

Wei Tang

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

RESEARCH INTERESTS	Human-centered machine learning, sequential decision-making with uncertainty, algorithmic economics, behavioral (social) sciences and optimization.	
APPOINTMENTS	Postdoctoral Research Fellow Data Science Institute, Columbia University, NYC, NY Mentor: Shipra Agrawal	Sep 2022 – Present
EDUCATION	Washington University in St. Louis , St. Louis, MO Ph.D in Computer Science. Advisor: Chien-Ju Ho	Sep 2017 – Aug 2022
	Tianjin University , Tianjin, China B.E. in Engineering	Sep 2013 – Jun 2017
AWARDS	Best Paper Honorable Mention , 9th AAAI Conference on Human Computation and Crowdsourcing (HCOMP). Rising Star in Data Science , Data Science Institute, University of Chicago. Honors (top 15% of grad. students), Washington University CSE department.	11/2021 10/2021 2019-2020, 2020-2021
WORKING PAPERS	Dynamic Pricing and Demand Learning with Averaging Reference Effect (α - β) Shipra Agrawal, Wei Tang Performative Prediction with Bandit Feedback: Learning through Reparameterization Yatong Chen, Wei Tang , Chien-Ju Ho and Yang Liu In submission	
PUBLICATIONS	(SODA'24) Rationality-Robust Information Design: Bayesian Persuasion under Quantal Response (α - β) Yiding Feng, Chien-Ju Ho, Wei Tang <i>In Proc. of The 35th ACM-SIAM Symposium on Discrete Algorithms.</i> (NeurIPS'23) Dynamic Pricing and Learning with Bayesian Persuasion (α - β) Shipra Agrawal, Yiding Feng, Wei Tang <i>In Proc. of The 37th Conference on Neural Information Processing Systems</i> Under preparation for <i>Operations Research</i> (NeurIPS'23) Encoding Human Behavior in Information Design through Deep Learning Guanghai Yu, Wei Tang , Saumik Narayanan, Chien-Ju Ho <i>In Proc. of The 37th Conference on Neural Information Processing Systems</i> (SODA'23) Competitive Information Design for Pandora's Box (α - β) Bolin Ding, Yiding Feng, Chien-Ju Ho, Wei Tang , Haifeng Xu. <i>In Proc. of The 34th ACM-SIAM Symposium on Discrete Algorithms.</i> Under preparation for <i>Mathematics of Operations Research</i>	

(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.
Under review at *Operations 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. Department of Computer Science & Engineering, Washington University. <i>St. Louis, MO</i> Supervisor: Chien-Ju Ho	2017 – 2022
	Summer Research Intern. Alibaba DAMO Academy. (Remote) Mentor: Bolin Ding	Jun – Sep, 2020 <i>Seattle, WA</i>
TALKS	Learning to Leverage the Information Lever: Online Recommendation and Dynamic Pricing Harvard EconCS Seminar	Oct 2023
	Dynamic Pricing and Learning with Bayesian Persuasion INFORMS Annual Meeting, Phoenix, AZ Columbia Statistical Machine Learning Symposium	Oct 2023 Apr 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). Gaoling School of Artificial Intelligence, Renmin University of China.	May 2023 Nov 2022
	Online Bayesian Recommendation with No Regret SIGecom Seminar Series, Virtual. INFORMS Annual Meeting, Indianapolis, IN. The 23rd ACM Conference on Economics and Computation, Boulder, CO. INFORMS Revenue Management and Pricing Section Conference, Virtual.	Dec 2022 Oct 2022 July 2022 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. International Conference on Autonomous Agents and Multiagent Systems (AAMAS).	Jun 2019 May 2019
TEACHING	Teaching Assistant Human-in-the-loop Computation (CSE 518A WashU)	Fall 2019
SERVICES	Workshop Organization Co-Chair, RMP session on Pricing and Information in Modern Marketplaces at INFORMS Annual Meeting 2023	
	Journal Referee Games and Economic Behavior (GEB)	

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

REFERENCES

Prof. Shipra Agrawal

Industrial Engineering and Operations Research
Columbia University
E-mail: sa3305@columbia.edu

Prof. Yiling Chen

Computer Science
Harvard University
E-mail: yiling@seas.harvard.edu

Prof. Chien-Ju Ho

Computer Science & Engineering
Washington University in St. Louis
E-mail: chienju.ho@wustl.edu

Prof. Yang Liu

Computer Science and Engineering
University of California, Santa Cruz
E-mail: yangliu@ucsc.edu

Prof. Haifeng Xu

Computer Science
University of Chicago
E-mail: haifengxu@uchicago.edu