

# Chien-Ming Huang, Ph.D.

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## Research Interests

Human-robot interaction (HRI), human-computer interaction (HCI), robotics

## Employment

Assistant Professor Department of Computer Science, Johns Hopkins University	08.2017–Present Baltimore, MD, USA
Postdoctoral Associate Department of Computer Science, Yale University	11.2015–07.2017 New Haven, CT, USA
Research Intern Intelligent Robotics and Communication Laboratory, ATR International	02.2013–05.2013 Kyoto, Japan
Research Assistant Institute of Information Science, Academia Sinica	09.2007–08.2008 Taipei, Taiwan

## Education

Ph.D. in Computer Science Department of Computer Science, University of Wisconsin–Madison	2010–2015 Madison, WI, USA
M.S. in Computer Science School of Interactive Computing, Georgia Institute of Technology	2008–2010 Atlanta, GA, USA
B.S. in Computer Science Department of Computer Science, National Chiao Tung University	2002–2006 Hsinchu, Taiwan

## Awards

Best paper award runner-up, Robotics: Science and Systems (RSS)	2013
Best student poster runner-up, Robotics: Science and Systems (RSS)	2013
HRI Pioneer	2012
Computer Science summer fellowship, UW–Madison	2011
Student travel grants: RSS (2013, 2014), ICMI (2013), CHI (2012), HRI (2012)	
Academic achievement award, National Chiao Tung University, Taiwan	2005

# Publications

## Under review

- U.1 Ramachandran, A., **Huang, C.-M.** and Scassellati, B. (Under review). Toward Effective Robot-Child Tutoring: Intrinsic Motivation, Behavioral Intervention, and Learning Outcomes.

## Refereed Journal Articles

- J.3 **Huang, C.-M.**, Andrist, S., Sauppé, A., and Mutlu, B. (2015). Using Gaze Patterns to Predict Task Intent in Collaboration. *Frontiers in Psychology*.
- J.2 **Huang, C.-M.** and Mutlu, B. (2014). Multivariate Evaluation of Interactive Robot Systems. *Autonomous Robots*, 37(4), 335-349.
- J.1 **Huang, C.-M.** and Mutlu, B. (2013). The Repertoire of Robot Behavior: Enabling Robots to Achieve Interaction Goals through Social Behavior. *Journal of Human-Robot Interaction*, 2(2), 80-102.

## Refereed Conference Full Papers

- C.9 Ramachandran, A., **Huang, C.-M.** and Scassellati, B. (2017). Give Me a Break! Personalized Timing Strategies to Promote Learning in Robot-Child Tutoring. In *Proceedings of the 2017 ACM/IEEE International Conference on Human-Robot Interaction (HRI'17)*.  
Acceptance Rate: 24%
- C.8 **Huang, C.-M.** and Mutlu, B. (2016). Anticipatory Robot Control for Efficient Human-Robot Collaboration. In *Proceedings of the 2016 ACM/IEEE International Conference on Human-Robot Interaction (HRI'16)*.  
Acceptance Rate: 25%
- C.7 **Huang, C.-M.**, Cakmak, M., and Mutlu, B. (2015). Adaptive Coordination Strategies for Human-Robot Handovers. In *Proceedings of the 2015 Robotics: Science and Systems Conference (RSS'15)*.  
Acceptance Rate: 26%  
Invited presentation at AAI'16 (Robotics special track)
- C.6 Sauppé, A., Szafir, D., **Huang, C.-M.**, and Mutlu, B. (2015). From 9 to 90: Engaging Learners of All Ages. In *Proceedings of ACM SIGCSE*.  
Acceptance Rate: 36%
- C.5 **Huang, C.-M.**, Iio, T., Satake, S., and Kanda, T. (2014). Modeling and Controlling Friendliness for an Interactive Museum Robot. In *Proceedings of the 2014 Robotics: Science and Systems Conference (RSS'14)*.  
Acceptance Rate: 32%
- C.4 **Huang, C.-M.** and Mutlu, B. (2014). Learning-based Modeling of Multimodal Behaviors for Humanlike Robots. In *Proceedings of the 2014 ACM/IEEE International Conference on Human-Robot Interaction (HRI'14)*.  
Acceptance Rate: 24%
- C.3 **Huang, C.-M.** and Mutlu, B. (2013). Modeling and Evaluating Narrative Gestures for Humanlike Robots. In *Proceedings of the 2013 Robotics: Science and Systems Conference (RSS'13)*.  
Acceptance Rate: 30%  
Best paper award runner-up (5/183)

C.2 **Huang, C.-M.** and Mutlu, B. (2012). Robot Behavior Toolkit: Generating Effective Social Behaviors for Robots. In Proceedings of the 2012 ACM/IEEE International Conference on Human-Robot Interaction (HRI'12).

Acceptance Rate: 25%

C.1 **Huang, C.-M.** and Thomaz, A. L. (2011). Effects of Responding to, Initiating and Ensuring Joint Attention in Human-Robot Interaction. In Proceedings of the 20th IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN'11).

#### Refereed Conference Short Papers

S.3 **Huang, C.-M.** (2013). Designing Effective Multimodal Behaviors for Robots: A Data-Driven Perspective. In Proceedings of the 15th ACM on Interaction Conference on Multimodal Interaction (ICMI'13).

S.2 **Huang, C.-M.** (2012). Designing Effective Behaviors for Educational Embodied Agents. In Extended Abstracts of the ACM/SIGCHI Conference on Human Factors in Computing Systems (CHI'12).

Acceptance Rate: 23%

S.1 **Huang, C.-M.** (2012). Generating Effective Social Behaviors for Robots. In Proceedings of the HRI Pioneers Workshop.

Acceptance Rate: 28%

#### Symposium & Workshop Papers

W.5 Strohkorb, S., **Huang, C.-M.**, Ramachandran, A., and Scassellati, B. (2016). Establishing Sustained, Supportive Human-Robot Relationships: Building Blocks and Open Challenges. 2016 AAAI Spring Symposium.

W.4 Sauppé, A. and **Huang, C.-M.** (2015). Teaching Human-Robot Interaction Using the CSTA Recommendations. In HRI Education Workshop: How to design and teach courses in Human-Robot Interaction (HRI'15).

W.3 **Huang, C.-M.** and Mutlu, B. (2014). Modeling Human-Robot Interactions as Systems of Distributed Cognition. In AAAI Fall Symposium on Artificial Intelligence and Human-Robot Interaction (AI-HRI).

W.2 Mutlu, B., Terrell, A., and **Huang, C.-M.** (2013). Coordination Mechanisms in Human-Robot Collaboration. In Proceedings of the Workshop on Collaborative Manipulation (HRI'13) (Invited paper).

W.1 **Huang, C.-M.** and Thomaz, A. L. (2010). Joint Attention in Human-Robot Interaction. In AAAI Fall Symposium on Dialog with Robots.

#### Posters

Po.2 Wu, S.-P. and **Huang, C.-M.** (2014). Time-efficient Programming Language Acquisition in Online Multimodal Self-training Environments. In WARF Discovery Competition, Madison, WI.

Po.1 **Huang, C.-M.** and Byom, L. (2012). Did I get that right? Perception of Social Cues by Adults with Traumatic Brain Injury. In WARF Discovery Competition, Madison, WI.

#### Theses

T.2 **Huang, C.-M.** (2015). Human-Robot Joint Action: Coordinating Attention, Communication, and Actions. Doctor of Philosophy (Ph.D.) Thesis. Department of Computer Sciences, University of Wisconsin-Madison.

T.1 **Huang, C.-M.** (2010). Joint Attention in Human-Robot Interaction. Master of Science (M.S.) Thesis. College of Computing, Georgia Institute of Technology.

## Patent

P.1 Jung, H.-R., Lee, J. K., Moshkina, L., Arkin, R., Park, S. H., and **Huang, C.-M.** Affective Model Device and Method for Deciding the Behavior of an Affective Model Device. USA patent US8458112 B2.

## Teaching Experience

### Instructor

Social Robotics, Grandparents University (Wisconsin Alumni Association) 07.2014

### Teaching Assistant

CS 302 Introduction to Programming, University of Wisconsin-Madison Spring 2011  
Overall evaluation: 4.51 / 5.00 (78 students)

CS 367 Introduction to Data Structures, University of Wisconsin-Madison Fall 2010  
Overall evaluation: N/A

### Guest Lecturer

CPSC 472 Intelligent Robotics, Yale University 09.2016  
CPSC 472 Intelligent Robotics, Yale University 12.2015  
CS 570 Introduction to Human-Computer Interaction, University of Wisconsin-Madison 04.2014

### Research Mentoring

Aditi Ramachandran, Yale University 04.2016-Present  
*Research topic: personalized robot-child tutoring*

## Invited Talks

IT.5 Building Socially Cooperative Human-Robot Teams  
Department of Computer Science, Johns Hopkins University 03.2017  
Department of Computer Science, University of South Carolina 03.2017  
Department of Computer Science, University of North Carolina at Charlotte 02.2017  
Department of Computer Science, University of Illinois at Urbana-Champaign 02.2017  
School of Computing, Clemson University 02.2017

IT.4 Designing Interactive Robots for Everyday People  
Department of Computer Science, University of North Carolina at Chapel Hill 03.2016

IT.3 Adaptive Coordination Strategies for Human-Robot Handovers 02.2016  
Invited RSS Early Career Spotlight Talk at AAAI'16

IT.2 User Study on Hand-Over (Panalist) 07.2015  
Human-Robot Hand-Over Workshop, RSS'15

IT.1 Designing Robotic Systems to Assist Everyday Users  
Microsoft Research 04.2015  
Department of Computer Science, University of Minnesota, Twin Cities 04.2015

## Service & Leadership

### Organizer & Chair

Registration Chair, International Conference on Human-Robot Interaction (HRI)	2018
Organizer, Workshop on Synergies between Learning and Interaction (IROS'17)	2017
Organizer, Workshop on Socially and Physically Assistive Robotics for Humanity (RSS'16)	2016
Organizer, Workshop on Long-Term Child-Robot Interaction (RO-MAN'16)	2016

### Program Committee & Associate Editor

International Conference on Human-Robot Interaction (HRI)	2018
AAAI Conference on Artificial Intelligence (AAAI)	2017-2018
International Workshop on Advanced Robotics and its Social Impacts (ARSO)	2017
International Symposium on Robot and Human Interactive Communication (RO-MAN)	2016
International Conference on Human-Agent Interaction (HAI)	2014, 2016
International Conference on Social Robotics (ICSR)	2016

### Conference Paper Referee

International Conference on Human-Robot Interaction (HRI)	2012-2017
International Conference on Robotics and Automation (ICRA)	2017
International Conference on Intelligent Robots and Systems (IROS)	2014, 2017
International Symposium on Robotics Research (ISRR)	2017
International Symposium on Robot and Human Interactive Communication (RO-MAN)	2013-2015, 2017
International Conference on Humanoid Robots	2014
International Conference on Human Factors in Computing Systems (CHI)	2012, 2016-2017
International Conference on Multimodal Interaction (ICMI)	2012
International Conference on Human-Agent Interaction (HAI)	2014
International conference on Tangible, Embedded and Embodied Interaction	2016

### Journal Article Referee

International Journal of Social Robotics  
Journal of Human-Robot Interaction  
International Journal of Robotics Research  
Pattern Recognition Letters  
Interaction Studies  
International Journal of Human-Computer Interaction  
IEEE Transactions on Affective Computing  
IEEE Transactions on Autonomous Mental Development  
Journal of Intelligent and Robotic Systems

## Press

UW professor develops robotic dishwashing arm (The Badger Herald)	2015
A new robot helper could make daily chores astronomically more fun (Tech Insider)	2015
Teach Your Robot to Do the Dishes (MIT Technology Review)	2015
Nao Robot Serves 'Sushi' (AZoRobotics)	2014

Bridging the uncanny valley between humans, robots (UW–Madison News)  
Developing Robots That Can Teach Humans (Science Nation)

2014  
2012

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