Wei Tang

(314) 600-2178, wt2359@columbia.edu, wtang.org

RESEARCH INTERESTS	Sequential decision making with uncertainty, machine learning, algorithmic economics, behavioral (social) sciences and optimization.

APPOINTMENTS

Postdoctoral Research Fellow
Data Science Institute, Columbia University, NYC, NY   Sep 2022 – Present
Mentor: Shipra Agrawal

EDUCATION

Washington University in St. Louis, St. Louis, MO
Ph.D in Computer Science.   Sep 2017 – July 2022
Advisor: Chien-Ju Ho

Tianjin University, Tianjin, China
B.E. in Engineering   Sep 2013 – Jun 2017

AWARDS

Best Paper Honorable Mention,   11/2021
9th AAAI Conference on Human Computation and Crowdsourcing (HCOMP).
Rising Star in Data Science,   10/2021
Data Science Institute, University of Chicago.
Honors (top 15% of grad. students),   2019-2020, 2020-2021
Washington University CSE department.

WORKING PAPERS

Dynamic Pricing and Demand Learning with Averaging Reference Effect
(α-β) Shipra Agrawal, **Wei Tang**
To be submitted to *Operation Research*

Dynamic Pricing and Learning with Bayesian Persuasion
(α-β) Shipra Agrawal, Yiding Feng, **Wei Tang**
Under review, and to be submitted to *Operation Research*

Rationality-Robust Information Design: Bayesian Persuasion under Quantal Response
(α-β) Yiding Feng, Chien-Ju Ho, **Wei Tang**
Under review

HAIDNet: Encoding Human Behavior in Automated Information Design
Guanghui Yu, **Wei Tang**, Saumik Narayanan, Chien-Ju Ho
Under review

PUBLICATIONS

(**SODA'23**) Competitive Information Design for Pandora's Box
(α-β) Bolin Ding, Yiding Feng, Chien-Ju Ho, **Wei Tang**, Haifeng Xu.
In Proc. of The 34th ACM-SIAM Symposium on Discrete Algorithms.

(**EC'22**) Online Bayesian Recommendation with No Regret
(α-β) Yiding Feng, **Wei Tang**, Haifeng Xu.
In Proc. of The 23rd ACM conference on Economics and Computation.
To be submitted to *Operation Research*

(**AIES'22**) How Does Predictive Information Affect Human Ethical Preferences?

Saumik Narayanan, Guanghui Yu, **Wei Tang**, Chien-Ju Ho, and Ming Yin.
In Proc. of The 5th AAAI/ACM Conference on AI, Ethics, and Society.

(**NeurIPS'21**) Bandit Learning with Delayed Impact of Actions
Wei Tang, Chien-Ju Ho, Yang Liu.
In Proc. of The 35th Conference on Neural Information Processing Systems.
Also Presented at Fairness in AI/ML models at INFORMS, 2019.

(**HCOMP'21**) On the Bayesian Rational Assumption in Information Design
Wei Tang, Chien-Ju Ho. *In Proc. of The 9th AAAI Conference on Human Computation and Crowdsourcing.*
Best Paper Honorable Mention

(**AISTATS'21**) Linear Models are Robust Optimal Under Strategic Behavior
Wei Tang, Chien-Ju Ho, Yang Liu.
In Proc. of The 24th International Conference on Artificial Intelligence and Statistics.

(**NeurIPS'20**) Optimal Query Complexity of Secure Stochastic Convex Optimization
Wei Tang, Chien-Ju Ho, Yang Liu.
In Proc. of The 34th Conference on Neural Information Processing Systems.

(**AAMAS'20**) Differentially Private Contextual Dynamic Pricing
Wei Tang, Chien-Ju Ho, Yang Liu.
In Proc. of the 19th International Conference on Autonomous Agents and Multiagent Systems.

(**WWW'19**) Leveraging Peer Communication to Enhance Crowdsourcing
Wei Tang, Chien-Ju Ho, Ming Yin.
In Proc. of The Web Conference.

(**AAMAS'19**) Bandit Learning with Biased Human Feedback
Wei Tang, Chien-Ju Ho.
In Proc. of the 18th International Conference on Autonomous Agents and Multiagent Systems.
Also presented as the contributed talk at The first Workshop on Behavioral EC, June 2019.

Tumor origin detection with tissue-specific miRNA and DNA methylation markers
Wei Tang, Shixiang Wan, Zhen Yang, Andrew E Teschendorff, Quan Zou. **Bioinformatics** 34.3 (2018): 398-406.

dbDEMC 2.0: updated database of differentially expressed miRNAs in human cancers
Zhen Yang, Liangcai Wu, Anqiang Wang, **Wei Tang**, Yi Zhao, Haitao Zhao, Andrew E. Teschendorff. **Nucleic acids research** 45.D1 (2017): D812-D818.

Which statistical significance test best detects oncomiRNAs in cancer tissues? An exploratory analysis
Wei Tang, Zhijun Liao, Quan Zou. **Oncotarget** 7.51 (2016): 85613.

RESEARCH EXPERIENCE	**Research Assistant.**	2017 – 2022
	Department of Computer Science & Engineering, Washington University. *St.Louis, MO*	
	Supervisor: Chien-Ju Ho	
	Summer Research Intern.	Jun – Sep, 2020
	Alibaba DAMO Academy. (Remote)	*Seattle, WA*

Mentor: Bolin Ding

TALKS	**Dynamic Pricing and Learning with Bayesian Persuasion**	
	INFORMS Annual Meeting, Phoenix, Az	Oct 2023

Rationality-Robust Information Design: Bayesian Persuasion under Quantal Response
The 34th Stony Brook International Conference on Game Theory   July 2023

Competitive Information Design for Pandora's Box
Eighth Marketplace Innovation Workshop (MIW).   May 2023
Gaoling School of Artificial Intelligence, Renmin University of China.   Nov 2022

Online Bayesian Recommendation with No Regret
SIGecom Seminar Series, Virtual.   Dec 2022
INFORMS Annual Meeting, Indianapolis, IN.   Oct 2022
The 23rd ACM Conference on Economics and Computation, Boulder, CO.   July 2022
INFORMS Revenue Management and Pricing Section Conference, Virtual.   June 2022

Learning with Understanding: Human Behavior in Algorithm Design
The Rising Stars in Data Science workshop at the University of Chicago.   Nov 2021

Optimal Query Complexity of Secure Stochastic Convex Optimization
Workshop on Economics of Privacy and Data Labor (ICML'20).   Jun 2020

Linear Models are Robust Optimal Under Strategic Behavior
Workshop on Incentives in Machine Learning (ICML'20).   Jun 2020

Bandit Learning with Biased Human Feedback
Contributed Talk at The first Workshop on Behavioral EC.   Jun 2019
International Conference on Autonomous Agents and Multiagent Systems (AAMAS).   May 2019

TEACHING	**Teaching Assistant.**	
	Human-in-the-loop Computation	Fall 2019

SERVICES   **Workshop Organization**
Co-Chair, RMP session on Pricing and Information in Modern Marketplaces at INFORMS Annual Meeting 2023

Journal Referee.
Operations Research (OR)
Manufacturing and Service Operations Management (MSOM)
Journal of Machine Learning Research (JMLR)
Transactions on Economics and Computation (TEAC)
Machine Learning Journal (MLJ)

Conference Program Committee
Neural Information Processing Systems (NeurIPS): 2021–2023
International Conference on Machine Learning (ICML): 2022 – 2023
AAAI Conference on Artificial Intelligence (AAAI): 2021-2024
ACM Conference on Fairness, Accountability, and Transparency (FAccT): 2022 – 2023
Uncertainty in Artificial Intelligence (UAI): 2022

International Conference on Learning Representations (ICLR): 2022, 2024
Conference On Web And InterNet Economics: 2022
International Conference on Autonomous Agents and Multiagent Systems: 2022
International Symposium on Algorithmic Game Theory: 2022
International Conference on Artificial Intelligence and Statistics (AISTATS): 2021