
CONTACT INFORMATION	Dept. of Computer Science & Engineering Washington University in St. Louis Campus Box 1045, Jolley Hall 510 One Brookings Drive St. Louis, MO 63130	<i>Phone:</i> (314) 935-8073 <i>E-mail:</i> chienju.ho@wustl.edu http://chienjuho.com
RESEARCH INTERESTS	Machine learning, algorithmic economics, optimization, online social behavioral science, on-line algorithm, crowdsourcing, social computing, and artificial intelligence My research centers on the design and analysis of human-in-the-loop systems. I am interested in investigating the interactions between AI and humans, including studying how human behavior influences the design of machine learning algorithms and how the outcomes of machine learning impact human welfare.	
EMPLOYMENT	Washington University in St. Louis , St. Louis, MO Assistant Professor, Computer Science & Engineering, August 2017 to Present Cornell University , Ithaca, NY Postdoctoral Associate, October 2015 to July 2017 <ul style="list-style-type: none">• Host: Arpita Ghosh	
EDUCATION	University of California, Los Angeles , Los Angeles, CA Ph.D., Computer Science, September 2010 to October 2015 <ul style="list-style-type: none">• Dissertation: Design and Analysis of Crowdsourcing Mechanisms• Advisor: Jennifer Wortman Vaughan Harvard University , Cambridge, MA Visiting Ph.D. Student, Computer Science, October 2012 to September 2015 <ul style="list-style-type: none">• Mentor: Yiling Chen National Taiwan University , Taipei, Taiwan M.S., Computer Science and Information Engineering, June 2007 <ul style="list-style-type: none">• Advisor: Jane Yung-jen Hsu B.S., Computer Science and Information Engineering, June 2005 B.S., Physics, June 2005	
AWARDS	Best Paper Award Nominee , 24th International World Wide Web Conference, 2015 Google Outstanding Graduate Research Award , Computer Science, UCLA, 2015 Dissertation Year Fellowship , UCLA, 2014-2015	
PUBLICATIONS	Linear Models are Robust Optimal Under Strategic Behavior. Wei Tang, Chien-Ju Ho, and Yang Liu. To appear in the 24th International Conference on Artificial Intelligence and Statistics (AISTATS'21). Efficient Nonmyopic Online Allocation of Scarce Reusable Resource. Zehao Dong, Sanmay Das, Patrick Fowler, and Chien-Ju Ho. To appear in the 20th International Conference on Autonomous Agents and Multiagent Systems (AAMAS'21). Optimal Query Complexity of Secure Stochastic Convex Optimization. Wei Tang, Chien-Ju Ho, and Yang Liu. In the 34th Conference on Neural Information Processing Systems (NeurIPS'20).	

- Does Exposure to Diverse Perspectives Mitigate Biases in Crowdwork? An Explorative Study.** Xiaoni Duan, Chien-Ju Ho, and Ming Yin. In the 8th AAAI Conference on Human Computation and Crowdsourcing (HCOMP'20).
- Differentially Private Contextual Dynamic Pricing.** Wei Tang, Chien-Ju Ho, and Yang Liu. In the 19th International Conference on Autonomous Agents and Multiagent Systems (AAMAS'20).
- Incorporating Compatible Pairs in Kidney Exchange: A Dynamic Weighted Matching Model.** Zhuoshu Li, Kelsey Lieberman, William Macke, Sofia Carrillo, Chien-Ju Ho, Jason Wellen, and Sanmay Das. In the 20th ACM conference on Economics and Computation (EC'19).
- Leveraging Peer Communication to Enhance Crowdsourcing.** Wei Tang, Chien-Ju Ho, and Ming Yin. In The Web Conference 2019 (WWW'19).
- Bandit Learning with Biased Human Feedback.** Wei Tang and Chien-Ju Ho. In the 18th International Conference on Autonomous Agents and Multiagent Systems (AAMAS'19).
- Incentivizing High Quality User Contributions: New Arm Generation in Bandit Learning.** Yang Liu and Chien-Ju Ho. In the 32nd Conference on Artificial Intelligence (AAAI'18)
- Eliciting Categorical Data for Optimal Aggregation.** Chien-Ju Ho, Rafael Frongillo, and Yiling Chen. In the 30th Annual Conference on Neural Information Processing Systems (NIPS'16)
- Adaptive Contract Design for Crowdsourcing Markets: Bandit Algorithms for Repeated Principal-Agent Problems.** Chien-Ju Ho, Aleksandrs Slivkins, and Jennifer Wortman Vaughan. Journal of Artificial Intelligence Research, Volume 55, pages 317-359, 2016. (Supersedes the EC'14 paper)
- Low-Cost Learning via Active Data Procurement.** Jacob Abernethy, Yiling Chen, Chien-Ju Ho, and Bo Waggoner. In the 16th ACM Conference on Economics and Computation (EC'15).
- Incentivizing High Quality Crowdwork.** Chien-Ju Ho, Aleksandrs Slivkins, Siddharth Suri, and Jennifer Wortman Vaughan. In the 24th International World Wide Web Conference (WWW'15).
Nominee for Best Paper Award.
- Adaptive Contract Design for Crowdsourcing Markets: Bandit Algorithms for Repeated Principal-Agent Problems.** Chien-Ju Ho, Aleksandrs Slivkins, and Jennifer Wortman Vaughan. In the 5th ACM Conference on Economics and Computation (EC'14).
- Adaptive Task Assignment for Crowdsourced Classification.** Chien-Ju Ho, Shahin Jabbari, and Jennifer Wortman Vaughan. In the 30th International Conference on Machine Learning (ICML'13).
- Online Task Assignment in Crowdsourcing Markets.** Chien-Ju Ho and Jennifer Wortman Vaughan. In the 26th Conference on Artificial Intelligence (AAAI'12).
- Towards Social Norm Design for Crowdsourcing Markets.** Chien-Ju Ho, Yu Zhang, Jennifer Wortman Vaughan, and Mihaela van der Schaar. In the 4th Human Computation Workshop (HCOMP'12).
- DevilTyper: A Game for CAPTCHA Usability Evaluation.** Chien-Ju Ho, Chen-Chi Wu, Kuan-Ta Chen, and Chin-Laung Lei. In ACM Computers in Entertainment, 2011.
- On Formal Models for Social Verification.** Chien-Ju Ho and Kuan-Ta Chen. In the 1st Human Computation Workshop (HCOMP'09).

KissKissBan: A Competitive Human Computation Game for Image Annotation (Short Paper). Chien-Ju Ho, Tao-Hsuan Chang, Jong-Chuan Lee, Jane Yung-jen Hsu, and Kuan-Ta Chen. In the 1st Human Computation Workshop (HCOMP'09).

Designing Human-Computer Multi-agent Collaboration in Productive Multi-player Games (Short Paper). Wenn-Chieh Tsai, Yuan-Hsiang Lee, Tsung-Hsiang Chang, Chien-Ju Ho, and Jane Yung-jen Hsu. In the 7th International Conference on Autonomous Agents and Multiagent Systems (AAMAS'08).

PhotoSlap: A Multi-player Online Game for Semantic Annotation. Chien-Ju Ho, Tsung-Hsiang Chang, and Jane Yung-jen Hsu. In the 22nd Conference on Artificial Intelligence (AAAI'07).

The PhotoSlap Game: Play to Annotate (Intelligent System Demo). Tsung-Hsiang Chang, Chien-Ju Ho, and Jane Yung-jen Hsu. In the 22nd Conference on Artificial Intelligence (AAAI'07).

FUNDING

Sequential Decision Making with Human Biases.

- Funding agency: Office of Naval Research (ONR)
- Role: PI
- Award amount: \$453,151
- Duration: 4/2020-3/2023

AI: FairGame: An Audit-Driven Game Theoretic Framework for Development and Certification of Fair AI.

- Funding agency: National Science Foundation (NSF) / Amazon
- Role: Co-PI
- Award amount: \$785,000
- Duration: 1/2020-12/2022

Solving Homelessness Using Data-Driven Feedback Systems.

- Funding agency: Washington University OVCR
- Role: Co-PI
- Award amount: \$50,000
- Duration: 6/2019-6/2020

RESEARCH

Postdoctoral Associate, Cornell University 2015 to 2017

EXPERIENCE

Host: Arpita Ghosh

Research Intern, Microsoft Research, New York City Summer 2013 and Summer 2014

Mentors: Jennifer Wortman Vaughan, Aleksandrs Slivkins, and Siddharth Suri

Visiting Ph.D. Student, Harvard University 2012 to 2015

Mentor: Yiling Chen

Ph.D. Student, UCLA 2010 to 2015

Advisor: Jennifer Wortman Vaughan

Research Assistant, Academia Sinica 2008 to 2009

Advisor: Kuan-Ta Chen

Masters Student, National Taiwan University 2005 to 2007

Advisor: Jane Yung-jen Hsu

TEACHING

Instructor, Washington University in St. Louis 2017 to Present

EXPERIENCE

CSE 417T: Introduction to Machine Learning, Spring 2021

CSE 518A: Human-in-the-Loop Computation, Fall 2020

CSE 417T: Introduction to Machine Learning, Spring 2020

CSE 518A: Human-in-the-Loop Computation, Fall 2019
CSE 518A: Crowdsourcing and Human Computation, Spring 2019
CSE 417T: Introduction to Machine Learning, Fall 2018
CSE 417T: Introduction to Machine Learning, Fall 2017

Full-time Teaching Assistant, National Taiwan University 2009 to 2010

- Administrator of the Logic Laboratory.
- Instructor of the course “Digital Circuit Laboratory”.
- Instructor of the course “Digital System Laboratory”.
- Teaching assistant of “Artificial Intelligence” and “Digital System Design”.

SERVICE

Journal Referee:

ACM Transactions on Intelligent Systems and Technology
ACM Transactions on Economics and Computation
Artificial Intelligence Journal
Annals of Mathematics and Artificial Intelligence
Autonomous Agents and Multi-Agent Systems
IEEE Transactions on Computational Intelligence and AI in Games
IEEE Transactions on Computational Social Systems
IEEE Transactions on Knowledge and Data Engineering
IEEE Transactions on Parallel and Distributed Systems
Journal of Artificial Intelligence Research
Journal of Machine Learning Research
Journal of the Association for Information Science and Technology
World Wide Web Journal

Conference Services:

Works-in-Progress and Demonstration Co-Chair: HCOMP 2019

Area Chair or Senior Program Committee:

AAAI Conference on Artificial Intelligence (AAAI): 2020, 2021
Conference on Neural Information Processing Systems (NeurIPS): 2021
International Joint Conference on Artificial Intelligence (IJCAI): 2021

Program Committee or Formal Reviewer:

AAAI Conference on Artificial Intelligence (AAAI): 2013, 2018, 2019
AAAI Conference on Human Computation and Crowdsourcing (HCOMP): 2016, 2018
ACM Conference on Economics and Computation (EC): 2015, 2016, 2017, 2018
ACM International Conference on Web Search and Data Mining (WSDM): 2021
Conference on Neural Information Processing Systems (NIPS, NeurIPS): 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020
International Conference on Machine Learning (ICML): 2021
International Joint Conference on Artificial Intelligence (IJCAI): 2015, 2016, 2018, 2020
International World Wide Web Conference (WWW): 2017, 2018, 2019, 2021
Workshop on Crowdsourcing and Human Computation for Recommender Systems: 2013

Auxiliary Reviewer:

HCOMP 2012, HCOMP 2013 WiP, WINE 2013, AAAI 2014, WINE 2016, FAMAS 2019

Workshop Organizer:

HCOMP Workshop on Mathematical Foundations of Human Computation, 2016
NIPS Workshop on Crowdsourcing and Machine Learning, 2014

Organizer of UCLA Social Computing Reading Group, Sep. 2011 to Mar. 2012