

Wei Tang

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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 Under preparation for <i>Operations Research</i> Rationality-Robust Information Design: Bayesian Persuasion under Quantal Response (α - β) Yiding Feng, Chien-Ju Ho, Wei Tang Under review	
PUBLICATIONS	(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) HAIDNet: Encoding Human Behavior in Automated Information Design Guanghui 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. <i>In Proc. of The 23rd ACM conference on Economics and Computation.</i> Under review at <i>Operations Research</i>	

(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) Mentor: Bolin Ding	Seattle, WA
TALKS	<p>Learning to Leverage the Information Lever: Online Recommendation and Dynamic Pricing Harvard EconCS Seminar</p> <p>Dynamic Pricing and Learning with Bayesian Persuasion INFORMS Annual Meeting, Phoenix, AZ Columbia Statistical Machine Learning Symposium</p> <p>Rationality-Robust Information Design: Bayesian Persuasion under Quantal Response The 34th Stony Brook International Conference on Game Theory</p> <p>Competitive Information Design for Pandora's Box Eighth Marketplace Innovation Workshop (MIW). Gaoling School of Artificial Intelligence, Renmin University of China.</p> <p>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.</p> <p>Learning with Understanding: Human Behavior in Algorithm Design The Rising Stars in Data Science workshop at the University of Chicago.</p> <p>Optimal Query Complexity of Secure Stochastic Convex Optimization Workshop on Economics of Privacy and Data Labor (ICML'20).</p> <p>Linear Models are Robust Optimal Under Strategic Behavior Workshop on Incentives in Machine Learning (ICML'20).</p> <p>Bandit Learning with Biased Human Feedback Contributed Talk at The first Workshop on Behavioral EC. International Conference on Autonomous Agents and Multiagent Systems (AAMAS).</p>	<p>Oct 2023</p> <p>Oct 2023 Apr 2023</p> <p>July 2023</p> <p>May 2023 Nov 2022</p> <p>Dec 2022 Oct 2022 July 2022 June 2022</p> <p>Nov 2021</p> <p>Jun 2020</p> <p>Jun 2020</p> <p>Jun 2019 May 2019</p>
TEACHING	<p>Teaching Assistant Human-in-the-loop Computation (CSE 518A WashU)</p>	Fall 2019
SERVICES	<p>Workshop Organization Co-Chair, RMP session on Pricing and Information in Modern Marketplaces at INFORMS Annual Meeting 2023</p> <p>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)</p>	

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

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