AI & Society

Journal of Knowledge, Culture and Communication

Special issue on: Critical Robotics Research

Guest Editors: Sofia Serholt, Sara Ljungblad & Niamh Ni Bhroin: sofia.serholt@gu.se (contact author)

Call for papers

Contributions are invited for a Special Issue on Critical Robotics Research, to be published by the AI & Society Journal of Culture, Knowledge and Communication (Springer) http://link.springer.com/journal/146.

This special issue seeks research contributions that explore the topic of *Critical Robotics Research* as an important emerging paradigm in the area of Human-Robot Interaction (HRI) and related fields, including in particular the emerging field of Human-Machine Communication (HMC) (Guzman, 2018).

In recent years, the design, use and study of robots and AI have increased in a variety of social settings, ranging from, e.g., therapy and care for older adults, to education and domestic life. In parallel with these developments, voices have been raised advocating for more human-centered and holistic approaches to research on robot technology (Ljungblad, Serholt, Barendregt, Lindgren, & Obaid, 2016; Šabanović, 2010). In particular, the need to critically address underlying technology-driven values (Fernaeus, Jacobsson, Ljungblad, & Holmquist, 2009; MacKenzie & Wajcman, 1999), and to question the role of machines in the process of communication (Guzman, 2018) have been emphasized. More interdisciplinary work is also required to assess the design and use of robots in an increasing range of social settings. The aim of this special issue is therefore to foster research contributions that explore the design and use of robots in social domains through holistic, interdisciplinary and ethical perspectives. Contributions that critically investigate the use of robots, and make visible the challenges and dilemmas of robot use both in communication with, and in the immediate surroundings of, humans, are especially encouraged.

The notion of Critical Robotics was first introduced at the workshop Critical Robotics - Exploring a New Paradigm held at the Nordic forum for Human-Computer Interaction (NordiCHI) in 2018 (Ljungblad et al., 2018). The call to the workshop was initiated by Applied Robotics in Gothenburg: a group of researchers affiliated with the University of Gothenburg in Sweden, which was formed due to their shared experiences in robotics-centered research projects and their perceived need to look beyond the social robot as a taken-for-granted solution to a range of societal challenges. The call was inspired by the paradigm shifts that have occurred in the field of HCI in recent years, where research moved away from the optimization of man-machine interaction, towards theory about the computer and the human mind, to finally settle on a focus on interaction as phenomenologically situated where approaches related to participation, values, philosophy and ethics began to play a more prominent role (cf. Bødker, 2006; Harrison, Tatar, & Sengers, 2007; Koskinen, Zimmerman, Binder, Redstrom, & Wensveen, 2012). In parallel with HCI, the robotics field is now experiencing a similar shift as demonstrated by the Robophilosophy Conference Series that began in 2014, the establishment of the Foundation for Responsible Robotics, as well as notable research projects devoted to exploring issues of ethics, sustainability, and responsibility in the area of social robotics, such as "Responsible Ethical Learning With Robotics" and "Integrative Social Robotics—A New Framework for Culturally Sustainable Technology Solutions".

Emerging research related to Critical Robotics is now beginning to take form (cf. a recent workshop on critical design in HRI held at the International Conference on Human-Robot Interaction (Lee et al., 2019), and a recent proposition to consider more exploratory design approaches familiar to HCI also in HRI (Luria, Zimmerman, & Forlizzi, 2019)). Through the lens of Critical Robotics Research, this special issue aims to establish a forum in which design and research on robots can be problematized.

Submissions are invited for the following topic areas:
- Human-Robot Interaction
- Human-Machine Communication
- Child-Robot Interaction
- Robotics and Digital Citizenship

- Robotics and Privacy
- Social Robotics
- Education
- Robotics, AI
- Philosophy
- Design
- Ethics/Applied Philosophy
- Psychology
- Digital Humanities
- Media and Communication Studies
- Robotics in Therapy and Healthcare
- User Experience Design

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SPECIAL ISSUE THEMES
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Possible topics welcomed in this special issue include, but are not limited to:
- Ethical perspectives on social robotics that are grounded in empirical studies
- Ethical and/or philosophical perspectives on critical robotics research that are grounded in philosophy of technology or speculative design
- Robots and AI grounded in real life situations or case studies
- Critical studies of robots in social settings (e.g., breakdowns in interaction, social consequences for vulnerable groups, abuse scenarios, etc.)
- Possible theories and methods of critical robotics
- Stakeholders' perspectives (e.g., teachers, patients, students/parents, medical staff, etc.)
- Metacriticism on previously published studies (e.g., design studies, field studies, or experiments)
- Conceptual discussions on underlying technology-driven values as pertained to robotics and AI in particular
- Process-oriented or holistic design studies of robots
- Qualitative or mixed-methods studies of social robots in naturalistic settings
- Experimental studies, including those that have found that robots had some negative effect, or no effect, on the studied phenomenon (i.e., "negative results")

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CONTRIBUTION TYPES
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Contributions are welcome across two formats:

Original Papers: All papers are double blind peer-reviewed by two reviewers and the guest editorial team.

Open Forum: Papers published in the open forum may include working papers, emerging research, and discussion papers, and come from graduate students, researchers, practitioners and others interested in the topics of the special issue. Contributions should target a broad audience, including academics, designers, as well as the average reader. Open forum contributions will be double-blind peer-reviewed by one reviewer and the guest editorial team.

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ABOUT THE AI & SOCIETY JOURNAL
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AI & Society is an International Journal which publishes refereed scholarly articles, position papers, debates, short communications and reviews. Established in 1987, the journal focuses on the issues of policy, design, applications of information, communications and new media technologies, with a particular emphasis on cultural, social, cognitive, economic, ethical and philosophical implications. AI & Society is broad based and strongly interdisciplinary. It provides an international forum for 'over the horizon' analysis of the gaps and possibilities of rapidly evolving 'knowledge society', with a humanistic vision of society, culture and technology.

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IMPORTANT DATES
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- Abstract submission: November 1, 2019
- Manuscript submission: April 1, 2020
- Notifications: July 1, 2020
- Submission final versions: September 1, 2020

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SUBMISSION FORMATTING
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Contributors are asked to submit a paper between 6000-8000 words in the AI & Society's manuscript format. You can find more information about formatting under the section "Instructions for
Authors" http://www.springer.com/computer/ai/journal/146.
For inquiries and to submit your manuscript, please contact: sofia.serholt@gu.se

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SPECIAL ISSUE GUEST EDITORS
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Submission to the Guest Editor: Dr. Sofia Serholt, DP of Applied IT, University of Gothenburg, Gothenburg, Sweden: sofia.serholt@gu.se

Sofia Serholt is Senior Lecturer at the Department of Applied IT at the University of Gothenburg, Sweden. Her research concerns the use of ICT in educational settings, including schools and public libraries. In her dissertation titled Child–Robot Interaction in Education, she studied how children interacted with an empathic robotic tutor designed through the EU-funded project EMOTE in a classroom setting, focusing on instruction, social interaction, and breakdowns, as well as perceptions and normative perspectives of teachers and students on the use of educational robots with a particular focus on ethics. She is an active member of Applied Robotics in Gothenburg, regularly engages in public speaking at public events, and her research has received extensive coverage in Swedish and international press. Her research was appointed one of the top advancements in research and technology in 2017 by the Royal Swedish Academy of Engineering Sciences. She holds a PhD in Applied IT with specialization in Educational Sciences, and a Master of Education.

Sara Ljungblad is Senior Lecturer in Interaction Design at the joint department of Computer Science and Engineering, Chalmers University of Technology and Gothenburg University. She is the research leader of the working group Applied Robotics in Gothenburg, focusing on design and critical perspectives on robotic solutions for everyday life. She finished her Ph.D in Human-Machine Interaction in 2008 at Stockholm University. Ljungblad was a WP leader 2010 in the EU project Living with robots and interactive companions (LIREC, 2007-2011) and worked in the EU project Embodied Communicating Agents project (ECAGENTS, 2004-2007). She has also received funding to be an in-house researcher at a design and innovation agency in Gothenburg, where she conducted world-wide user studies at hospitals in a design award winning project, studies of design work and developed accessibility guidelines for designers in a project with Swedish Television (2011-2014). Ljungblad's research focuses on human-centred design and design skills in the area of HCI and in human-robot interaction (HRI). She has conducted several studies on robots in everyday contexts including healthcare, disability aids, and toys. Her work on user experience and design of robotic solutions has been published in top-tier venues (e.g. CSCW, HRI).

Niamh Ní Bhroin is a researcher at the Department of Media and Communication at the University of Oslo. Her research explores how young people, in particular minority and Indigenous youth, use and interact with digital media, including robotics. Niamh is also interested in the relationship between technological innovation and social change and the implications these broader processes have for young people. Niamh has a PhD from the University of Oslo (UiO). She is currently coordinating a research project called 'Living the Nordic Model' at UiO. This interdisciplinary project explores Nordic childhood(s) from the lived, everyday experiences of Nordic citizens and institutions.

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Project: REELER - Responsible Ethical Learning With Robots: http://www.reeler.eu/

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