

# HCOMP 2015 Technical Program

The HCOMP program will be held in the Point Loma Ballroom, Tuesday and Wednesday, November 10-11. Coffee breaks will be held in the ballroom foyer on Tuesday, and in the Point Loma Ballroom, sections 1 and 2 on Wednesday. See page two for more details about the social events on Monday and Tuesday evenings.

## Monday, November 9

6:00 - 8:00pm **HCOMP 2015 Opening Reception**  
*Kona Kai Garden*

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## Tuesday, November 10

8:45 – 9:00am **Welcome and Introduction**  
*Elizabeth M. Gerber and Panos Ipeirotis, HCOMP 2015 Conference Cochairs*

9:00 – 10:00am **Keynote Address: Mary L. Gray (Microsoft Research)**  
***Re-assembling the Assembly Line: Digital Labor Economies and Demands for an Ambient Teaching Computers about Visual Categories***  
*Introduction by Elizabeth M. Gerber, HCOMP Conference Cochair*

The presentation draws on findings from a two-year collaborative study of crowdwork — “the process of taking tasks that would normally be delegated to an employee and distributing them to a large pool of online workers, the ‘crowd,’ in the form of an open call” (Felstiner, 2010). We combine ethnographic and qualitative methods with computational analysis of backend metadata, comparing the cases of India and the United States, to understand the cultural meaning, political implications, and ethical demands of crowdwork. This talk examines how might we use the present day examples of people doing crowdwork as part-time, contingent employment to theorize the “last mile” of technological innovation-via-automation. What are the workforce demands such a restructuring of production suggests? People’s labor often goes unnoticed or unseen because it is embedded in computation and obscured by an API. This produces an ambient workforce: a distributed, always-on, at-the-ready, expansive labor market, dependent on a mix of intense bursts of activity AND a “long tail” of idling. Examined more closely, this bursty/idling pattern belays the different experiences of crowdsourcing: From the employer’s perspective, it is all burst and idle. Workers, on the other hand, turn crowdsourcing into a routine. We argue that before we can establish the legal, economic, and social regulatory regimes to manage crowdwork, we must have a clearer sense of the people doing this work, what it means to them, and how it fits into their daily lives.

Gray is a Senior Researcher at Microsoft Research. She maintains an appointment as Associate Professor in the Media School, with adjunct appointments in American Studies, Anthropology, and Gender Studies, at Indiana University. She studied Anthropology before receiving her Ph.D. in Communication from the University of California, San Diego in 2004. Her research looks at how media access and everyday uses of technologies transform people's lives. Her last book, *Out in the Country: Youth, Media, and Queer Visibility in Rural America*, looked at how young people in the rural United States use media to negotiate their sexual and gender identities, local belonging, and connections to broader, imagined communities. Mary's current book project, co-authored with computer scientist Siddharth Suri, combines ethnography, interviews, survey data and large scale data analysis of four crowdsourcing platforms operating in the United States and India to examine workers' experiences of digital labor and the future of employment in platform economies.

10:00 – 10:30am **Coffee Break**

10:30am – 12:30pm **Technical Session 1: Human Abilities and Vision**  
*Session Chair: Merrie Ringel Morris, Microsoft Research*

From “In” to “Over”: Behavioral Experiments on Whole-Network Computation  
*Lili Dworkin, Michael Kearns*

Crowdsourcing in the Field: A Case Study Using Local Crowds for Event Reporting  
*Elena Agapie, Jaime Teevan, Andrés Monroy-Hernández*

Publishable Humanly Usable Secure Password Creation Schemas  
*Manuel Blum, Santosh Srinivas Vempala*

Surpassing Humans and Computers with JELLYBEAN: Crowd-Vision-Hybrid Counting Algorithms  
*Akash Das Sarma, Ayush Jain, Arnab Nandi, Aditya Parameswaran, Jennifer Widom*

CrowdAR: Augmenting Live Video with a Real-Time Crowd  
*Elliot Salisbury, Sebastian Stein, Sarvapali Ramchurn*

12:30 – 1:15pm **Lunch Break** (*grab and go lunches available; advance reservation required*)

1:15 – 2:00pm **HCOMP 2015 Industry Panel**  
**Panelists: Chris Van Pelt (CrowdFlower), Anand Kulkarni (LeadGenius), Rajesh Patel (Microsoft), Thomas Trangia (Microworkers)**  
*Panel Moderator: Matt Lease, University of Texas at Austin*

2:00 – 3:30pm **Technical Session 2: Quality I**  
*Session Chair: Dan Weld, University of Washington*

Modeling Temporal Crowd Work Quality with Limited Supervision  
*Hyun Joon Jung, Matt Lease*

Identifying and Accounting for Task-Dependent Bias in Crowdsourcing  
*Ece Kamar, Ashish Kapoor, Eric Horvitz*

To Play or Not to Play: Interactions between Response Quality and Task Complexity in Games and Paid Crowdsourcing  
*Markus Krause, René Kizilcec*

Combining Crowd and Expert Labels Using Decision Theoretic Active Learning  
*An Thanh Nguyen, Byron C. Wallace, Matthew Lease*

3:30 – 3:45pm **Reports from the Workshop on Crowdsourcing Breakthroughs for Language Technology, CrowdCamp, and the Doctoral Consortium**  
*Daniela Braga (Workshop), Julie Hui (CrowdCamp), and Brent Hecht (Doctoral Consortium)*

3:45 – 4:15pm **HCOMP 2015 Works-in-Progress Madness Session**  
*Session Chair: Steven Dow, Carnegie Mellon University and Wallter Lasecki, University of Michigan*  
*The Works-in-Progress Madness Session will provide the audience with a brief snapshot of the content of the posters and demonstrations (Works-in-Progress) to be presented during the conference-wide poster/demo sessions at 4:15pm. Each presenter has been allotted 30 seconds. We ask that all questions be held until the time of the poster/demo sessions. Presentation order is random, based on the order that slides were submitted to the slide deck. (Note that posters and demos will be available for viewing on Wednesday, November 11 as well.)*

4:15 – 6:15pm **Works-in-Progress / Demonstration Session**  
*The Poster / Demo Session will be held in the Point Loma Ballroom, sections 1 and 2. Refreshments will be served.*

### ***Works-in-Progress Posters / Demos***

Proposal of Grade Training Method in Private Crowdsourcing System  
*Masayuki Ashikawa, Takahiro Kawamura, Akihiko Ohsuga*

Crowdsourcing Data Understanding: A Case Study Using Open Government Data  
*Yukino Baba, Hisashi Kashima*

On The Role of Task Design in Crowdsourcing Campaigns  
*Carlo Bernaschina, Ilio Catallo, Piero Fraternali, Davide Martinenghi*

Dropout Prediction in Crowdsourcing Markets  
*Malay Bhattacharyya*

Spying with the Crowd  
*Malay Bhattacharyya*

Studying the Reality of Crowd-Powered Healthcare  
*Malay Bhattacharyya*

Panoptes, a Project Building Tool for Citizen Science  
*Alex Bowyer, Chris Lintott, Greg Hines, Campbell Allan, Ed Paget*

This Image Intentionally Left Blank: Mundane Images Increase Citizen Science Participation  
*Alex Bowyer, Veronica Maidel, Chris Lintott, Alexandra Swanson, Grant Miller*

- Boosting Engagement in Social Network Challenges for Content Creation  
*Marco Brambilla, Stefano Ceri, Chiara Leonardi, Andrea Mauri, Riccardo Volonterio*
- Exploring Cognitive Benefits as an Alternative Motivation for Engaging Older Adults in Crowdwork  
*Robin Brewer, Anne Piper, Meredith Morris*
- A Multi-Layer Feature-Assisted Approach in Crowd-Labeling  
*Ping-hao Chen, Meng-Ying Chan, Chi-Chia Huang, Yi-Ching Huang, Jane Hsu*
- Identifying Topical Content and Experts in Twitter Using Text and Visual Content  
*Eleonora Ciceri*
- Analyzing Crowdsourced Assessment of User Traits through Twitter Posts  
*Lucie Flekova, Daniel Preotiuc-Pietro, Jordan Carpenter, Salvatore Giorgi, Lyle Ungar*
- Acquiring Planning Knowledge via Crowdsourcing  
*Jie Gao, Hankz Hankui Zhuo, Subbarao Kambhampati, Lei Li*
- Understanding Socially Constructed Concepts Using Blogs Data  
*Alastair Gill, Francisco Iacobelli*
- Crowdsourcing a Large Scale Multilingual Lexico-Semantic Resource  
*Fausto Giunchiglia, Mladjan Jovanovic, Mercedes Huertas-Migueláñez, Khuyagbaatar Batsuren*
- Assigning Tasks to Workers by Referring to Their Schedules in Mobile Crowdsourcing  
*Mayumi Hadano, Makoto Nakatsuji, Hiroyuki Toda, Yoshimasa Koike*
- Tight Policy Regret Bounds for Task Assignment to Improving and Decaying Workers  
*Hoda Heidari, Michael Kearns, Aaron Roth*
- Chatmood: A Mixed-Initiative Labeling Approach to Build Natural Dialogue Corpus for Sentiment Analysis  
*Chi-Chia Huang, Yi-Ching Huang, Jane Hsu*
- Bluesky: Charting Entire Idea Spaces through Iterative Refinement  
*Gaoping Huang, Alexander Quinn*
- Enhancing Diversity and Coverage of Crowd-Generated Feedback through Social Interaction  
*Yi-Ching Huang, Hao-Chuan Wang, Jane Hsu*
- Moral Reminder as a Way to Improve Worker Performance on Amazon Mechanical Turk  
*Heeju Hwang*
- Product Concept Evaluation Game Combining Preference Market and GA  
*Miku Imai, Hajime Mizuyama, Tomomi Nonaka*
- A GWAP Approach for Collecting Consumer Perception of a Product  
*Yu Kagoshima, Hajime Mizuyama, Tomomi Nonaka*
- Enabling Physical Crowdsourcing On-the-Go with Context-Sensitive Notifications  
*Yongsung Kim, Emily Harburg, Shana Azria, Elizabeth Gerber, Darren Gergle, Haoqi Zhang*
- Bull-O-Meter: Predicting the Quality of Natural Language Responses  
*Markus Krause*
- A Method to Automatically Choose Suggestions to Improve Perceived Quality of Peer Reviews Based on Linguistic Features  
*Markus Krause*
- Modeling and Exploration of Crowdsourcing Micro-Tasks Execution  
*Pavel Kucherbaev, Florian Daniel, Stefano Tranquillini, Maurizio Marchese*
- Predicting Sales E-Mail Responders using a Natural Language Model  
*Anand Kulkarni, Markus Krause*
- Crowdsourcing Crowdsourcing: Using Developers in the Crowd to Contribute Code to a Crowdsourcing Platform  
*Anand Kulkarni, Max Mautner, Andrew Schriener, Brianna Salinas, Egor Vinogradov*
- A Cross-Cultural Study of Motivations to Participate in a Crowdsourcing Project to Support People with Disabilities  
*Fatma Layas, Helen Petrie, Christopher Power*

VoiceTranscriber: Crowd-Powered Oral Narrative Summarization System  
*Hung-Chi Lee, Jane Hsu*

End-to-End Crowdsourcing Approach for Unbiased High-Quality Transcription of Speech  
*Michael Levit, Shuangyu Chang, Omar Alonso, Anil Kumar Yadavalli*

Cheaper and Better: Selecting Good Workers for Crowdsourcing  
*Hongwei Li, Qiang Liu*

Reactive Learning: Actively Trading off Larger Noisier Training Sets Against Smaller Cleaner Ones  
*Christopher Lin, Mausam, Daniel Weld*

Crowdsourcing the Creation of Quality Multiple Choice Exams  
*Sarah Luger*

Beyond Task-Based Crowdsourcing Database Research  
*Roman Lukyanenko, Jeffrey Parsons*

An Online Approach to Task Assignment and Sequencing in Expert Crowdsourcing  
*Ioanna Lykourantzou, Heinz Schmitz*

Using Expertise for Crowd-Sourcing  
*David Merritt, Mark S. Ackerman, Mark W. Newman, Pei-Yao Hung, Jacob Mandel, Erica Ackerman*

LoRUS: A Mobile Crowdsourcing System for Efficiently Retrieving the Top-k Relevant Users in a Spatial Window  
*Anirban Mondal, Guurulingesh Raravi, Amandeep Chugh, Tridib Mukherjee*

SimplyCity — A Simple Mobile Crowdsourcing Platform for Emerging Cities  
*Naveen Nandan*

Making Legacy Open Data Machine Readable by Crowdsourcing  
*Satoshi Oyama, Yukino Baba, Ikki Ohmukai, Hiroaki Dokoshi, Hisashi Kashima*

Extracting Structured Information via Automatic + Human Computation  
*Ellie Pavlick, Chris Callison-Burch*

Difficulties with Self-Assessment in Computer Programming  
*Rowland Pitts*

On Transcribing Russian with a Highly Mismatched Indian Crowd  
*Purushotam Radadia, Shirish Karande, Sachin Lodha*

Dynamic Filter: An Adaptive Algorithm for Processing Data with the Crowd  
*Katherine Reed, Austin Shin, Beth Trushkowsky*

Flexible Reward Plans to Elicit Truthful Predictions in Crowdsourcing  
*Yuko Sakurai, Satoshi Oyama, Masato Shinoda, Makoto Yokoo*

Predicting Quality of Crowdsourced Image Segmentations from Crowd Behavior  
*Mehrmoosh Sameki, Danna Gurari, Margrit Betke*

Towards Generating Virtual Movement from Textual Instructions: A Case Study in Quality Assessment  
*Himangshu Sarma, Robert Porzel, Jan Smeddinck, Rainer Malaka*

A Crowdsourcing Method for Obtaining Rephrased Questions  
*Nobuyuki Shimizu, Atsuyuki Morishima, Ryota Hayashi*

Learning to Hire Teams  
*Adish Singla, Eric Horvitz, Pushmeet Kohli, Andreas Krause*

How Effective an Odd Message Can Be: Appropriate and Inappropriate Topics in Speech-Based Vehicle Interfaces  
*David Sirkin, Kerstin Fischer, Lars Jensen, Wendy Ju*

Labeling Synonyms for Query Expansion Using Crowdsourcing and a Search Engine  
*Bruce Smith, Chris Collins, Pankaj Andhale*

A Game-with-a-Purpose for Recommender Systems  
*Barry Smyth, Rachael Rafter, Sam Banks*

Acquiring Reliable Ratings from the Crowd

*Beatrice Valeri, Shady Elbassuoni, Sihem Amer-Yahia*

**Crowdsourcing Based on GPS**

*Ketan Vazirabadkar, Siddhant Gadre, Rajeev Sebastian, Nikhil Dwivedi*

**On Optimizing Human-Machine Task Assignments**

*Andreas Veit, Michael Wilber, Rajan Vaish, Serge Belongie, James Davis, Vishal Anand, Anshu Aviral, Prithvijit Chakrabarty, Yash Chandak, Sidharth Chaturvedi, Chinmaya Devaraj, Ankit Dhall, Utkarsh Dwivedi, Sanket Gupte, Sharath Sridhar, Karthik Paga, Anuj Pahuja, Aditya Raisinghani, Ayush Sharma, Shweta Sharma, Darpana Sinha, Nisarg Thakkar, K. Vignesh, Utkarsh Verma*

**The ACTIVECROWDToolkit: An Open-Source Tool for Benchmarking Active Learning Algorithms for Crowdsourcing Research**

*Matteo Venanzi, Oliver Parson, Alex Rogers, Nick Jennings*

**The Rise of Curation in GitHub**

*Yu Wu, Jessica Kropczynski, Raquel Prates, John M. Carroll*

7:00 – 10:00pm

**HCOMP 2015 Banquet**

*Kona Kai Private Beach*

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**Wednesday, November 11**

8:45 – 9:00am

**Opening Remarks**

*Elizabeth M. Gerber and Panos Ipeirotis, HCOMP 2015 Conference Cochairs*

9:00 – 10:00am

**Keynote Address: David Rand (Yale University)**

**Human Cooperation**

*Introduction by Panos Ipeirotis, HCOMP Conference Cochair*

David Rand is an assistant professor of psychology, economics, and management at Yale University, and the director of Yale University's Human Cooperation Laboratory. His research combines a range of theoretical and experimental methods in an effort to explain the high levels of cooperation that typify human societies, and to uncover ways to promote cooperation in situations where it is lacking. He received his B.A. in computational biology from Cornell University in 2004 and his Ph.D. in systems biology from Harvard University in 2009, and was a post-doctoral research in Harvard University's psychology department from 2009 to 2013.

10:00 – 10:30am

**Coffee Break** (*WiP posters and demos available*)

10:30am – 12:00pm

**Technical Session 3: Design and Topic Modeling**

*Session Chair: Alex Williams, University of Waterloo*

**Using Anonymity and Communal Efforts to Improve Quality of Crowdsourced Feedback**

*Julie Hui, Amos Glenn, Rachel Jue, Elizabeth Gerber, Steven Dow*

**PISCES: Participatory Incentive Strategies for Effective Community Engagement in Smart Cities**

*Arpita Biswas, Deepthi Chander, Koustuv Dasgupta, Koyel Mukherjee, Mridula Singh, Tridib Mukherjee*

**Crowdsourcing from Scratch: A Pragmatic Experiment in Data Collection by Novice Requesters**

*Alexandra Papoutsaki, Hua Guo, Danae Metaxa, Kakavouli, Connor Gramazio, Jeff Rasley, Wenting Xie, Guan Wang, Jeff Huang*

**Crowdlines: Supporting Synthesis of Diverse Information Sources through Crowdsourced Outlines**

*Kurt Luther, Nathan Hahn, Steven P. Dow, Aniket Kittur*

12:00 – 1:30pm

**Lunch Break** (*attendees on their own*)

1:30 – 3:00pm

**Technical Session 4: Topic Modeling, Machine Learning, and Vision**

*Session Chair: Anand Kulkarni, LeadGenius*

**Crowdsourcing Feature Discovery via Adaptively Chosen Comparisons**

*James Y. Zou, Kamalika Chaudhuri, Adam Kalai*

**Crowdsourced Nonparametric Density Estimation Using Relative Distances**

*Antti Ukkonen, Behrouz Derakhshan, Hannes Heikinheimo*

Guardian: A Crowd-Powered Spoken Dialogue System for Web APIs  
*Ting-Hao Kenneth Huang, Walter S. Lasecki, Jeffrey P. Bigham*

Tropel: Crowdsourcing Detectors with Minimal Training  
*Genevieve Patterson, Grant Van Horn, Serge Belongie, Pietro Perona, James Hays*

3:00 – 3:30pm

**Coffee Break** (*WiP posters and demos available*)

3:30 – 5:00pm

**Technical Session 5: Topic Modeling, Quality II**

*Session Chair: Adam Kalai, MicrosoftP*

Learning Supervised Topic Models from Crowds  
*Filipe Rodrigues, Bernardete Ribeiro, Mariana Lourenço, Francisco Pereira*

Online Assignment of Heterogeneous Tasks in Crowdsourcing Markets  
*Sepehr Assadi, Justin Hsu, Shahin Jabbari*

Reliable Aggregation of Boolean Crowdsourced Tasks  
*Luca de Alfaro, Vassilis Polychronopoulos, Michael Shavlovsky*

Crowd Access Path Optimization: Diversity Matters  
*Besmira Nushi, Adish Singla, Anja Gruenheid, Erfan Zamanian, Andreas Krause, Donald Kossmann*

5:00 – 5:30pm

**Closing Remarks**

*Elizabeth M. Gerber and Panos Ipeirotis, HCOMP 2015 Conference Cochairs*

**Introduction of Chairs for HCOMP 2016**