CHIIoT 2021:
Workshops on Computer Human Interaction in IoT Applications

1st and 2nd Workshops on Computer Human Interaction in IoT Applications

ABSTRACT

The CHIIoT workshop series brings together researchers and practitioners from human-computer interaction (HCI) design, computer science, and electrical engineering who are working on new challenges in industry and academia. The workshop provides a platform for participants to review and discuss challenges and opportunities in the intersection of computer-human interaction and the Internet of Things, focusing on human-centered applications using emerging connectivity and sensing technologies. We aim to jointly develop a design space and identify opportunities for future research–a community in which CHI and IoT researchers can exchange views and begin fruitful collaborations.

1 INTRODUCTION

The 1st CHIIoT workshop (CHIIoT 1) took place on February 17, co-located with the International Conference on Embedded Wireless Systems and Networks (EWSN 2021) in Delft, Netherlands. The second workshop (CHIIoT 2) was co-located with EICS 2021: The 13th ACM SIGCHI Engineering Interactive Computing Systems (EICS) conference and took place on June 8, 2021, in Eindhoven, Netherlands.

We invited position papers for both workshops on Computer Human Interaction in IoT Applications. The half-day workshops offered a cross-disciplinary forum of discussion and knowledge exchange for researchers in both fields, looking at the intersection of IoT and CHI, where IoT platforms focusing on human-centered applications and CHI studies using IoT solutions to build interactive environments. Topics of interest include but are not limited to:

- Emotion recognition and affective computing in IoT
- Edge computing for IoT and Cognitive IoT
- Tools and platforms for prototyping Human-IoT experiences
- Battery-less, wireless, self-sustained sensors and platforms
- Embedded AI for CHI-IoT applications
- Sensing and monitoring applications with LP-WAN technologies
- Human-IoT systems communication
- Visible light systems for sensing and communication
- Novel user interface technology for Human-IoT interaction
- Remote sensing solutions based on LiDAR, mmWave, or acoustic sensors
- Human Factors in Human-IoT systems
- 5G and Beyond-5G studies for indoor and city scenarios

Researchers from both Computer-Human Interaction and IoT Systems were invited to submit a 2-6 pages position paper to address one or more of the workshop's topics of interest or suggest another (we encourage visionary and provocative ideas). All submissions were reviewed by at least three members of the technical program committee and selected on the basis of quality and their background and perspective.

We received 13 paper submissions in the first and 7 paper submissions in the second workshop. For the first workshop, 7 (out of the 13) papers were accepted for giving oral presentations, and 3 (out of the 13) papers were accepted for giving poster presentations. For the second workshop, 4 (out of the 7) papers were accepted for giving oral presentations. The accepted submissions nicely cover a wide variety of applications with the emerging IoT technology and its users. We proudly present twelve CHIIoT 2021 workshop papers and shorts in this publication.