

# Chenhao Tan

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## Research Interests

Natural language processing and social interaction, computational social science, and social computing.

## Professional experience

**Research Associate**, 2016-current,  
*University of Washington, Seattle, WA*  
*Advisor: Noah Smith.*

## Education

**Ph.D. in Computer Science**, 2010-2016,  
*Cornell University, Ithaca, NY*,  
*Advisor: Lillian Lee.*

**B.E. in Computer Science**, 2006-2010,  
*Tsinghua University, Beijing, China*,  
*Advisor: Jie Tang.*

**B.E. in Economics (second major)**, 2007-2010,  
*Tsinghua University, Beijing, China.*

## Honors and Awards

Selected to participate in Heidelberg Laureate Forum (2016)

OARU travel award for Heidelberg Laureate Forum (2016)

Facebook Fellowship (2015)

Telluride Residential Scholarship (2012-current)

Yahoo! Key Scientific Challenges (2012)

KDD Student Travel Award (2011, 2010)

Best Undergraduate Thesis of Tsinghua University (Top 1 among ~160) (2010)

Excellent Undergraduate of Tsinghua University (Top 58 among 3144) (2010)

Excellent Undergraduate of Beijing (2010)

National Scholarship (Top 3 among ~160) (2009, 2008)

## Selected Media Coverage

Slate: You Can't Win: How algorithms are changing the ways we argue.

The Washington Post (2016): How to change someone's mind, according to science

The Washington Post (2016): How to win a Facebook argument, according to science

New York Magazine (2016): A Subreddit Sparked a Scientific Inquiry Into How to Change Someone's Mind

Daily Mail (2016): How to win ANY argument using science: Experts reveal which words to use and how one simple trick can help you get your own way

The New York Times (2014): A 25-Question Twitter Quiz to Predict Retweets

The Washington Post (2014): This is the perfect tweet, according to science

The Physics arXiv Blog (2014): Data Mining Reveals How Wording Influences Tweet Propagation

engadget (2014): Crafting the perfect tweet is one-third talent, two-thirds science

The Daily Dot (2014): A data miner's guide to crafting the perfect tweet

## Publications

[Google scholar profile]

*Chenhao Tan*, Vlad Niculae, Cristian Danescu-Niculescu-Mizil, Lillian Lee.

**Winning arguments: Interaction dynamics and persuasion strategies in good-faith online discussions.**

In Proceedings of the 25th International World Wide Web Conference (WWW'2016).

Isabel Kloumann, *Chenhao Tan*, Jon Kleinberg, Lillian Lee.

**Internet Collaboration on Extremely Difficult Problems: Research versus Olympiad Questions on the Polymath Site.**

In Proceedings of the 25th International World Wide Web Conference (WWW'2016).

*Chenhao Tan*, Adrien Friggeri, Lada Adamic

**Lost in propagation? Unfolding news cycles from the source**

In Proceedings of 10th International AAAI Conference on Weblogs and Social Media (ICWSM'2016).

Jack Hessel, *Chenhao Tan*, Lillian Lee

**Science, AskScience, and BadScience: On the Coexistence of Highly Related Communities**

In Proceedings of 10th International AAAI Conference on Weblogs and Social Media (ICWSM'2016).

*Chenhao Tan*, Lillian Lee.

**All Who Wander: On the Prevalence and Characteristics of Multi-community Engagement.**

In Proceedings of the 24th International World Wide Web Conference (WWW'2015).

Chenhao Tan, Lillian Lee, Bo Pang.

**The effect of wording on message propagation: Topic- and author-controlled natural experiments on Twitter.**

In Proceedings of the Association for Computational Linguistics (ACL'2014).

Media coverage: The New York Times, The Washington Post, The Physics arXiv Blog, etc.

Chenhao Tan, Lillian Lee.

**A Corpus of Sentence-level Revisions in Academic Writing: A Step towards Understanding Statement Strength in Communication.**

In Proceedings of the Association for Computational Linguistics (ACL'2014) (short paper).

Jon Kleinberg, Sendhil Mullainathan, Chenhao Tan, Thomas Zimmermann.

**Inductive Testing: Theory and an Application to the Disposition Effect.**

NBER Behavioral Finance Working Group, 2014.

Chenhao Tan, Ed H. Chi, David Huffaker, Gueorgi Kossinets and Alexander J. Smola.

**Instant Foodie: Predicting Expert Ratings From Grassroots.**

In Proceedings of 22nd ACM International Conference on Information and Knowledge Management (CIKM'2013).

Daniel M. Romero, Chenhao Tan and Johan Ugander.

**On the Interplay between Social and Topical Structure.**

In Proceedings of 7th International AAAI Conference on Weblogs and Social Media (ICWSM'2013).

Eunsol Choi, Chenhao Tan, Lillian Lee, Cristian Danescu-Niculescu-Mizil and Jennifer Spindel.

**Hedge detection as a lens on framing in the GMO debates: A position paper.**

In Proceedings of the Workshop on Extra-Propositional Aspects of Meaning in Computational Linguistics (2012).

Chenhao Tan, Evgeniy Gabrilovich, and Bo Pang.

**To Each His Own: Personalized Content Selection based on Text Comprehensibility.**

In Proceedings of the Fifth ACM International Conference on Web Search and Data Mining (WSDM'2012).

Chenhao Tan, Lillian Lee, Jie Tang, Long Jiang, Ming Zhou, and Ping Li.

**User-level sentiment analysis incorporating social networks.**

In Proceedings of the Seventeenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (SIGKDD'2011) (poster).

Chenhao Tan, Jie Tang, Jimeng Sun, Quan Lin, and Fengjiao Wang.

**Social Action Tracking via Noise Tolerant Time-varying Factor Graphs.**

In Proceedings of the Sixteenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (SIGKDD'2010).

Bin Lu, Chenhao Tan, Claire Cardie and Benjamin K. Tsou,

**Joint Bilingual Sentiment Classification with Unlabeled Parallel Corpora.**

In Proceedings of the Association for Computational Linguistics (ACL'2011) (oral paper).

Shaomei Wu, *Chenhao Tan*, Jon Kleinberg, and Michael Macy.

**Does Bad News Go Away Faster?**

In Proceedings of Fifth International AAAI Conference on Weblogs and Social Media (ICWSM'2011) (short paper).

Fei Wang, *Chenhao Tan*, Arnd Christian Konig, and Ping Li.

**Efficient Document Clustering via Online Nonnegative Matrix Factorizations.**

In Proceedings of the SIAM International Conference on Data Mining (SDM'2011).

Wenbin Tang, Jie Tang, Tao Lei, *Chenhao Tan*, Bo Gao, and Tian Li.

**On optimization of expertise matching with various constraints.**

In Neurocomputing (July, 2012).

Wenbin Tang, Jie Tang, and *Chenhao Tan*.

**Expertise Matching via Constrained-based Optimization.**

In Proceedings of 2010 IEEE/WIC/ACM International Conferences (WIC'2010).

## Invited talks

Online social interactions: a lens on humans and a world for humans, MIT EECS, 2016.

Online social interactions: a lens on humans and a world for humans, CMU Computer Science Department, 2016.

Online social interactions: a lens on humans and a world for humans, CMU Heinz College, 2016.

Online social interactions: a lens on humans and a world for humans, Max Planck Institute for Software Systems, 2016.

Online social interactions: a lens on humans and a world for humans, University of Michigan, 2016.

Online social interactions: a lens on humans and a world for humans, University of Colorado at Boulder, 2016.

Online social interactions: a lens on humans and a world for humans, Rice University, 2016.

Online social interactions: a lens on humans and a world for humans, Northeastern University, 2016.

*The effect of wording on message propagation: Topic- and author-controlled natural experiments on Twitter*, Tsinghua University, 2014

*User-level sentiment analysis incorporating social networks*, Tsinghua University, 2011

*User-level sentiment analysis incorporating social networks*, Microsoft Research Asia NLP group seminar, 2011

## Industrial Experience

- Data Scientist Intern**, 2015.6-2015.8,  
*Facebook, Menlo Park, CA,*  
Understanding news propagation.
- Research Intern**, 2012.5-2012.8,  
*Google, Mountain View, CA*  
Harmonizing place scores & instant foodie.
- Research Intern**, 2011.6-2011.8,  
*Yahoo! Research, Santa Clara, CA*  
Personalization based on text comprehensibility.
- Research Intern**, 2010.4-2010.7,  
*Microsoft Research Asia, Beijing, China,*  
Sentiment analysis incorporating social networks.

## Teaching Experience

- Teaching Assistant**, 2013.9-2013.12,  
*Cornell University, Ithaca, NY,*  
Information Retrieval, CS4300/INFO4300, Fall 2013.
- Teaching Assistant**, 2011.9-current,  
*Cornell University, Ithaca, NY,*  
Machine Learning, CS4780/5780, Fall 2011.

## Undergraduate Advising

- Kelvin Luu (class of 2015), now a PhD student at the University of Washington.
- Eunsol Choi (class of 2012, honorable mention for the CRA Outstanding Undergraduate Research Award in 2011), now a PhD student at the University of Washington.

## Professional Service

**Session chair:** WWW (2015)

**PC Member:**

- 2017: WWW, WSDM
- 2016: WWW, KDD, WSDM, IJCAI, NAACL, ICWSM, SDM, CIKM
- 2015: WWW, KDD, WSDM
- 2014: WWW, EMNLP, ICWSM, DYAD
- 2013: IJCAI, IJCNLP, NAACL Student Research Workshop
- 2012: ADMA
- 2011: ADMA

**Reviewer:** Transactions on Knowledge Discovery from Data (2015, 2012), CSCW (2016), WWW (2011, 2010), ICDM (2011), KDD (2010), CIKM (2010)