

Bishan Yang

CONTACT	Machine Learning Department School of Computer Science Carnegie Mellon University 8133 Gates and Hillman Centers Pittsburgh, PA, 15213	Email: bishan@cs.cmu.edu Phone: 607-351-2888 http://www.cs.cmu.edu/~bishan
RESEARCH INTERESTS	Natural Language Processing, Machine Learning, Data Mining	
CURRENT EMPLOYMENT	Carnegie Mellon University , Pittsburgh, PA Postdoctoral Fellow, 09/2015 - Advisor: Tom Mitchell	
EDUCATION	Cornell University , Ithaca, NY Ph.D. in Computer Science (Minor: Applied Math), 02/2016 • Advisor: Claire Cardie • Thesis: Extracting Opinions and Events from Text: Joint Inference Approaches Peking University , Beijing, China M.S. in Computer Science, 2010 B.S. in Computer Science, 2007	
JOURNAL PUBLICATIONS	Bishan Yang , Claire Cardie, and Peter Frazier. A Hierarchical Distance-dependent Bayesian Model for Event Coreference Resolution. <i>Transactions of the Association for Computational Linguistics (TACL)</i> , 2015. Bishan Yang and Claire Cardie. Joint Modeling of Opinion Expression Extraction and Attribute Classification. <i>Transactions of the Association for Computational Linguistics (TACL)</i> , 2014.	
CONFERENCE PUBLICATIONS	Igor Labutov, Bishan Yang , Anusha Prakash and Amos Azaria. Multi-Relational Question Answering from Narratives: Machine Reading and Reasoning in Simulated Worlds. In <i>Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (ACL)</i> , 2018. Bishan Yang and Tom Mitchell. A Joint Sequential and Relational Model for Frame-Semantic Parsing. In <i>Proceedings of the 2017 Conference on Empirical Methods on Natural Language Processing (EMNLP)</i> , 2017. David Belanger, Bishan Yang , and Andrew McCallum. End-to-End Learning for Structured Prediction Energy Networks. In <i>Proceedings of the International Conference on Machine Learning (ICML)</i> , 2017. Bishan Yang and Tom Mitchell. Leveraging Knowledge Bases in LSTMs for Improving Machine Reading. In <i>Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics (ACL)</i> , 2017.	

Wei Chen, Xiao Zhang, Tengjiao Wang, **Bishan Yang**, and Yi Li. Opinion-aware Knowledge Graph for Political Ideology Detection. In *Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI)*, 2017.

Bishan Yang and Tom Mitchell. Joint Extraction of Events and Entities within a Document Context. In *Proceedings of the 15th Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL)*, 2016.

Bishan Yang, Wen-tau Yih, Xiaodong He, Jianfeng Gao, and Li Deng. Embedding Entities and Relations for Learning and Inference in Knowledge Bases. In *International Conference on Learning Representations (ICLR)*, 2015.

Kai-Wei Chang, Wen-tau Yih, **Bishan Yang**, and Christopher Meek. Typed Tensor Decomposition of Knowledge Bases for Relation Extraction. In *Proceedings of the 2014 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2014.

Bishan Yang and Claire Cardie. Context-aware Learning for Sentence-level Sentiment Analysis with Posterior Regularization. In *Proceedings of the 52nd Annual Meeting of the Association for Computational Linguistics (ACL)*, 2014.

Bishan Yang, Nish Parikh, Gyanit Singh, and Neel Sundaresan. A Study of Query Term Deletion using Large-scale E-commerce Search Logs. In *Proceedings of the 36th European Conference on Information Retrieval (ECIR)*, 2014.

Bishan Yang and Claire Cardie. Joint Inference for Fine-grained Opinion Extraction. In *Proceedings of the 52nd Annual Meeting of the Association for Computational Linguistics (ACL)*, 2013.

Carmen Banea, Yoonjung Choi, Lingjia Deng, Samer Hassan, Michael Mohler, **Bishan Yang**, Claire Cardie, Rada Mihalcea, and Janyce Wiebe. CPN-CORE: A Text Semantic Similarity System Infused with Opinion Knowledge. In *Proceedings of the second Joint Conference on Lexical and Computational Semantics (*SEM 2013)*, 2013.

Bishan Yang and Claire Cardie. Extracting Opinion Expressions with semi-Markov Conditional Random Fields. In *Proceedings of the 2012 Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2012.

Bishan Yang, Jian-Tao Sun, Tengjiao Wang and Zheng Chen. Effective Multi-Label Active Learning for Text Classification. In *Proceedings of the 15th ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*, 2009.

Tengjiao Wang, **Bishan Yang**, Jun Gao, Dongqing Yang, Shiwei Tang, Haoyu Wu, Kedong Liu, and Jian Pei. MobileMiner: A Real World Case Study of Data Mining in Mobile Communication. In *Proceedings of the 2009 ACM SIGMOD International Conference on Management of Data (SIGMOD)*, 2009 (Demo).

Tengjiao Wang, **Bishan Yang**, Allen Huang, Qi Zhang, Jun Gao, Dongqing Yang, Shiwei Tang, and Jinzhong Niu. Dynamic Data Migration Policies for Query-Intensive Distributed Data Environments. In *Proceedings of the Joint International Conferences on Asia-Pacific Web Conference (APWeb) and Web-Age Information Management (WAIM)*, 2009. (Best Runner-up Paper Award)

Bishan Yang, Tengjiao Wang, Dongqing Yang, and Lei Chang. BOAI: Fast Alternating

Decision Tree Induction based on Bottom-up Evaluation. In *The 12th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, 2008.

Tengjiao Wang, **Bishan Yang**, Jun Gao, and Dongqing Yang. Effective Data Distribution and Reallocation Strategies for Fast Query Response in Distributed Query-Intensive Data Environments. In *Proceedings of the International Conferences on Asia-Pacific Web Conference (APWeb)*, 2008.

WORKSHOP
PUBLICATIONS

Joonsuk Park, Arzoo Katiyar and **Bishan Yang**. Conditional Random Fields for Identifying Appropriate Types of Support for Propositions in Online User Comments. In *NAACL Workshop on Argumentation Mining*, 2015.

Bishan Yang, Wen-tau Yih, Xiaodong He, Jianfeng Gao, and Li Deng. Learning Multi-Relational Semantics Using Neural-Embedding Models. In *NIPS 2014 Workshop on Learning Semantics*, 2014.

Bishan Yang and Claire Cardie. Improving on Recall Errors for Coreference Resolution. In *NIPS 2014 Workshop on Automated Knowledge Base Construction (AKBC)*, 2014.

RESEARCH
EXPERIENCE

Postdoctoral Fellow, Carnegie Mellon University 09/2015-
Working in the Never Ending Language Learning (NELL) group, conducting research on machine learning methods for automatic knowledge base construction and machine reading.

Research Assistant, Cornell University 08/2010-08/2015
Ph.D. work on statistical models and joint inference techniques for automatic extraction of opinions and events from natural language.

Intern, Microsoft Research Redmond 05/2014-08/2014
Interned in the Machine Learning Group, worked on a neural network based framework for learning representations for entities and relations in large-scale knowledge bases.

Intern, Google Research 05/2013-08/2013
Interned in the Natural Language Processing group, worked on the problem of joint entity recognition and coreference resolution.

Intern, eBay Research Labs 05/2012-08/2012
Worked on automatic query refinement for improving product search.

Intern, Microsoft Research Asia 03/2010-05/2010
Interned in the Machine Learning Group, worked on entity extraction from mobile search queries.

Intern, Microsoft Research Asia 05/2008-10/2008
Interned in the Machine Learning Group, worked on active learning for multi-label text classification.

Research Assistant, Peking University 09/2005-06/2010
Research assistant in the Database and Data Mining Research Group, worked on large-scale data mining and distributed data management.

TEACHING

Instructor, Carnegie Mellon University
10-608: Conversational Machine Learning

Spring 2018

Teaching Assistant, Cornell University
CS4740: Introduction to Natural Language Processing

Spring 2014, Spring 2012

Teaching Assistant, Peking University
Introduction to Artificial Intelligence.

Fall 2009

AWARDS AND
SCHOLARSHIPS

- Amazon AWS Research Grant, 2016
- NVIDIA GPU Grant, 2016
- Microsoft Azure Research Grant, 2016, 2017
- Rising Stars in EECS, Carnegie Mellon University, 2016
- Olin Fellowship, Cornell University, 2010-2011
- Machine Learning Summer School Travel Award, 2009
- SIGKDD Student Travel Award, 2009
- PAKDD Student Travel Award, 2008
- SOHU Research Scholarship, 2008
- Excellent Graduate Award, Peking University, 2007
- Excellent Thesis Award, Peking University, 2007
- Hong Kong OOCL Scholarship, 2006
- Canon Scholarship, 2004
- First Prize in National Mathematics Olympiad, China, 2002

INVITED TALKS

Towards Intelligent Machine Reading: Context-aware Models for Extracting Opinions and Events

- ISP AI Seminar, University of Pittsburgh, Pittsburgh, 12/2015

Event Extraction within a Document Context

- DARPA site visit, Carnegie Mellon University, 12/2015

Learning to Extract Opinions and Events from Text

- Computer Science Department, Peking University, Beijing, 08/2015
- Machine Learning Department, Carnegie Mellon University, Pittsburgh, 05/2015
- Microsoft Research, Redmond, 05/2015
- Allen Institute for Artificial Intelligence (AI2), Seattle, 05/2015
- Google Research, Mountain View, 05/2015
- Yahoo Labs, Sunnyvale, 04/2015

Exploiting Relational Knowledge for Extraction of Opinions and Events in Text

- Machine Learning and Friends Lunch, University of Massachusetts, Amherst, 03/2015

Extracting Information from Text by Exploiting Semantic Structure

- AI Seminar, Cornell University, 03/2015

Relational Analysis for Sentiment and Attitudes

- DARPA site visit, Cornell University, 08/2013

PROFESSIONAL
SERVICE

Program Committee Member:

- Annual meeting of the Association for Computational Linguistics (ACL): 2014, 2015, 2017, 2018
- North American Chapter of the Association for Computational Linguistics - Human Language Technologies (NAACL-HLT): 2015, 2016, 2018
- Conference on Empirical Methods in Natural Language Processing (EMNLP): 2014, 2016, 2017, 2018
- AAAI Conference on Artificial Intelligence (AAAI): 2014, 2015, 2017, 2018
- Workshop on Automated Knowledge Base Construction (AKBC at NAACL): 2016
- International Conference on Computational Linguistics (COLING): 2014, 2016, 2018
- International Joint Conference on Natural Language Processing (IJCNLP), 2017
- Conference on Natural Language Processing and Chinese Computing (NLPCC), 2017, 2018
- ACL Student Research Workshop: 2014, 2016

Tutorial Co-Chair:

- Conference on Empirical Methods in Natural Language Processing (EMNLP): 2016

Journal Reviewer:

- Journal of Machine Learning Research
- Pattern Recognition
- Transactions on Asian Language Information Processing
- IEEE Transactions on Affective Computing