Pantel, Rahul Bhagat, Bonaventura Coppola, Timothy Chklovski and Eduard Hovy. 2007. ISP: Learning Inferential Selectional Preferences. In *Proceedings of North American Association for Computational Linguistics / Human Language Technology (NAACL HLT 07)*. pp. 564-571. Rochester, NY.
- Alfio Massimiliano GlioZZo, Marco Pennacchiotti and Patrick Pantel. 2007. The Domain Restriction Hypothesis: Relating Term Similarity and Semantic Consistency. In *Proceedings of North American Association for Computational Linguistics / Human Language Technology (NAACL HLT 07)*. pp. 131-138. Rochester, NY.
- Patrick Pantel. 2007. Data Catalysis: Facilitating Large-Scale Natural Language Data Processing. In *Proceedings of the International Symposium on Universal Communication (ISUC-07)*. pp. 201-204. Kyoto, Japan.
- Patrick Pantel, Andrew Philpot and Eduard Hovy. 2007. Data Integration in the Wild: From Instances to Concept Catalogs. In *Proceedings of Conference on Digital Government Research (DG.O-07)*. pp. 264-265. Philadelphia, PA.
- Patrick Pantel and Marco Pennacchiotti. 2006. Espresso: Leveraging Generic Patterns for Automatically Harvesting Semantic Relations. In *Proceedings of Conference on Computational Linguistics / Association for Computational Linguistics (COLING/ACL-06)*. pp. 113-120. Sydney, Australia.

- Marco Pennacchiotti and Patrick Pantel. 2006. Ontologizing Semantic Relations. In *Proceedings of Conference on Computational Linguistics / Association for Computational Linguistics (COLING/ACL-06)*. pp. 793-800. Sydney, Australia.
- Soo-Min Kim, Patrick Pantel, Timothy Chklovski and Marco Pennacchiotti. 2006. Automatically Assessing Review Helpfulness. In *Proceedings of Conference on Empirical Methods in Natural Language Processing (EMNLP-06)*. pp. 423-430. Sydney, Australia.
- Patrick Pantel. 2006. Alias Detection in Malicious Environments. In *Proceedings of AAAI Fall Symposium on Capturing and Using Patterns for Evidence Detection*. pp. 14-20. Washington, D.C.
- Marco Pennacchiotti and Patrick Pantel. 2006. A Bootstrapping Algorithm for Automatically Harvesting Semantic Relations. In *Proceedings of Inference in Computational Semantics (ICoS-06)*. pp. 87-96. Buxton, England.
- Patrick Pantel, Andrew Philpot and Eduard Hovy. 2006. Matching and Integration across Heterogeneous Data Sources. In *Proceedings of Conference on Digital Government Research (DG.O-06)*. Poster. pp. 438-439. San Diego, CA.
- Eduard Hovy, Andrew Philpot and Patrick Pantel. 2006. Entity Consolidation and Alignment in Semi-Structured Data Sources. In *Proceedings of Conference on Digital Government Research (DG.O-06)*. Project Highlight. pp. 400-401. San Diego, CA.
- Patrick Pantel. 2005. Inducing Ontological Co-occurrence Vectors. In *Proceedings of Association for Computational Linguistics (ACL-05)*. pp. 125-132. Ann Arbor, MI.
- Deepak Ravichandran, Patrick Pantel, and Eduard Hovy. 2005. Randomized Algorithms and NLP: Using Locality Sensitive Hash Functions for High Speed Noun Clustering. In *Proceedings of Association for Computational Linguistics (ACL-05)*. pp. 622-629. Ann Arbor, MI.
- Timothy Chklovski and Patrick Pantel. 2005. Global Path-based Refinement of Noisy Graphs Applied to Verb Semantics. In *Proceedings of Joint Conference on Natural Language Processing (IJCNLP-05)*. pp. 792-803. Jeju Island, South Korea.
- Patrick Pantel. 2005. Modeling Observation Importance for Alias Detection. In *Proceedings of the DHS Conference on Partnerships in Homeland Security (available on CD)*. Boston, MA.
- Patrick Pantel, Andrew Philpot and Eduard Hovy. 2005. An Information Theoretic Model for Database Alignment. In *Proceedings of Conference on Scientific and Statistical Database Management (SSDBM-05)*. pp. 14-23. Santa Barbara, CA.
- Andrew Philpot, Patrick Pantel and Eduard Hovy. 2005. Significance Information for Translation: Air Quality Data Integration. In *Proceedings of Conference on Digital Government Research (DG.O-05)*. System Demonstration. pp. 233-234. Atlanta, GA.
- Patrick Pantel, Andrew Philpot and Eduard Hovy. 2005. Aligning Database Columns using Mutual Information. In *Proceedings of Conference on Digital Government Research (DG.O-05)*. pp. 205-210. Atlanta, GA.
- Andrew Philpot, Eduard Hovy and Patrick Pantel. 2005. The Omega Ontology. In *IJCNLP Workshop on Ontologies and Lexical Resources (OntoLex-05)*. pp. 59-66. Jeju Island, South Korea.
- Timothy Chklovski and Patrick Pantel. 2004. VERBOCEAN: Mining the Web for Fine-Grained Semantic Verb Relations. In *Proceedings of Conference on Empirical Methods in Natural Language Processing (EMNLP-04)*. pp. 33-40. Barcelona, Spain.
- Patrick Pantel, Deepak Ravichandran and Eduard Hovy. 2004. Towards Terascale Knowledge Acquisition. In *Proceedings of Conference on Computational Linguistics (COLING-04)*. pp. 771-777. Geneva, Switzerland.

- Patrick Pantel and Deepak Ravichandran. 2004. Automatically Labeling Semantic Classes. In *Proceedings of Human Language Technology / North American Association for Computational Linguistics (HLT/NAACL-04)*. pp. 321-328. Boston, MA.
- Timothy Chklovski and Patrick Pantel. 2004. Path Analysis for Refining Verb Relations. In *Proceedings of KDD Workshop on Link Analysis and Group Detection (LinkKDD-04)*. pp. 92-97. Seattle, WA.
- Deepak Ravichandran, Patrick Pantel, and Eduard Hovy. 2004. The Terascale Challenge. In *Proceedings of KDD Workshop on Mining for and from the Semantic Web (MSW-04)*. pp. 1-11. Seattle, WA.
- Timothy Chklovski and Patrick Pantel. 2004. Large-Scale Extraction of Fine-Grained Semantic Relations between Verbs. In *Proceedings of KDD Workshop on Mining for and from the Semantic Web (MSW-04)*. pp. 12-23. Seattle, WA.
- Patrick Pantel and Dekang Lin. 2003. Automatically Discovering Word Senses. In *Proceedings of Human Language Technology / North American Association for Computational Linguistics (HLT/NAACL-03)*. Project Demonstration. pp. 21-22. Edmonton, Canada.
- Patrick Pantel and Dekang Lin. 2002. Discovering Word Senses from Text. In *Proceedings of ACM Conference on Knowledge Discovery and Data Mining (KDD-02)*. pp. 613-619. Edmonton, Canada.
- Dekang Lin and Patrick Pantel. 2002. Concept Discovery from Text. In *Proceedings of Conference on Computational Linguistics (COLING-02)*. pp. 577-583. Taipei, Taiwan.
- Patrick Pantel and Dekang Lin. 2002. Document Clustering with Committees. In *Proceedings of ACM Special Interest Group on Information Retrieval (SIGIR-02)*. pp. 199-206. Tampere, Finland.
- Patrick Pantel and Dekang Lin. 2002. Efficiently Clustering Documents with Committees. In *Proceedings of Pacific Rim International Conference on Artificial Intelligence (PRICAI-02)*. pp. 424-433. Tokyo, Japan.
- Dekang Lin and Patrick Pantel. 2001. Induction of Semantic Classes from Natural Language Text. In *Proceedings of ACM Conference on Knowledge Discovery and Data Mining (KDD-01)*. pp. 317-322. San Francisco, CA.
- Dekang Lin and Patrick Pantel. 2001. DIRT – Discovery of Inference Rules from Text. In *Proceedings of ACM Conference on Knowledge Discovery and Data Mining (KDD-01)*. pp. 323-328. San Francisco, CA.
- Patrick Pantel and Dekang Lin. 2001. A Statistical Corpus-Based Term Extractor. In: Stroulia, E. and Matwin, S. (Eds.) *AI 2001, Lecture Notes in Artificial Intelligence*. pp. 36-46. Springer-Verlag.
- Patrick Pantel and Dekang Lin. 2000. An Unsupervised Approach to Prepositional Phrase Attachment using Contextually Similar Words. In *Proceedings of Association for Computational Linguistics (ACL-00)*. pp. 101-108. Hong Kong.
- Patrick Pantel and Dekang Lin. 2000. Word-for-Word Glossing with Contextually Similar Words. In *Proceedings of Applied Natural Language Processing / North American Association for Computational Linguistics (ANLP/NAACL-00)*. pp. 78-85. Seattle, WA.
- M. Maheswaran; H. Chen; S. Pradhan; P. Pantel; L. Zheng; R. Min; and T. Groner. 2000. A Resource Management System for Network Computing using Java. In *Proceedings of Computer Science and Informatics*. pp. 453-456. Atlantic City, NJ.
- Patrick Pantel and Dekang Lin. 1998. SpamCop – A Spam Classification & Organization Program. In *Proceedings of AAAI Workshop on Learning for Text Categorization*. pp. 95-98. Madison, WI.

### Dissertation

- Patrick Pantel. 2003. *Clustering by Committee*. Ph.D. Dissertation. Department of Computing Science, University of Alberta, Canada.

### Technical reports

Michael Gamon, Tae Yano, Xinying Song, Johnson Apacible, Patrick Pantel. 2013. Understanding Document Aboutness Step One: Identifying Salient Entities. *Microsoft Research Technical Report*. MSR-TR-2013-73. November, 2013.

Patrick Pantel. 1999. *A Checkers Learning Application Program*. Undergraduate Thesis. TR#99/02. University of Manitoba.

### Teaching

#### Instructor

CS544 – Introduction to Natural Language Processing (Spring 2007), University of Southern California.

CS599 – Lexical Semantics (Fall 2005), University of Southern California.

#### Thesis Committees

Hideki Shima. Ph.D. candidate. Language Technologies Institute. Carnegie Mellon University.

Thomas Lin. Ph.D. 2013. Department of Computer Science and Engineering. University of Washington.

Nate Chambers. Ph.D. 2011. Department of Computer Science. Stanford University.

Mamoru Komachi. Ph.D. 2010. School of Information Science, Nara Institute of Science and Technology.

Rion Snow. Ph.D. 2009. Department of Computer Science. Stanford University.

Rahul Bhagat. Ph.D. 2009. Department of Computer Science. University of Southern California.

Stephen Anthony. Ph.D. 2008. School of Information Technologies. University of Sydney.

Donghui Feng. Ph.D. 2008. Department of Computer Science. University of Southern California.

Nicolaus Mote. Ph.D. Qualification. 2006. Department of Computer Science. University of Southern California.

Deepak Ravichandran. Ph.D. 2005. Department of Computer Science. University of Southern California.

#### Guest Lecturer

University of Southern California (2003-2004): Graduate course sections on *Clustering* and *Advances in Empirical Lexical Semantics*.

University of Alberta (2002-2003): Graduate course section on *Smoothing Probability Distributions* and undergraduate course section on *C++ Classes and Polymorphism*.

#### Invited Talks

Patrick Pantel. 2013. An Entity-Centric Interface to Vertically Integrated Devices and Services. ICML Workshop on Structured Learning: Inferring Graphs from Structured and Unstructured Inputs. Atlanta, GA.

Patrick Pantel. 2012. The Appification of the Web and the Renaissance of Conversational User Interfaces. Conference on Empirical Methods in Natural Language Processing (EMNLP). Jeju Island, South Korea.

Patrick Pantel. 2012. Mining Action Intents in Web Search. NAACL Workshop on Automatic Knowledge Base Construction and Web-scale Knowledge Extraction (AKBC-WEKEX). Montreal, Canada.

Patrick Pantel. 2012. *Brokering Actions on the Web*. WWW Workshop on Appification of the Web (AppWeb). Lyon, France.

- Patrick Pantel. 2012. *Active Objects: An Entity-Centric Search Experience*. Annual Meeting of the NLP Society of Japan. Hiroshima, Japan.
- Patrick Pantel. 2011. *Associating Web Queries with Structured Entities*. University of Washington. Seattle, WA.
- Patrick Pantel. 2010. *Practical Experiences using the Web as a Corpus*. NAACL Workshop on Web as a Corpus (WAC-6). Los Angeles, CA.
- Patrick Pantel. 2010. *Semantic Search*. NAACL Workshop Panel. Los Angeles, CA.
- Patrick Pantel. 2010. *Large-scale Information Extraction*. New York University. New York, NY.
- Patrick Pantel. 2010. *Practical Knowledge Acquisition*. Microsoft Research. Redmond, WA.
- Patrick Pantel. 2010. *Practical Knowledge Acquisition*. Stanford, CA.
- Patrick Pantel. 2010. *Industrial Semantics*. Nara Institute of Science and Technology. Nara, Japan.
- Patrick Pantel. 2009. *Information extraction meets relation databases*. CIKM Panel. Hong Kong.
- Patrick Pantel. 2009. *Ensemble Semantics: A General Information Extraction Framework*. University of Washington. Seattle, WA.
- Patrick Pantel. 2009. *Ensemble Semantics: A General Information Extraction Framework*. Microsoft Research. Redmond, WA.
- Patrick Pantel. 2009. *Emerging Application Areas in Computational Linguistics*. NAACL Industrial Panel. Boulder, CO.
- Patrick Pantel. 2009. *Lexical Semantics in the Prime Time: Applications to Web Search*. EACL Workshop on Geometrical Models of Natural Language Semantics. Athens, Greece.
- Patrick Pantel. 2009. *Of Search and Semantics*. USC Information Sciences Institute. Marina del Rey, CA.
- Patrick Pantel. 2008. *Of Search and Semantics*. NSF Symposium on Semantic Knowledge Discovery, Organization and Use. New York, NY.
- Patrick Pantel. 2008. *Large-Scale Automatic Set Expansion*. Nara Institute of Science and Technology. Nara, Japan.
- Patrick Pantel. 2007. *Modeling and Explaining Similarity*. Stanford University. Stanford, CA.
- Patrick Pantel. 2007. *A Dynamic Similarity Model*. Lawrence Livermore National Laboratory. Livermore, CA.
- Patrick Pantel. 2007. *Modeling and Explaining Similarity*. Natural Language Communication Symposium. Tokyo, Japan.
- Patrick Pantel. 2007. *Lexical Semantics and Large-Scale Similarity Modeling*. Tutorial at University of Illinois at Urbana-Champaign Summer School. Urbana, IL.
- Patrick Pantel. 2007. *Catalyzing Semantic Inference using Inferential Selectional Preferences*. International Symposium on Universal Communication (ISUC-07). Kyoto, Japan.
- Patrick Pantel. 2006. *Knowledge Harvesting and Fusion from Small and Large Corpora*. Conference on Inference in Computational Semantics. Buxton, England.
- Patrick Pantel. 2006. *Espresso: Making Use of Generic Patterns for Mining Relations from Small and Large Corpora*. Google. Mountain View, CA.
- Patrick Pantel. 2005. *Knowledge Harvesting*. Yahoo Inc. Santa Clara, CA.
- Patrick Pantel. 2005. *Data Integration and Entity Consolidation*. Department of Homeland Security – Institute for Discrete Sciences Workshop on Threat Awareness Data Integration and Dissemination. Washington, D.C.

- Patrick Pantel. 2005. *Ontology Learning and Adaptation*. Yahoo! Research Labs. Pasadena, CA.
- Patrick Pantel. 2005. *Recent Advances in Empirical Lexical Semantics*. UCLA. Los Angeles, CA.
- Patrick Pantel. 2005. *Ontology Learning and Adaptation by Monitoring Text Streams*. DARPA Cognitive Systems Conference (Young Investigators Initiative). Washington, D.C.
- Patrick Pantel. 2005. *Ontologizing Semantic Resources*. Microsoft Research. Seattle, WA.
- Patrick Pantel. 2005. *Ontologizing Semantic Resources*. University of Southern California. Los Angeles, CA.
- Patrick Pantel. 2004. *Towards Automatic Acquisition of Ontological Knowledge*. University of Pennsylvania. Philadelphia, PA.
- Patrick Pantel. 2004. *Towards Automatic Acquisition of Ontological Knowledge*. Johns Hopkins University. Baltimore, MD.
- Patrick Pantel. 2004. *Towards Automatic Acquisition of Ontological Knowledge*. University of Maryland. College Park, MD.
- Patrick Pantel. 2004. *Towards Automatic Acquisition of Ontological Knowledge*. Georgetown University. Washington, D.C.
- Patrick Pantel. 2003. *Clustering by Committee*. USC Information Sciences Institute. Los Angeles, CA.
- Patrick Pantel. 2003. *Clustering by Committee*. University of Waterloo. Waterloo, Canada.
- Patrick Pantel. 2003. *Clustering by Committee*. University of Calgary. Calgary, Canada.
- Patrick Pantel. 2003. *Clustering by Committee*. University of Manitoba. Winnipeg, Canada.
- Patrick Pantel. 2003. *Clustering by Committee*. University of Alberta. Edmonton, Canada.
- Patrick Pantel. 2002. *Discovering Word Senses from Text*. 35<sup>th</sup> Anniversary of the Killam Trusts. Edmonton, Canada.

## **University Leadership and Service**

- Mentoring Committee Coordinator, USC Information Sciences Institute, 2004-2006.
- AI Seminar Coordinator, USC Information Sciences Institute, 2004-2006.
- Department of Computer Science Faculty Search Committee, University of Manitoba, Canada, 1998-2000.
- President – Computer Science Graduate Student Association, University of Manitoba, Canada, 1999-2000.
- Faculty of Science Graduate Studies Committee, University of Manitoba, Canada, 1999-2000.
- Graduate Student Association Representative, University of Manitoba, Canada, 1998-1999.

## **Research Community Service**

### **Boards**

- Action Editor (2012-2014), Transactions of the Association for Computational Linguistics.
- Sponsorship Committee (2011-2013), Association for Computational Linguistics.
- Editorial Board (2008-2010), Computational Linguistics Journal.
- Technical Advisory Committee (2007-2008), Predictive Knowledge Systems Centre, Lawrence Livermore National Laboratory.

### Conference Organization

- 2013: ACL Area Chair for NLP for the Web and Social Media (Sofia, Bulgaria), ACL Sponsorship Co-Chair.
- 2012: EMNLP Area Chair for Semantics (Jeju Island, Korea), ACL Sponsorship Co-Chair, EACL Area Chair for Text Mining and Natural Language Processing Applications (Avignon, France), AAAI Tutorial Co-Chair (Toronto, Canada).
- 2011: IJCNLP Area Chair for Text Mining and NLP Applications (Chiang Mai, Thailand), ACL Tutorial Co-Chair (Portland, OR), AAAI Tutorial Co-Chair (San Francisco, CA), IJCAI Senior Program Committee (Barcelona, Spain).
- 2009: HLT-NAACL Area Chair for Semantics (Boulder, CO). IEEE ICSC Program Co-Chair (Berkeley, CA).
- 2008: AAAI AIW Senior Program Committee (Chicago, IL).
- 2007: HLT-NAACL Area Chair for Semantics (Rochester, NY); PASCAL Recognizing Textual Entailment Challenge, co-organizer; NLPZone.org, co-creator.
- 2006: HLT-NAACL Sponsorship and Exhibits Committee, co-chair (New York, NY).
- 2006: KDD Workshop on Link Analysis: Dynamics and Static of Large Networks (LinkKDD-2006), co-chair (Philadelphia, PA).
- 2005: KDD Workshop on Link Discovery: Issues, Approaches and Applications (LinkKDD-2005), co-chair (Chicago, IL).

### Program Committees

- 2014: ACL (Baltimore, MD), EACL (Gothenburg, Sweden), ACL Student Research Workshop (Baltimore, MD).
- 2013: NAACL (Atlanta, GA), ACL (Sofia, Bulgaria), NAACL Workshop on Language Analysis in Social Media (Atlanta, GA).
- 2012: ACL Joint Workshop on Statistical Parsing and Semantic Processing of Morphologically Rich Languages (Jeju, Korea), NAACL-HLT Workshop on Language in Social Media (Montreal, Canada), EACL (Avignon, France), ISWC Workshop on Web Scale Knowledge Extraction (Montreal, Canada).
- 2011: IJCNLP (Chiang Mai, Thailand), ACL (Portland, OR), EMNLP (Edinburgh, UK), AAAI (San Francisco, CA), IJCAI (Barcelona, Spain).
- 2010: ACL (Uppsala, Sweden), NAACL (Los Angeles, CA), COLING (Beijing, China), EMNLP (Cambridge, MA), Common Sense Knowledge Symposium (AAAI Fall Symposium, Arlington, VA).
- 2009: IJCAI (Pasadena, CA), EMNLP (Singapore, Singapore), IJCAI WikiAI09 Workshop (Pasadena, CA), WWW Workshop on Web Search Result Summarization and Presentation (Madrid, Spain), EACL GEMS Workshop (Athens, Greece).
- 2008: EMNLP (Honolulu, HI), ACL (Columbus, OH), AAAI Special Track on Artificial Intelligence and the Web (Chicago, IL), ECAI Workshop on Ontology Learning and Population (Patras, Greece).
- 2007: EMNLP (Prague, Czech Republic), HLT-NAACL TextGraphs Workshop (Rochester, NY), IJCAI (Hyderabad, India), AAAI Special Track on Artificial Intelligence and the Web (Vancouver, Canada), K-CAP (Whistler, Canada), dg.o 2007 (Philadelphia, PA), HLT/NAACL Workshop on TextGraphs (Rochester, NY), ACL-PASCAL Workshop on Textual Entailment and Paraphrasing (Prague, Czech Republic).
- 2006: AAAI (Boston, MA), AAAI Special Track on Artificial Intelligence and the Web (Boston, MA), COLING/ACL (Sydney, Australia), COLING/ACL Workshop on Ontology Learning and Population (Sydney, Australia), HLT/NAACL Workshop on TextGraphs (New York, NY).
- 2005: CoNLL (Ann Arbor, MI), ICML Workshop on Learning and Extending Lexical Ontologies by using Machine Learning Methods (Bonn, Germany), ACL Demo and Interactive Poster Session (Ann Arbor,

MI), ELECTRA: Workshop on Methodologies and Evaluation of Lexical Cohesion Techniques in Real-world Applications (Salvador, Brazil).

2004: EMNLP (Barcelona, Spain), ACL Senseval-3 (Barcelona, Spain), ICML (Banff, Canada), AMTA (Washington, D.C.)

2003: ACL Workshop on Paraphrasing: Paraphrase Acquisition and Applications (Sapporo, Japan).

#### **Reviewer (Grant Proposals)**

2006: Lawrence Livermore National Laboratory (Livermore, CA).

#### **Reviewer (Journal Articles)**

2010: Computational Linguistics.

2009: Computational Linguistics.

2008: Computational Linguistics.

2005: IEEE Security & Privacy, ACM Transactions on Speech and Language Processing.

2004: Machine Learning Journal, IEEE Transactions on Pattern Analysis and Machine Intelligence.

#### **Reviewer (Conference Papers)**

2011: ACL (Portland, OR), EMNLP (Edinburgh, UK), AAAI (San Francisco, CA), IJCAI (Barcelona, Spain).

2010: ACL (Uppsala, Sweden), NAACL (Los Angeles, CA), COLING (Beijing, China), EMNLP (Cambridge, MA), Common Sense Knowledge Symposium (AAAI Fall Symposium, Arlington, VA).

2009: ACL-IJCNLP (Singapore, Singapore), EMNLP (Singapore, Singapore), EACL (Athens, Greece), ACL Student Workshop (Singapore, Singapore), EACL GEMS Workshop (Athens, Greece), IJCAI WikiAI09 Workshop (Pasadena, CA).

2008: EMNLP (Honolulu, HI), ACL (Columbus, OH), AAAI Special Track on Artificial Intelligence and the Web (Chicago, IL), EACL Workshop on Ontology Learning and Population (Patras, Greece).

2007: ACL (Prague, Czech Republic).

2006: EACL (Trento, Italy), ACL Student Workshop (Sydney, Australia).

2005: HLT/EMNLP (Vancouver, Canada), ACL (Ann Arbor, MI).

2004: COLING (Geneva, Switzerland), IJCNLP (Sanya, China).

2003: PAFLING. (Halifax, Canada), MT Summit (New Orleans, LA).

2002: PRICAI (Tokyo, Japan).

2000: ACL Student Session (Hong Kong).

#### **International Conferences Attended**

2013: ICML (Atlanta, GA).

2012: WWW (Lyon, France).

2011: ACL (Portland, OR).

2010: ACL (Uppsala, Sweden), NAACL HLT (Los Angeles, CA), SIGIR (Geneva, Switzerland).

2009: CIKM (Hong Kong), NAACL-HLT (Boulder, CO), EACL (Athens, Greece).

2008: ACL (Columbus, OH), EMNLP (Honolulu, HI).

2007: NAACL HLT (Rochester, NY), ACL (Prague, Czech Republic), EMNLP (Prague, Czech Republic), ISUC (Kyoto, Japan).

2006: COLING/ACL (Sydney, Australia), HLT/NAACL (New York, NY), AAAI Fall Symposium (Washington, D.C.), ICoS (Buxton, England).

2005: World Science Forum (Budapest, Hungary), Department of Homeland Security Workshop on Threat Awareness Data Integration and Dissemination (Washington, D.C.), IJCNLP (Jeju, South Korea), ACL (Ann Arbor, MI), DARPA CogSys (Washington, D.C.), DHS Working Together (Boston, MA).

2004: COLING (Geneva, Switzerland), EMNLP (Barcelona, Spain), ACL (Barcelona, Spain), HLT/NAACL (Boston, MA).

2003: HLT/NAACL (Edmonton, Canada).

2002: SIGIR (Tampere, Finland), KDD (Edmonton, Canada), AAAI (Edmonton, Canada).

2001: KDD (San Francisco, CA), IJCAI (Seattle, WA).

2000: ACL (Hong Kong), AAAI (Austin, TX), LREC (Athens, Greece), RIAO (Paris, France).

1999: ACL (College Park, MD).

1998: AAAI (Madison, WI), ICML (Madison, WI).