Workshop on Persuasive AI

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Abstract

Persuasive AI presents numerous opportunities to address complex global issues that are rooted in human behaviour. This workshop will bring together the expertise of researchers from across multiple disciplines who share an interest in AI and behaviour change. Participants will be encouraged to discuss, share ideas, and reflect on the key challenges and opportunities in this emerging field. The outcomes of the workshop will have implications for future work on Persuasive AI and intelligent technologies designed to support behaviour change.

1. Motivation

Human behaviour leads to complex problems, including growing health, environmental, and security issues. Encouraging and supporting behaviour change in individuals, communities, and societies is a difficult, but essential endeavour to address such major global challenges. Persuasive Technology is an interdisciplinary field concerned with designing and developing technologies that promote and sustain beneficial changes in behaviours and attitudes [4]. Research in this field has advanced over the years, with increasing work focused on understanding what drives human behaviour and exploring effective strategies that influence decisions, attitudes, and behaviours. Numerous effective interventions have been developed, spanning various domains of concern. This includes motivating behaviours that promote health and wellbeing [6–8,3], promoting sustainable behaviours [5,1], or encouraging safety enhancing habits [2,9].

However, there are still numerous challenges and opportunities to be explored. Understating how humans make decisions and behave in real contexts is a complex task. Our research efforts must focus on understanding how behaviour change happens both at individual and group level, as well as how technology can be shaped, built, and integrated to support positive changes and help people maintain target behaviours.

AI presents a multitude of opportunities to support the optimisation of behaviour change technology. For example, advances in areas of AI such as machine learning, vision, or natural language processing and generation, can help us understand and anticipate behaviours in different contexts, or assist us in decision-making and adoption of beneficial behaviours. Persuasive AI systems could identify and predict which individuals or groups may benefit from being targeted by interventions, or support the recognition of behavioural patterns and personalise behaviour change interventions for increased effectiveness, engagement, and adherence. Further research is needed in this direction, especially as such systems must also overcome several challenges, remaining subject to issues such as trust, transparency, bias, and accountability.

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These challenges and opportunities inform the need to cross the boundaries of multiple disciplines and explore the intersection of persuasive technology, artificial intelligence, behavioural sciences, and social sciences.

2. Motivation

The workshop will invite researchers at all levels to engage in discussion and to explore theoretical and practical considerations and directions for innovation in the emergent field of Persuasive AI. This hybrid workshop will comprise of a full-day set of interactive activities which aim to encourage active discussion and critical reflection. Participants will have the opportunity to network and make connections. The workshop will feature a keynote talk, followed by two paper presentation sessions, a networking session and two group discussion activities.

The workshop will bring together researchers and students from multiple disciplines, including computing science, AI, behavioural sciences, and social sciences. Authors will be invited to submit long papers (6-12 pages) and short papers (2-6 pages) presenting novel unpublished research results, as well as position papers, demos, and work-in-progress papers. Submissions will be invited on all aspects of Persuasive AI and intelligent technologies for behaviour change. This includes, but is not limited to:

- Design, development, or evaluation methods of Persuasive AI – Applications of AI to optimize behaviour change technologies
- User studies and experiments
- Frameworks and models for developing Persuasive AI technologies
- Human-centred design and evaluation methodologies for Persuasive AI
- Personalisation of behaviour change technologies
- Persuasive applications of natural language generation
- Simulations of complex systems and behaviours
- Identifying and anticipating behaviours
- Values and ethical challenges of Persuasive AI
- Transparency, privacy, trust, bias, and accountability of Persuasive AI

3. Workshop Outcomes

Persuasive AI research can have a significant impact for individuals, communities, and societies, through the provision of enhanced support for adopting and maintaining beneficial behaviours. This workshop will contribute an overview of the current research and outline directions for innovation in the field of Persuasive AI. A key goal of the workshop will be to stimulate discussion between experts on how we can use AI effectively to optimise behaviour change technologies. The workshop will facilitate networking and encourage collaboration between research communities with a shared interest in persuasive technology, AI, and behaviour change. Through the interactive sessions, researchers will have the opportunity to share ideas, evidence, and expertise. The group discussions and presentations will promote critical reflection, as participants will explore the challenges and opportunities of the field. Researchers will be invited to continue discussion and collaboration on Persuasive AI following the workshop. Finally, authors will be invited to contribute to a special issue on Persuasive AI in a leading journal in the field.

4. Organisers

Ana Ciocarlan is a lecturer in Computing Science at University of Aberdeen and expert in persuasive technology and human-centred computing, with strong research interests in behavioural sciences. Her research focus is on investigating theory-informed adaptive interventions and intelligent systems to motivate and support behaviour change in a variety of

contexts, including health, sustainability, and education, while taking into consideration personal, social, and cultural factors. She is experienced in organising research events, having previously been a member of multiple international conference and workshop organisation committees. She co-roganised two Scottish Informatics and Computer Science Alliance PhD conferences. She has co-organised a workshop on Persuasive Technology for Mental Health and Wellbeing co-located with the Persuasive Technology Conference and she was a Virtual Experience Chair and Poster Session Organiser at the User Modeling, Adaptation, and Personalisation conference.

John Paul Vargheese is a lecturer in the School of Computing, Engineering and the Built Environment at Edinburgh Napier University. His research is primarily based on human-computer interaction, with a focus on persuasive technology and behaviour change interventions. His work involves engaging with user groups to develop rich, theoretically informed user interaction models that may be evaluated through quantitative and qualitative studies. He is interested in how user interaction models may be used to address interdisciplinary challenges and in evaluating measures of susceptibility to influence.

Hanna Hauptmann is an assistant professor at the Human-Centered Computing Group of Utrecht University, working on intelligent and interactive health systems. She previously worked at the Data Analysis and Visualization group of the University of Konstanz on human-centered design for interactive intelligent systems by providing, among others, explainable AI, personalization, persuasion, guidance, and gamification. She received her doctoral degree at the Technical University of Munich on building socio-technical systems for healthy nutrition. She co-organized five Health Recommender Systems workshops collocated with the ACM Recommender Systems Conference and two workshops on User-Centered Artificial Intelligence collocated with the Mensch und Computer conference.

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