Proposal for a Special Session at IEEE RO-MAN 2024

Bridging Trust and Context: Dynamic Interactions in HAI

Aim and Scope of the Special Session

In the rapidly advancing field of artificial intelligence, the establishment and maintenance of trust remains a pivotal challenge, especially in the face of ever-changing contexts. Last year, our session "Designing trustworthy human agent interaction in dynamic context" delved into the foundational aspects of trust in human-robot relationships. This year, we aim to take a step further by focusing on the dynamic interplay between trust and context in these interactions.

Our session will explore the multifaceted nature of trust in HAI, recognizing that trust is not static but evolves continuously, influenced by a myriad of contextual factors such as environmental settings, social dynamics, task complexity, and the evolving purposes of human and robot interactions. We will investigate how these contextual elements shape the trust-building process and examine methods to effectively communicate and adapt to these changing contexts in real-time.

We invite a broad spectrum of research that examines how dynamic contexts influence trust in HAI. Topics of interest include, but are not limited to, adaptive trust models in changing environments, context-aware communication strategies in HAI, the impact of social and cultural contexts on trust dynamics, and empirical studies on trust evolution in long-term human-agent interactions.

By aligning with this year's RO-MAN conference theme "Embracing Human-Centered HRI," our session aims to offer novel insights and foster discussions that highlight the critical role of context and shaping trust dynamics in HRI. We believe that understanding and addressing these dynamic interactions is key to advancing the field and ensuring the beneficial integration of agents and robots into human societies.

Organizers

Yosuke Fukuchi, Project Researcher
Yosuke Fukuchi, National Institute of Informatics, Japan
E-mail: fukuchi@nii.ac.jp
Phone: +81–90-5195-8349
Short Bio:
Yosuke Fukuchi is a Project Researcher at the National Institute of Informatics, Japan. He received the B.E., M.E. and Ph.D. degrees in computer science from Keio University in 2017, 2019, and 2023, respectively. His research interests include artificial intelligence and human-AI interaction. He has studied the model of trust dynamics in human-AI interaction. He organized a workshop named "Cognitive Human-agent Interaction" at the international conference of human-agent interaction 2022 and a special session "Designing trustworthy human agent interaction in dynamic context" at RO-MAN 2023.

Kazunori Terada, Professor
Kazunori Terada, Gifu University, Japan
E-mail: terada@gifu-u.ac.jp
Phone: +81-58-293-2792

Short Bio: Kazunori Terada is an Associate Professor of informatics at Faculty of Engineering, Gifu University. He received the B.E. degree in Precision Engineering from Osaka University, Japan, in 1995. He received the ME and PhD in Engineering from Nara Institute of Science and Technology, Japan, in 1997 and 2001. His current research interests include artificial intelligence, social robot, theory of mind, and emotion. He is a member of IEEE and ACM. He served as an organizer of the following special sessions at past RO-MAN conferences.
- RO-MAN 2012: "Human Agent Interaction"
- RO-MAN 2013: "Affective Human Robot Interaction"
- RO-MAN 2016: "Cognitive Interaction Design"
- RO-MAN 2017: "Cognitive Interaction Design"
- RO-MAN 2023: "Designing trustworthy human agent interaction in dynamic context"

Michita Imai, Professor
Michita Imai, Keio University
E-mail: michita@keio.jp
Phone: +81-45-566-1515
Short Bio: He received his Ph.D. degree in Computer Science from Keio Univ. in 2002. In 1994, he joined NTT Human Interface Laboratories. He joined the ATR Media Integration & Communications Research Laboratories in 1997. He was a visiting scholar at the University of Chicago from 2009-2010. His research interests include autonomous robots, human-robot interaction, speech dialogue systems, and spontaneous behaviors. He served as an organizer of the following RO-MAN conference and special sessions at past RO-MAN conferences.
・Program Chair RO-MAN 2015
・RO-MAN 2007: "Interaction Design for Adaptation"
・RO-MAN 2008: "Interaction Design for Adaptation"
・RO-MAN 2009: "Interaction Design for Adaptation"
・RO-MAN 2010: "HAI (Human-Agent Interaction)"

Seiji Yamada, Professor
Seiji Yamada, National Institute of Informatics, Japan
E-mail: seiji@nii.ac.jp
Phone: +81-342122831
Short Bio: SEIJI YAMADA (Member, IEEE) received the B.S., M.S., and Ph.D. degrees in artificial intelligence from Osaka University. He is currently a Professor with the National Institute of Informatics and The Graduate University for Advanced Studies (SOKENDAI). Previously, he worked at the Tokyo Institute of Technology. His research interests include design of intelligent interaction, including human-agent interaction, intelligent web interaction, and interactive machine learning. He served as an organizer of the following special sessions.
・RO-MAN 2007: "Interaction Design for Adaptation"
・RO-MAN 2008: "Interaction Design for Adaptation"
・RO-MAN 2009: "Interaction Design for Adaptation"
・RO-MAN 2010: "HAI (Human-Agent Interaction)"

Tentative Speakers

1. Author: Shota Akahori, Michita Imai (Keio University)
   Title: "Which is better for the robot to talk to you, touch or voice?"
2. Author: Aika Awane, Kazuhiro Ueda (The University of Tokyo)
   Title: "Azatoi" smile: A study of nonverbal cues for intention detection
3. Author: Shinnosuke Hirano, Takumi Komatsu, Komei Sugiura (Keio University)
   Title: "ENCHANT: Crossmodal Future Captioning Based on Hypothesis Generation Using Large Language Models"
4. Author: Ryoya Ito, Celso M. de Melo, Jonathan Gratch, Kazunori Terada
   Title: "A martyr agent that makes people exploitative"
5. Author: Yosuke Fukuchi, Seiji Yamada (National Institute of Informatics)
   Title: "Modeling users in human-XAI interaction toward effective decision support"
6. Author: Akihiro Maehigashi (Shizuoka University)
   Title: "Cognitive design of HRI with structural equation modeling"
7. Author: Sota Kaneko, Seiji Yamada (National Institute of Informatics, SOKENDAI)
   Title: "Predicting over/under trust with SEM in human-AI interaction"