2020 IEEE/RSJ

International Conference on
Intelligent Robots and Systems(IROS)

October 25-29, 2020 Las Vegas, NV, USA

Sponsors

RSJ · Robotics & Automation Society · ies
SICE · NTF · IEEE

Theme: Consumer Robotics and Our Future

Social AI for Human-Robot Interaction of Human-care Service Robots

Format

Specify the duration (half day/full day): half day

Preferred date (check one of the following):

_____ October 25, 202   _____ October 29, 2020   ___v___ Either October 25 or October 29

Main Organizer

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Sponsorship (if applicable, max. 400 words)

Korea Robotics Society (KROS) will be the main sponsor of this workshop. They will support a lunch for the participants of this workshop. The social robot SIG of KROS will support on advertising this workshop. The IEEE RAS Technical Committee on Human-Robot Interaction and Coordination and the IEEE-RAS Technical Committee on Robotic Hand, Grasping and Manipulation will be a co-sponsor and support on advertising this workshop to their members.

Objectives (max. 600 words)

Service robots with social intelligence are desired to be integrated into our everyday lives. Service robots are intended to improve aspects of quality of life as well as efficiency in human-robot interactive applications. Especially, human-care service robots are desired to have more robust and stable interaction capability not only with human but also with daily objects. The interaction with human is more toward the traditional human-robot interaction and the interaction with daily objects is toward the robotic manipulation in human-care settings. We are organizing an exciting workshop at IROS 2020 that is oriented towards sharing the ideas and experiences amongst participants with diverse backgrounds ranging from Human-Robot Interaction design, social intelligence, decision making, task-motion planning, social psychology and aspects, robotics manipulation and social skills. The purpose of this workshop is to explore how social AI for Human-Robot Interaction can be applied to service robots into our daily lives. This workshop focuses on three social aspects of human-robot interaction of human-care service robots: (1) technical implementation of social AI, (2) form, function and behavior of human-care service robots and (3) human behavior and expectations as a means to understand the social aspects of interacting with these robots and products.

The workshop is a single-track, half-day meeting that includes the topics of Human-Robot Interaction design, social intelligence, decision making, social psychology and robotic manipulation skills. We invite world-recognized speakers to present their work and participate in panel discussions that will present good opportunities for the workshop participants, including students. We will also have a poster session and give opportunities to the workshop participants to share and discuss their work. Demonstrations are also possible in this workshop. After the workshop, all the presentations and papers will be available on the workshop webpage.

Topics of interest

This workshop will focus on the current advances in the area of social Human-Robot Interaction, social AI, social skills, and their applications including clinical evaluations, user studies exploring consumer acceptance of social robots, and so on. Papers are solicited on all areas directly related to these topics, including but not limited to:

- Social perception and context awareness
- Short/long-term behavior recognition
- Social expression and interactive behavior

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- Social task modelling and management
- Social navigation skills
- Robotic grasping and manipulation skills for human-care services
- Social humanoid robot design
- Human-robot interaction design
- Emotion recognition and model design
- Dialogue based interaction
- User evaluation
- Applications such as healthcare, receptionist, education

Intended audience (max. 400 words)

The intended audience primarily consists of social robotics, artificial intelligence, and social robot researchers and developers, however it also includes researchers and industrial partners from communities such as industrial-, field- and space-robotics. We have a big list of intended audience who participated to our previous workshops at RO-NAN 2018-2019, HRI 2018-2019, ICSR 2017-2018, UR 2018, and they are interested in participating to the first workshop at IROS.

Expected attendance

Previously we hosted an workshops International Conference on 14th Annual ACM/IEEE International Conference on Human Robot Interaction (HRI 2019) with about 50 participants, at 28th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN 2019) with about 40 participants, International Conference on Social Robotics 2018 (ICSR 2018) with about 40 participants. In the IROS2020 workshop, we expect to have 50+ people including organizers, invited speakers, and technical talk speakers. We have our workshop webpage: https://cares.blogs.auckland.ac.nz/education/activities-on-international-conferences-and-journals/iros-2020-workshop/.

Invited Speakers (Both confirmed and/or tentative)

- Bilge Mutlu / Chien-Ming Huang (University of Wisconsin–Madison, USA)
- Kerstin Dautenhahn / Ben Robins (University of Hertfordshire, UK)
- Dana Kulic (Monash University, Canada)
- Dong-Soo Kwon (KAIST, Korea)
- Anna-Maria Velentza (University of Macedonia, Greece)
- Franziska Kirstein (Blue Ocean Robotics, Denmark)
- John Ha (Bear Robotics, USA) – Food delivery robot

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Relationship to the conference proper (max. 300 words)

Some of our participants who focus on technical details are preparing regular session papers in IROS 2020. In our workshop, we more focus on ongoing research projects and future collaborations. We will share what our interests and collaboration opportunities in this workshop, which includes different funding situation, research interests, and lack of technical stuff in their regions that cannot be covered in regular sessions, but important to researchers.

Other workshops

All the organizers in our workshop are not related any other workshop.

Structure of the event (max. 300 words)

We will invite world-famous researchers in Social HRI and Social AI as invited speakers, and have a panel discussion at the end of the workshop. We will recruit multiple technical presentations from all over the world by posting the CFP to researchers and developers in this area to ask them to participate to this workshop. Technical talks includes 3 mins teaser talk with interactive poster presentation. KROS (Korea Robotics Society) will be the main sponsor of this workshop, and the members of social robot SIG of KROS will participate to this workshop and IROS 2020.

Endorsement (Tentative)

- A supporting letter by the IEEE-RAS Technical Committee on Human-Robot Interaction and Coordination
- A supporting letter by the IEEE-RAS Technical Committee on Robotic Hand, Grasping and Manipulation
- A supporting letter by the Korea Robotics Society

Program

Provide a (tentative) program for the workshop.

Time	Talk	Comments
9:00 – 9:10	Greetings and Opening	
9:10 – 10:40	Invited talk 1, 2, 3	
10:40 – 11:00	Coffee break	
11:00 – 12:30	Technical talks	Teaser talk and interactive poster session
12:30 – 13:00	Panel discussion	
13:00 – 13:15	Closing	

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Equipment (max. 300 words)

We need projector plus big screen, poster stands (around 10-15, A0 size) with small table for laptop video demo.

Note that a projector and a screen will be provided by default. Upon acceptance, the organizers will be required to provide an abstract and a dedicated website for their workshop.

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Please submit the filled template as your proposal via PaperPlaza for IROS 2020 by March 15, 2020.

Feel free to add any other information at the end that will help us to evaluate your proposal, with a limit of one page on this information.