Introduction to the Human-Robot Interactions Minitrack at HICSS 54

Sangseok You
HEC Paris
you@hec.fr

Lionel P. Robert Jr.
University of Michigan
lprobert@umich.edu

Robots are increasingly being adopted in private and public spaces, leading to a proliferation of human–robot interactions in the home, workplace, and other public settings. Robots in the home are performing household chores and acting as home companions and home health care providers. Robots at work are fulfilling traditional human roles in logistics, transportation, and manufacturing, serving as both co-workers and supervisors. Robots are also being utilized as tour guides, janitors, and security officers in public spaces such as museums and airports. Although these interactions are often collaborative, they are by no means always cooperative.

Robot interactions with humans across this array of roles and settings pose interesting questions to scholars in various fields such as information systems, robotics, psychology, and sociology. Interaction with robots is distinct from that with other artificial intelligence (AI)-enabled technologies in that robots have a physical body that allows them to manifest physical actions. People cannot only talk to robots but also touch and be touched by robots. This distinguishes interactions with robots from interactions with disembodied AI agents, such as voice agents like Siri by Apple and Alexa by Amazon. Thus, research on human–robot interaction can differ significantly from that of human interaction with disembodied AI agents.

Given the importance of the topic, this mini-track presents studies that address various issues in human–robot interactions. This mini-track focuses on, but not limited to, the issues below:

1. Promoting cooperative and collaborative interaction with robots
2. Examining uncooperative and adversarial human interactions with robots
3. The role of adoption and appropriation in human–robot interactions
4. Empirical studies examining the cognitive, psychological, emotional, and
5. social aspects of human–robot interactions
6. The impact of haptic feedback and touch on human–robot interaction
7. The role of robot attractiveness on human–robot interaction
8. Ethics on human–robot interactions
9. Social-emotional models of human–robot interaction
10. Theoretical frameworks for human–robot interaction
11. Case studies of human–robot interaction
12. Design implications for robot interactions at home, work and public spaces
13. Human-oriented practices that promote human–robot interactions
14. New methodological approaches to studying human–robot interactions

In the second year of this mini-track, we finally accepted and presented four papers that explore a variety of essential issues in human-robot interaction. The first paper, “Designing and Validating a Blockchain-based Architecture to Enforce Privacy in Human-Robot Interaction,” developed and tested an architecture to manage user data using Blockchain and RFID technology securely. The second paper, “How Do Customers Respond to Robotic Service? A Scenario-Based Study from the Perspective of Uncertainty Reduction Theory,” examined the relationships between perceived risk in the hotel reception service context, uncertainty, and personal innovativeness using an uncertainty reduction perspective. The third paper, “A Matter of Trust? Examination of Chatbot Usage in Insurance Business,” also delved into uncertainty and risk and showed the impacts of trust and privacy concerns on the intention to use chatbots in insurance business contexts. Finally, the fourth paper, “Trusting Intentions Towards Robots in Healthcare: A Theoretical Framework,” discussed and proposed ways to enhance trusting intentions toward robots by considering the interaction of humans and robots within the contexts of healthcare services.

We are grateful to collect the interesting works to the mini-track and thank all the authors. We believe that this mini-track can help enhance our understanding of human-robot interactions.

URI: https://hdl.handle.net/10125/70678
978-0-9981331-4-0