

Proposal for a Special Session at IEEE RO-MAN 2024

Redefining Robo-Identity: Bridging the Gap Between Generative Artificial Intelligence and Human Psychology

Aim and Scope of the Special Session

In the evolving landscape of Human-Robot Interaction (HRI), the integration of Large Language Models (LLMs) has ushered in a new era of robotic identity and emotional expression. The ability of artificial agents to convey emotionally rich communication has profound implications for their perceived identities. As these agents become increasingly human-like, they not only challenge our conception of human distinctiveness but also raise concerns about their potential to deceive with their human-like qualities. This special session aims to delve into the complex interplay between artificial identity and emotion, and how it reshapes the dynamics of HRI.

Our special session aims to stimulate multidisciplinary collaboration and discussion, bringing together researchers from human-computer interaction, robotics, computer science and artificial intelligence, as well as researchers from social and cognitive psychology, design, neuroscience, anthropology, and philosophy. We seek to explore how artificially generated emotions contribute to the formation of both human and technological identities, and the methodologies to categorise and understand these phenomena.

This special session invites researchers, practitioners, and thought leaders to contribute their insights and research findings. We are particularly interested in empirical studies, theoretical frameworks, and practical applications that explore the nuances of identity and emotion in the realm of human-robot interaction. Our goal is to foster a deeper understanding of these concepts and to chart a course for future research directions in this rapidly evolving field.

List of Potential Topics:

- Emotionally Nuanced Communication via LLMs in HRI: Examining how Large Language Models enhance robots' ability to convey emotionally rich and context-aware communications, influencing their perceived identity in human-robot interactions.
- Artificial Identity versus Human Identity: Exploring the nature of artificial identity in the context of LLM-enhanced robots and how it compares to human identity.
- Emotional Expressivity of Artificial Agents: Investigating the delivery mechanisms of artificial identities through emotional expressions, including facial expressions, gestures, voice, speech and content.
- Development of Emotional and Adaptive Robotic Identities through LLMs: Exploring how LLMs contribute to the creation of adaptive, emotionally responsive robotic identities, focusing on personalization and the ethical implications of these evolving identities.
- Human Responses to Artificial Emotion: Understanding how humans perceive and react emotionally to robots with artificial identities.

- Influence of Displayed Emotions in HRI: Examining the impact of emotional expressions by robots on their perception and the formation of their unique identities.
- Design and Evolution of Emotional Expressivity: Discussing ongoing developments in the design of emotional expressivity in social robots.
- 'Emotional Echoes' and Contagion in LLM-Enhanced Robots: Focusing on how robots can mirror and amplify human emotions, facilitating empathetic interactions and complex emotional contagion in robotic identity formation.
- Integration of Human Intelligence and Artificial Identity: Analysing how human intelligence is translated into artificial identity through code and hardware, and how machines react to and synthesise human behaviour.
- LLMs' Role in Shaping Trust and Emotional Perception: Assessing the impact of advanced language models on the emotional dynamics of trust and reliability in human-robot interactions, and the implications for the perceived emotional credibility of robotic identities.
- Social Implications and Ethical Considerations: Addressing the broader social and ethical implications of artificial emotions and identity in HRI.

Organisers

[Guy Laban], [PostDoctoral Researcher]

[University of Cambridge, UK]

E-mail: [g1538@cam.ac.uk]

Short Bio:

Guy Laban is a Postdoctoral Research Associate at the Department of Computer Science & Technology of the University of Cambridge, and a member of the Affective Intelligence and Robotics Laboratory (AFAR). Guy's research interests centre on supporting individuals' emotional well-being through interactions with robots. Specifically, Guy investigates how individuals convey their emotions to robots, and how these interactions can be leveraged to support their overall emotional health. He has organised the 2022 edition of Robo-identity workshop at HRI.

[Dimosthenis Kontogiorgos], [PostDoctoral Researcher]

[Massachusetts Institute of Technology, U.S.A.]

E-mail: [dkonto@mit.edu]

Short Bio:

Dimosthenis Kontogiorgos (he/him) is a PostDoctoral Researcher at the Massachusetts Institute of Technology. He is interested in how robots' embodiment and non-verbal behaviours affect the process of establishing, maintaining, and repairing mutual understanding as well as how robots explain their behaviour to humans. He has previously co-organized the previous editions of Robo-Identity workshops.

[Minha Lee], [Assistant Professor]

[Eindhoven University of Technology, the Netherlands]

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Short Bio:

Minha Lee (she/they) is an assistant professor at the Eindhoven University of Technology in the Department of Industrial Design, with a background in philosophy, digital arts, and HCI. Her research

concerns morally relevant interactions with various agents like robots or chatbots. Her recent work explores how we can explore our moral self-identity through conversations with digital entities, e.g., via acting compassionately towards a chatbot. She has organised the previous editions of Robo-identity workshops at HRI.

Potential Speakers Based on Submissions to Previous Years Editions

1. Katie Seaborn, Tokyo Institute of Technology
2. Ilaria Torre, Chalmers University of Technology
3. Erik Lagerstedt, University of Skövde
4. Malte F. Jung, Cornell University
5. Jenny Fu, Cornell University
6. Katie Winkle, Uppsala University
7. Tom Williams, Colorado School of Mines
8. Catherine Lai, University of Edinburgh
9. Yuanchao Li, University of Edinburgh
10. Astrid Weiss, TU Wien
11. Anna Dobrosovstnova, TU Wien
12. Jaye Nias, Spelman College
13. Maurice Lamb, University of Skövde
14. Julia Rosén, University of Skövde
15. Rucha Khot, Eindhoven University of Technology
16. Minha Lee, Eindhoven University of Technology
17. Fulvio Mastrogiovanni, University of Genoa
18. Athanasios Votsis, University of Twente
19. Dina Babushkina, University of Twente
20. Mariët Theune, University of Twente