Preface for the 1st Edition of the International Robots for Humans (RfH) Workshop

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In recent years, the research field of Human-Robot Interaction has become crucial to understanding and designing the technological future. New methods and approaches in this field are urgently needed to meet the challenges of a rapidly changing landscape. In this workshop, we proposed that the intersection between Human-Computer Interaction (HCI) and Human-Robot Interaction (HRI) offers methodological opportunities while highlighting the new challenges that robot integration into society will face. In this perspective, humans bridge society, computers, and robots. Thus, the workshop proposed reflections on how embracing a human-centred design approach can help prioritise people's empowerment in society and collaborate with robots.

This CEUR-WS volume contains the proceedings of the first edition of the Robots for Humans (RfH) Workshop. The workshop was held on Jun 3rd, 2024, in Arenzano (Italy) during the 17th edition of the Conference on Advanced Visual Interfaces (AVI 2024 https://avi2024.dibris.unige.it/home). It receives contributions from authors from countries such as Italy, Germany and Israel.

The contributions of the 1st edition of the Robots for Humans (RfH) Workshop explore different topics that cross technical and social challenges of the field. Twelve papers were submitted, and each paper received two reviews. Nine papers were accepted and presented at the workshop, while eight were accepted for publication. All papers are short papers and propose reflections from technical and social perspectives. From a technical perspective, the workshop papers propose insights on how to use cognitive architecture for a dynamic person model [Sievers], the theme of personalisation of humanoid robots through natural language models

[Gallo], the use of Fuzzy Q-learning for robot behaviours adaptation in cognitive serious game scenarios [Zedda]. From a social perspective, the workshop elaborates on how the design of robots influences the phenomenon of loneliness [Horstmann], the challenges of using robots for last-mile delivery tasks in uncontrolled settings [Grimberg], the relationship between empathy and attribution of mental states [Lillo], the adoption of robots in cognitive training among older adults with Mild Cognitive Impairment [Catricalà], and reflections on help-aversion in robotic assistive training [Ruggiero].

The workshop program combined these perspectives in two sessions - Robots for Social Interactions and Robots for Training - according to the topics proposed by each contribution. Following their presentations, participants were invited to reflect on how social and technical challenges are interconnected in this domain. We split the workshop participants into two groups to reflect on such perspectives. To open the discussion, we proposed the following questions: "What are the advantages of focusing on social/technical aspects in RfH, the main challenges emerging from focusing on social/technical aspects, the risks of focusing only on social/technical aspects in RfH?". A debate followed in which delegations from both groups had to advocate for their own group's arguments. The debate highlighted that the starting perspectives are profoundly intertwined and impossible to address singularly. As the discussion outcome, both groups agreed that social needs are crucial to the design of robots. However, focusing primarily on social needs risks neglecting technological limitations and constraining technological advancements in exploratory phases. On the other hand, focusing only on technical aspects risks developing useless devices that lack the application of robots in real-world environments and reproducing social biases.

The workshop included the keynote from Dr Giulia Perugia, Associate Professor at the Human-Technology Interaction Group of the Eindhoven University of Technology (TU/e, Netherlands), "Of Robots and Stereotypes: The Case of Gender in Humanoid Robots". During the presentation, the keynote speaker argued that robots as artefacts are often created by adopting a human-like design approach to facilitate interaction. However, this approach also brings social stereotypes and biases, especially concerning gender [Perugia]. Overall, five experimental studies have been proposed to foster discussion on how the design of robots should consider a more diverse and inclusive approach. The workshop also included a short presentation by Dr Omar Eldardeer about the EU H2020-founded project "Value Of Joint EXperimentation in Digital Technologies for Manufacturing and Construction Sectors (VOJEXT)". The project aims at producing a technical architecture for mobile robotic systems that fit different applications. The presentation summarized the project and its outcomes and highlighted the importance of driving the research forward to real-world application and the kinds of requirements the industry needs to integrate social interactive robots in their processes.

In conclusion, RfH 2024 had a good number of 21 participants, which led to interesting discussions, demonstrating collaborative efforts between HCI and HRI. The workshop highlighted how an interdisciplinary approach may overcome the limits associated with social and technical perspectives. Further efforts are needed to achieve multidisciplinary collaborations. Future editions of the workshop will aim to explore the challenges of this evolving field, also considering the considerable spread of AI technologies. We would like to thank everyone who made this event possible, including the authors of the papers, the reviewers, and the invited speaker. Special thanks to the organisers of AVI 2024 for kindly hosting the workshop.

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