Preface

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1. Introduction

This volume contains the papers presented at ALTRUIST 2024, (4th Workshop on sociAL roboTs for peRsonalized, continUous and adaptIve aSsisTance https://altruist21.istc.cnr.it), BAILAR 2024 (8th Workshop on Behavior Adaptation and Learning for Assistive Robotics https://sites.google.com/view/bailar2024/home?authuser=0), SCRITA 2024 (Trust, Acceptance and Social Cues in Human-Robot Interaction https://scrita.herts.ac.uk/2024/), and WARN 2024 (Weighing the benefits of Autonomous Robot persoNalisation https://warn-ws.github.io).

1.1. Workshop on sociAL roboTs for peRsonalized, continUous and adaptIve aSsisTance

The ALTRUIST workshop aims to collect contributions from experts (scholars, researchers, Ph.D. students as well as practitioners) in Artificial Intelligence and Robotics and other crossing disciplines involved in the development of innovative and effective research and technologies for personalized assistance of frail people. The workshop pursues a multi-disciplinary approach by collecting knowledge and experiences from heterogeneous disciplines and also experiences from stakeholders to show how efforts from technological and non-technological actors would add value to the promotion of innovative assistive systems. It would represent a place to share opinions, explore innovative ideas, and provide suggestions on current research.

ALTRUIST, BAILAR, SCRITA, WARN 2024: Workshop on sociAL roboTs for peRsonalized, continUous and adaptIve aSsisTance, Workshop on Behavior Adaptation and Learning for Assistive Robotics, Workshop on Trust, Acceptance and Social Cues in Human-Robot Interaction, and Workshop on Weighing the benefits of Autonomous Robot persoNalisation. August 26, 2024, Pasadena, USA

1.2. Workshop on Behavior Adaptation and Learning for Assistive Robotics

The focal points of the BAILAR Workshop revolve around Behavior Adaptation, Interaction, and Learning for Assistive Robotics. Over the years, this workshop has delved into various topics aimed at understanding and adapting robot behavior to suit assistive scenarios. Particularly, emphasis has been placed on topics pertaining to Mutual affective understanding and Theory of Mind (ToM) between humans and robots. Mutual affective understanding serves as a cornerstone for achieving successful, acceptable, and intelligent social human-robot interaction (HRI). This entails embracing novel paradigms in robotic control systems. These paradigms not only enable robots to interpret human observable behaviors and internal/emotional states to anticipate and adapt to subsequent reactions but also aid humans in interpreting and anticipating the robot's state, intentions, and future actions through legible behavior designed around the emotional dimension of communication. It is crucial to equip robots with the capability to comprehend how human partners perceive the world and the robot itself, thus enabling better understanding and generation of behaviors comprehensible to humans.

1.3. Workshop on Trust, Acceptance and Social Cues in Human-Robot Interaction

The previous editions of the SCRITA workshop have highlighted how huge advances have been made in studying and evaluating the factors affecting people's acceptance and trust in robots in controlled or short-term (repeated interactions) settings. At the same time, they also agree that several open challenges for scientists in robotics, AI and HRI need to be overcome to develop service, personal and collaborative robots that can calibrate and maintain people's acceptance and trust in robots. In particular, these robots need to be able to proactively adapt their behaviours to the situational context, and people's social and tasks-related expectations. Another very important aspect is that the field of HRI still lacks metrics that allow for an effective and unmistakable assessment of people's trust towards robots. During last year's workshop edition, together with leading researchers and exceptional speakers from various fields, we started working towards developing such novel methods. We outlined current methods and their strengths, discussing how these measures do not always reflect appropriately, or how some questions might be ambiguous and leave room for interpretation by individual participants. We identified five main factors affecting trust to be investigated to generate a new metric that allows researchers to assess and reduce common side effects influencing how people put their trust in robots. This workshop focuses on the continuous investigation of these unresolved and new open challenges. In particular, we want to look into the dynamics between people and robots to foster short interactions and long-lasting relationships taking inspiration from different domains, such as educational, service, collaborative, companion, care-home and medical robotics. For that, this workshop aims to facilitate a discussion about people's trust towards robots in the field, inviting workshop participants to contribute their past experiences, lessons learnt and future issues.

1.4. Workshop on Weighing the benefits of Autonomous Robot persoNalisation

The WARN workshop explores the complex area of personalisation and behavioural adaptation in social human-robot interaction (HRI), examining both their benefits and drawbacks. It provides a forum for a diverse group of researchers from various fields, including psychology, neuroscience, computer science, robotics, and sociology, to come together. The importance of personalisation in Human-Robot Interaction has already shown its advantages in multiple scenarios and will become a prevalent direction for the field. Robots are required to adapt their behaviour in both short- and long-term interactions. In the short term, as the interactions are very often limited in time, robots need to learn from scratch the user's preferences and adapt quickly to them. In the long term, users' needs may change and robots need to continuously adapt in a way that keeps them engaged and interested over time. Personalisation

can greatly improve short- and long-term interactions in various real-world scenarios by fostering trust and rapport, increasing adherence to the interaction, enhancing engagement through tailored content, and improving task performance. Nonetheless, it is essential to consider whether and to what extent personalisation can be beneficial for interactions and users. Robots developed as end-to-end systems for conducting social interactions can amplify cultural biases, gender and age stereotypes. Therefore, it is crucial to discuss when personalisation is desired or required, and when it should be avoided. In contexts such as healthcare and education, personalisation can lead to inadequate care or support and lower acceptance of the professionals who use the technology (teachers and healthcare professionals). Additionally, collecting personal data to provide tailored assistance can raise privacy concerns, as many machine learning algorithms are not transparent to users. Furthermore, deep learning algorithms may amplify existing biases, hindering the primary goal of making interactions more engaging and trustworthy.

Workshops Organizers