

Chien-Ming Huang, Ph.D.

John C. Malone Assistant Professor
Department of Computer Science
Malone Center for Engineering in Healthcare
Johns Hopkins University

3400 North Charles Street
Malone Hall 317
Baltimore, MD 21218, USA

+1 (410) 516-4537
cmhuang@cs.jhu.edu
<http://www.cs.jhu.edu/~cmhuang>

Research Interests

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

Employment

John C. Malone Assistant Professor	01.2018–Present
Assistant Professor	08.2017–Present
Department of Computer Science, Johns Hopkins University	Baltimore, MD, USA
<i>Other Affiliations:</i>	
<i>Malone Center for Engineering in Healthcare</i>	
<i>Laboratory for Computational Sensing and Robotics</i>	
Postdoctoral Associate	11.2015–07.2017
Department of Computer Science, Yale University	New Haven, CT, USA
Research Intern	02.2013–05.2013
Intelligent Robotics and Communication Laboratory, ATR International	Kyoto, Japan
Research Assistant	09.2007–08.2008
Institute of Information Science, Academia Sinica	Taipei, Taiwan

Education

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

Honors & Awards

CHI Early Career Symposium	2018
New Educators Workshop, SIGCSE	2018
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

Doctoral consortia: ICMI (2013), CHI (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

Note that conferences represent a primary publication venue in Computer Science.

In review

- I.2 Scassellati, B., Boccanfuso, L.*, **Huang, C.-M.***, Mademtzi, M.*, Qin, M.*, Salomons, N.*, Ventola, P., and Shic, F. (In preparation). Improving Social Skills in Children with ASD Using a Long-Term, In-Home Social Robot. **these authors have equal contribution*
- I.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.10 Ramachandran, A., **Huang, C.-M.** and Scassellati, B. (2018). Thinking Aloud with a Tutoring Robot to Enhance Learning. In *Proceedings of the 2018 ACM/IEEE International Conference on Human–Robot Interaction (HRI’18)*.
Acceptance Rate: 23%
- 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.3 **Huang, C.-M.** (2017). Amplifying Human Abilities through Human-Centered AI Systems. Computing Research: Addressing National Priorities and Societal Needs, Washington DC.

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

Instructor, EN.601.490/690 *Introduction to Human-Computer Interaction*
Johns Hopkins University

Fall 2018
Baltimore, MD, USA

Instructor, EN.601.691 *Human-Robot Interaction*
Johns Hopkins University

Spring 2018
Baltimore, MD, USA

Teaching Assistant, CS 302 *Introduction to Programming*
University of Wisconsin-Madison

Spring 2011
Madison, WI, USA

Teaching Assistant, CS 367 *Introduction to Data Structures*
University of Wisconsin-Madison

Spring 2010
Madison, WI, USA

Mentoring

Aditi Ramachandran, Yale University
Research topic: personalized robot-child tutoring [C.9, C10]

2016-2017

Invited Talks

IT.7 Empowering People Using Socially Intuitive Robots Intelligent Systems Center Seminar, Applied Physics Laboratory	12.2017
IT.6 Designing Intuitive Interactions for Human-Robot Teams Southwest Texas Asian Symposium, University of Texas Rio Grande Valley Laboratory for Computational Sensing and Robotics, Johns Hopkins University	11.2017 09.2017
IT.5 Building Socially Cooperative Human-Robot Teams Department of Computer Science, Johns Hopkins University Department of Computer Science, University of South Carolina Department of Computer Science, University of North Carolina at Charlotte Department of Computer Science, University of Illinois at Urbana-Champaign School of Computing, Clemson University	03.2017 03.2017 02.2017 02.2017 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 Invited RSS Early Career Spotlight Talk at AAAI'16	02.2016
IT.2 User Study on Hand-Over (Panalist) Human-Robot Hand-Over Workshop, RSS'15	07.2015
IT.1 Designing Robotic Systems to Assist Everyday Users Microsoft Research Department of Computer Science, University of Minnesota, Twin Cities	04.2015 04.2015

Professional Service & Leadership

Organizer & Chair

Registration Chair International Conference on Human-Robot Interaction (HRI'18)	2018
Co-Organizer, Workshop on Towards a framework for Joint Action Robotics: Science and Systems (RSS'18)	2018
Co-Organizer, Workshop on Synergies between Learning and Interaction International Conference on Intelligent Robots and Systems (IROS'17)	2017
Co-Organizer, Workshop on Socially and Physically Assistive Robotics for Humanity Robotics: Science and Systems (RSS'16)	2016
Co-Organizer, Workshop on Long-Term Child-Robot Interaction International Symposium on Robot and Human Interactive Communication (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
IEEE Conference on Virtual Reality and 3D User Interfaces (VR)	2018

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 Human-Machine Systems
IEEE Transactions on Autonomous Mental Development
Journal of Intelligent and Robotic Systems
International Journal of Developmental Disabilities

University Service

Student Awards Committee 2017-Present
Department of Computer Science, Johns Hopkins University

Selected Outreach

Social Robotics Summer Program 07.2014
Grandparents University (Wisconsin Alumni Association) Madison, WI, USA

Selected 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) 2014
Developing Robots That Can Teach Humans (Science Nation) 2012

Last updated: April 17, 2018