



# Cumulative Bio-Bibliography

## University of California, Santa Cruz

### Yi Zhang

#### EMPLOYMENT HISTORY

|                 |  |
|-----------------|--|
| 2011-now        | Associate Professor, University of California, Santa Cruz  |
| 2005-2011       | Assistant Professor, University of California, Santa Cruz  |
| 2001- now       | Consultant, Toyota. Ex Libris, Hewlett-Packard, Mars Archive Systems, etc.                       |
| 2005-now        | Technical Advisor, DGate Technologies Inc., Milpitas CA (acquired by TrecMicro in 2007), BlueKai |
| 2001-2002, 2004 | Co-op, IBM Almaden Research Center   |
| 1999-2005       | Research Assistant, Carnegie Mellon University   |

#### EDUCATION

08/2005 Ph.D., School of Computer Science, Carnegie Mellon University  
05/2001 M.S., School of Computer Science, Carnegie Mellon University  
07/1999 B.S., Computer Science and Technologies, Tsinghua University

#### HONORS AND AWARDS

2010 National Science Foundation Faculty Early Career Development Award  
2007 Air Force Research Young Investigator Research Award  
2008 Microsoft Beyond Search – Semantic Computing and Internet Economics Award  
2006 Ranked No 1 among 18,000+ teams from 148 different countries and areas for the first several months in the Netflix Movie Recommendation Competition  
2006 Google Faculty Research Award  
2004 IBM Fellowship (twice)  
2002 Best Paper Award Received at Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, Finland

#### GRANTS

2011 National Science Foundation, “Economics Analysis for Recommendation Systems”, co-PI

- 2011 National Science Foundation, “EAGER: Detecting and Tracking Cyber Bullying on the Social Web”, Single PI
- 2010 National Science Foundation Faculty Early Career Development Award for Proposal “CAREER: Future of Search: User, Social Networks and Language”, Single PI
- 2009 Robert Bosch Research and Technology Center, Personalized Recommendation of Location Based Services in a Navigation Context, Single PI, gift
- 2008 US Department of Education, Explicit Scaffolding for Word Learning in Context through Multimedia Multilingual Word Annotation co-PI
- 2008 Air Force Office of Sponsored Research, Air Force Young Investigator Award: Adaptive Information Filtering, Single PI
- 2008 Microsoft Research, Personalized Collaborative Advertising Microsoft Research Award, Single PI, gift
- 2008 Robert Bosch Cooperation, Machine Learning Methods for User Interaction Techniques, Single PI, gift
- 2008 National Science Foundation, REU supplement for III-COR: Proactive Personalized Information Integration and Retrieval,
- 2007 National Science Foundation, III-COR: Proactive Personalized Information Integration, Single PI
- 2007 Nokia Research Center, Mobile Recommender Systems, Single PI, gift
- 2007 NEC Lab, Machine Learning for Multimedia, Single PI, gift
- 2006 Google Inc, Google Research Award: Collaborative Filtering Based on Utility Optimization, Single PI, gift
- 2006 Yahoo! Inc., Personalized Search, Single PI, gift

## PUBLISHED WRITINGS AND CREATIVE ACTIVITIES

### Articles in Professional Journals

- J5 2010 Thomas Wu, Jordi Mondria, Yi Zhang, The Determinants of International Investment and Attention Allocation: Using Internet Search Query Data, *Journal of International Economics* Elsevier PEER REVIEWED (Latest IF: 2.271)
- J4 2009 Yun Chi, Shenghuo Zhu, Hino K, Yihong Gong, Yi Zhang, iOLAP: A Framework for Analyzing the Internet, Social Networks, and Other Networked Data, *IEEE Transactions on Multimedia* 11/3, 372-382 PEER REVIEWED 382 (Latest IF: 2.288)
- J3 2008 Yi Zhang, Wei Xu, Fast Exact Maximum Likelihood Estimation for Mixture of Language Models, *Information Processing and Management: an International Journal* 44/3, 1076-1085, ELSEVIER PEER REVIEWED (Latest IF: 1.783, 5-Year IF: 2.106)
- J2 2008 Sung Kim, Jim Whitehead, Yi Zhang, Classifying Software Changes: Clean or Buggy?, *IEEE Transactions on Software Engineering* 34/2, 181-196, IEEE PEER REVIEWED (2008 IF: 3.569)

J1 2008 Yi Zhang, Complex Adaptive Filtering User Profile Using Graphical Models, *Information Processing and Management: an International Journal* 44/6, 1886-1900, ELSEVIER PEER REVIEWED (Latest IF: 1.783, 5-Year IF: 2.106)

#### Book Chapters

- B3 2009 Moritz Stefaner, Sébastien Ferré, Saverio Perugini, Jonathan Koren, Yi Zhang, User Interface Design, In Giovanni Maria Sacco and Yannis Tzitzikas, editors, *Dynamic Taxonomies and Faceted Search*, Berlin Heidelberg, Springer, 75-112, INVITED
- B2 2009 Yi Zhang, Adaptive Information Filtering, In Mehran Sahami and Ashok Srivastava, editors, *Text Mining: Classification, Clustering, and Applications*, Chapman & Hall/CRC Press INVITED
- B1 2003 Y. Zhang, J. Callan, An unbiased generative model for setting dissemination thresholds, In W. B. Croft and J. Lafferty, editors, *Language Modeling for Information Retrieval*, Kluwer Academic Publishers, pp. 189-218 INVITED

#### Conference Proceedings

- 2011 Jian Wang, Yi Zhang, Utilizing Marginal Net Utility for Recommendation in E-commerce, To appear in Proceedings of the 34th ACM SIGIR International Conference (19.8% acceptance rate)
- 2011 Lanbo Zhang, Yi Zhang, Filtering Semi-Structured Documents Based on Faceted Feedback, To appear in Proceedings of the 34th ACM SIGIR International Conference (19.8% acceptance rate)
- 2011 Hungyu Lin, Yi Zhang, James Davis, Best Document Selection Based on Approximate Utility Optimization, To appear in Proceedings of the 34th ACM SIGIR International Conference (Poster, 32.5% acceptance rate)
- 2011 Jie Liu, Jimeng Chen, Yi Zhang, Yalou Huang, Learning Conditional Random Fields with Latent Sparse Features for Acronym Expansion Finding. Proceedings of 20th ACM Conference on Information and Knowledge Management (ACM CIKM, short paper, 35% acceptance rate)
- 2011 Qianli Xing, Yi Zhang, Lanbo Zhang, On Bias Problem in Relevance Feedback. Proceedings of 20th ACM Conference on Information and Knowledge Management (ACM CIKM, poster, 35% acceptance rate)
- 2010 Jie Liu, Kai Yu, Yi Zhang, Yalou Huang: Training Conditional Random Fields Using Transfer Learning for Gesture Recognition. Proceedings of IEEE International Conference on Data Mining 2010 (9% acceptance rate)
- 2010 Lanbo Zhang, Yi Zhang, Interactive User Profile Initialization based on Faceted Feedback, Proceedings of the 33rd ACM SIGIR International Conference, ACM (16.7% acceptance rate).
- 2010 Lanbo Zhang, Yi Zhang, Discriminative Factored Prior Model for Personalized Content-Based Recommendation, To appear in Proceedings of ACM CIKM Conference on Information and Knowledge Management (short paper, 17.9% accepted as short paper).

- 2010 Sarah Tyler, Jian Wang, Yi Zhang, Utilizing Refinding for Personalized Information Retrieval, To appear in Proceedings of ACM CIKM Conference on Information and Knowledge Management (short paper, 17.9% accepted as short paper).
- 2010 Shawn Wolf, Yi Zhang, Interaction and Personalization of Criteria in Recommender Systems. User Modeling, User Modeling, Adaptation and Personalization Conference, Springer (20+% acceptance rate)
- 2010 Yize Li, Yi Zhang, Jiazhong Nie, Bingqing Wang, Baoshi Yan, Fuliang Weng, Contextual Recommendation based on Text Mining, The 23rd International Conference on Computational Linguistics,
- 2010 Xing Xing, Yi Zhang, Mei Han, Query Difficulty Prediction for Contextual Image Retrieval, European Conference on Information Retrieval, UK
- 2009 Sarah Tyler, Shenghuo Zhu, Yun Chi, Yi Zhang, Ordering Innovators and Laggards for Product Categorization and Recommendation, Proceedings of the third ACM conference on Recommender systems, ACM, 29-36 (17% acceptance)
- 2009 Shawn Wolf, Yi Zhang, User-Centric Multi-Criteria Information Retrieval, Proceedings of the 32nd international ACM SIGIR conference on Research and development in information retrieval, ACM, 818-819, presented as a poster
- 2008 Junhai Luo, Xue Liu, Yui Zhang, Danxia Ye, Zhong Xu, Fuzzy Trust Recommendation Based on Collaborative Filtering for Mobile Ad-hoc Networks, 33rd Annual IEEE Conference on Local Computer Networks
- 2008 Yun Chi and Shenghuo Zhu and Yihong Gong, Probabilistic Polyadic Factorization and Its Application to Personalized Recommendation, ACM 17th Conference on Information and Knowledge Management, ACM, (17% acceptance rate)
- 2008 Jonathan Koren, Yi Zhang, Personalized Interactive Faceted Search, Proceedings of the 17th International World Wide Web Conference, (11% acceptance rate)
- 2007 Yi Zhang, Jonathan Koren, Efficient Bayesian Hierarchical User Modeling for Recommendation Systems, In Proceedings of the 30st Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, New York, ACM, 47 - 54 (17.5% acceptance rate)
- 2007 Yi Zhang, Wei Xu, Fast Exact Maximum Likelihood Estimation for Mixture of Language Models, Proceedings of the 30st Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, poster, (2007)
- 2007 Zuobing Xu, Ram Akella, Yi Zhang, Incorporating Diversity and Density in Active Learning for Relevance Feedback, Proceedings of the European Conference on Information Retrieval, Springer, New York (22% acceptance rate) (2007)
- 2006 Philip Zigoris, Yi Zhang, Bayesian Adaptive User Profiling with Explicit & Implicit Feedback, ACM Fifteenth Conference on Information and Knowledge Management (15% acceptance rate) (2006)
- 2006 A. Srivastava, R. Akella, V. Diev, S. Preethi, D. McIntosh, E. Pontikakis, Z. Xu, Y. Zhang, Enabling the Discovery of Recurring Anomalies in Aerospace Problem Reports using High-Dimensional Clustering Techniques, IEEE Aerospace Conference,
- 2005 Y. Zhang, J. Callan, Combining Multiple Forms of Evidence while Filtering, In

Proceedings of Human Language Technology Conference and Conference on Empirical Methods in Natural Language Processing, Vancouver (31.6% acceptance rate)

- 2004 Y. Zhang, Using Bayesian Priors to Combine Classifiers for Adaptive Filtering, In Proceedings of the 27th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, United Kingdom, (22% accepted)
- 2003 Y. Zhang, W. Xu, J. Callan, Exploration and Exploitation in Adaptive Filtering Based on Bayesian Active Learning, In Proceedings of the 20th International Conference on Machine Learning, (32% accepted)
- 2002 Y. Zhang, J. Callan, T. Minka, Novelty and Redundancy Detection in Adaptive Filtering, In Proceedings of the 25th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, (20% accepted)
- 2001 Y. Zhang, J. Callan, Maximum Likelihood Estimation for Filtering Thresholds, In Proceedings of the 24th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval, (23% accepted)

#### Other Research

- 2009 [Workshop paper] Sarah Tyler, Yi Zhang, Exploring Collaborative Filtering for Sponsored Search, Information Retrieval and Advertising Workshop in ACM SIGIR, PEER REVIEWED
- 2009 [Workshop paper] Jesse Kirchner, Justin Nuger, Yi Zhang An Extensible Crosslinguistic Readability Framework, Second Workshop on Building and Using Comparable Corpora: from Parallel to Non-parallel Corpora in ACL/IJCNLP Conference, Singapore, PEER REVIEWED
- 2009 [Special Publication] Lanbo Zhang, Yi Zhang, Jadiel de Arma, Kai Yu UCSC at Relevance Feedback Track, Proceedings of the 17th Text REtrieval Conference (TREC), National Institute of Standard Technologies,
- 2009 Ethan Zhang, Yi Zhang Standard Effectiveness Measures, In Ling Liu, M. Tamer Özsu, editors, Encyclopedia of Database Systems, Springer, 2776-2779 INVITED
- 2007 [Workshop] Ergin Elmacioglu, Min-Yen Kan, Dongwon Lee, Yi Zhang Web Based Linkage, Proceedings of Workshop on Web Information and Data Management, (25% accepted) PEER REVIEWED
- 2007 [Invited Keynote Speech] Personalized Proactive Information Retrieval with Bayesian Graphical Models, INVITED
- 2007 [Workshop paper] Jonathan Koren, Yi Zhang, Sasha Ames, Carlos Maltzahn, Ethan Miller Searching and Navigating Petabyte Scale File Systems Based on Facets, Proceeding of 2007 ACM Petascale Data Storage Workshop (PDSW 07 at SuperComputing07), PEER REVIEWED
- 2006 [Workshop Papers] P. Zigoris, D. Eads, Y. Zhang Unsupervised Learning of Tree Alignment Models for Information Extraction, In the Workshop on Mining Structured Data, IEEE International Conference on Data Mining, Hong Kong,

## PEER REVIEWED

- 2006 [Workshop Papers] H. Jie, Y. Zhang, Personalized Faceted Query Expansion, In the Workshop on Faceted Search at ACM SIGIR Conference on Research and Development in Information Retrieval, Seattle, PEER REVIEWED
- 2003 [Workshop Paper] B. Dom, I. Eiron, A. Cozzi, Y. Zhang Graph-Based Ranking Algorithms for E-mail Expertise Analysis, In Data Mining and Knowledge Discovery Workshop in ACM SIGMOD Conference, PEER REVIEWED
- 2002 [Special Publication] K. Collins-Thompson, P. Ogilvie, Y. Zhang, J. Callan, Information filtering, novelty detection, and named-page finding, Proceedings of the 2002 Text Retrieval Conference.
- 2002 [Workshop Paper] Y. Zhang, W. Xu, J. Callan, Exact Maximum Likelihood Estimation for Word Mixtures, In Text Learning Workshop in International Conference on Machine Language, PEER REVIEWED
- 2001 [Special Publication] Y. Zhang, J. Callan, The Bias Problem and Language Models in Adaptive Filtering, In Proceedings of the 2001 Text Retrieval Conference.
- 2000 [Special Publication] Y. Zhang, J. Callan, Y Filter at TREC-9, In Proceedings of the 9th Text Retrieval Conference.
- 2005 [Ph.D. Dissertation] Y. Zhang, Bayesian Graphical Model for Adaptive Information Filtering, Ph.D. Dissertation, Carnegie Mellon University.

## PROFESSIONAL ACTIVITIES

### Public Lecture or Forum Participation

- 2005- Invited talks at universities (CMU, Stanford, University of California, University of Maryland College Park, Chinese Academy of Science Chengdu Branch, etc.)
- 2009 Invited talks in industry (Bosch Research and Technology Center, HP Lab, Nokia, Google, NEC, Microsoft, IBM, Toyota, SRI, etc.)
- 2007 Invited talk at Jason Study (an independent group of scientists that advises the U.S. government on matters of science and technology)  
[http://en.wikipedia.org/wiki/JASON\\_\(advisory\\_group\)](http://en.wikipedia.org/wiki/JASON_(advisory_group))
- 2007 Keynote speech at Information Retrieval and Applications of Graphical Models Workshop at ACM SIGIR conference

### Memberships or Activities in Professional Associations

- 2012 Area chair for ACM SIGIR, ACM CIKM INVITED
- 2011 Area chair and Tutorial Chair, ACM SIGIR INVITED
- 2010 Area chair in Machine Learning for Information Retrieval, Asia Information Retrieval Societies Conference INVITED
- 2010 Area chair in Natural Language Processing for the Web, Conference on Empirical Methods in Natural Language Processing INVITED

- 2010- Senior Program Committee and Area Chair in ACM Recommender Systems Conference.  
2011 INVITED
- 2004- Program Committee Members or Reviewers for conferences (SIGIR, ACL, WWW, CIKM, ICML, ECML, PKDD, NIPS, HLT/NAACL, etc.)
- 2010 Panel Member for National Science Foundation, Air Force Office of Sponsored Research
- 2009 Workshop chair, Information Retrieval and Advertising Workshop at ACM SIGIR Conference on Research and Development in Information Retrieval
- 2008 Program co-Chair in charge of Information Retrieval area at ACM Conference on Information and Knowledge Management (CIKM 2008). INVITED
- 2004- Reviewer for Journal of Information Retrieval, ACM Transactions on Information Systems, Journal of American Society for Information Science, Journal of Knowledge and Information Systems(KAIS), The special issue of Journal of Database Management on Database Technology for Enhancing National Security, IEEE Transactions on Multimedia, Machine Learning Journal, INVITED

#### Editorial Services

- 2010- Associate Editor for ACM Transaction on Information Systems INVITED

#### Other outside Professional Activities

- 2006 Tutorial on "Machine Learning for Information Retrieval" at Annual International ACM SIGIR Conference on Research and Development in Information Retrieval. Tutorial was given at Seattle (2006), Amsterdam (2007), and Singapore (2008), 2006-2007, 2008 PEER REVIEWED
- 2004 Invited Lecturer on "Text Mining" for Nanjing University