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CONTACT INFORMATION	211 Gates Hall Cornell University Ithaca, NY 14853, USA	<i>Phone:</i> (310) 889-4235 <i>E-mail:</i> <a href="mailto:ch624@cornell.edu">ch624@cornell.edu</a> <a href="http://chienjuho.com">http://chienjuho.com</a>
RESEARCH INTERESTS	Machine learning, algorithmic economics, optimization, online social behavioral science, on-line algorithm, crowdsourcing, social computing, and artificial intelligence	
	The goal of my research is to combine computer power and human effort to solve problems that cannot be solved by computers or humans alone. To achieve this goal, I study the design and analysis of systems with humans in the loop. I develop models and algorithms to acquire and utilize human-generated data for machine learning problems.	
EMPLOYMENT	<b>Cornell University</b> , Ithaca, NY Postdoctoral Associate, October 2015 to Present <ul style="list-style-type: none"><li>• Host: Arpita Ghosh</li></ul>	
EDUCATION	<b>University of California, Los Angeles</b> , Los Angeles, CA Ph.D., Computer Science, September 2010 to October 2015 <ul style="list-style-type: none"><li>• Dissertation: Design and Analysis of Crowdsourcing Mechanisms</li><li>• Advisor: Jennifer Wortman Vaughan</li></ul> <b>Harvard University</b> , Cambridge, MA Visiting Ph.D. Student, Computer Science, October 2012 to September 2015 <ul style="list-style-type: none"><li>• Mentor: Yiling Chen</li></ul> <b>National Taiwan University</b> , Taipei, Taiwan M.S., Computer Science and Information Engineering, June 2007 <ul style="list-style-type: none"><li>• Advisor: Jane Yung-jen Hsu</li></ul> B.S., Computer Science and Information Engineering, June 2005 B.S., Physics, June 2005	
AWARDS	<b>Best Paper Award Nominee</b> , 24th International World Wide Web Conference, 2015 <b>Google Outstanding Graduate Research Award</b> , Computer Science, UCLA, 2015 <b>Dissertation Year Fellowship</b> , UCLA, 2014-2015	
PUBLICATIONS	<b>Eliciting Categorical Data for Optimal Aggregation.</b> Chien-Ju Ho, Rafael Frongillo, and Yiling Chen. To appear in the 30th Annual Conference on Neural Information Processing Systems (NIPS'16) <b>Adaptive Contract Design for Crowdsourcing Markets: Bandit Algorithms for Repeated Principal-Agent Problems.</b> 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) <b>Low-Cost Learning via Active Data Procurement.</b> Jacob Abernethy, Yiling Chen, Chien-Ju Ho, and Bo Waggoner. In the 16th ACM Conference on Economics and Computation (EC'15). <b>Incentivizing High Quality Crowdwork.</b> Chien-Ju Ho, Aleksandrs Slivkins, Siddharth Suri, and Jennifer Wortman Vaughan. In the 24th International World Wide Web Conference (WWW'15). <i>Nominee for Best Paper Award.</i>	

- 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).

RESEARCH  
EXPERIENCE

- Postdoctoral Associate**, Cornell University October 2015 to Present  
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  
EXPERIENCE

- 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”.

RELEVANT COURSEWORK Machine Learning Theory, Linear Programming, Convex Optimization, Information Economics, Online Algorithms, Algorithmic Game Theory, Bayesian Network, Mathematical Frameworks for Social Computing, Topics in Mathematical Economics.

SERVICE

**Journal Referee:**

IEEE Transactions on Computational Intelligence and AI in Games  
IEEE Transactions on Parallel and Distributed Systems  
IEEE Transactions on Computational Social Systems  
ACM Transactions on Intelligent Systems and Technology  
Annals of Mathematics and Artificial Intelligence  
Journal of Artificial Intelligence Research  
World Wide Web Journal

**Program Committee or Formal Reviewer:**

International World Wide Web Conference (WWW): 2017  
AAAI Conference on Human Computation and Crowdsourcing (HCOMP): 2016  
ACM Conference on Economics and Computation (EC): 2015, 2016, 2017  
International Joint Conference on Artificial Intelligence (IJCAI): 2015, 2016  
Conference on Neural Information Processing Systems (NIPS): 2013, 2014, 2015, 2016  
AAAI Conference on Artificial Intelligence (AAAI): 2013  
Workshop on Crowdsourcing and Human Computation for Recommender Systems: 2013

**Auxiliary Reviewer:**

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

**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**

REFERENCES

**Jennifer Wortman Vaughan**

- Senior Researcher, Microsoft Research, New York City
- jenn@microsoft.com

**Yiling Chen**

- Gordon McKay Professor of Computer Science, Harvard University
- yiling@seas.harvard.edu

**Aleksandrs Slivkins**

- Senior Researcher, Microsoft Research, New York City
- slivkins@microsoft.com

**Siddharth Suri**

- Senior Researcher, Microsoft Research, New York City
- suri@microsoft.com