



TITLE

Personalization and Adaptation in Human-Robot Interactive Communication

MOTIVATION AND SCOPE

In order to make Human-Robot interactive communication socially acceptable, legible, and natural from the user's point of view, it is of paramount importance to endow a robot with the ability to model the users' preferences, needs, and motivations. Creating robotic systems capable of correctly recognizing, and consequently, modelling the human behavior and preferences is a very critical and challenging task, especially in the domain of assistive and social robotics and when working with vulnerable user populations. A robot should be able to cope with local uncertainties of the environment, variations of the human desires and motivations, and volatilities of the interaction itself. The embodiment condition of a robot requires the abilities to extract such relevant information from the interaction history but also from the indirect observation of the user. Thus, a user modeling component should cope with these challenging and evolving requirements. With respect to software agents, the embodiment condition requires also to consider the physical characteristics of the interaction, such as the user preferences regarding robot's physical movements in the space (e.g., proxemics, speed, and trajectories).

A personalized and adaptive interaction, differently from pure reactive strategies, strongly relies on the learning of such computational model of human behavior and on the integration of these into the decision-making algorithms of the robot. This includes also the possibility of endowing the robot with meta-cognition capabilities such as the capability of reasoning on the other individuals' intentions, desires, and beliefs, as well as their internal states, personality, and emotions (often referred to as Theory of Mind - ToM). The ability of a robot to adapt its behavior according to social expectations, specific cultural norms, and possible individual preferences, will determine the success and large-scale use of such robotics application.

This Special Issue aims at examining and promoting recent developments in the Personalized and Adaptive interactive communication in robotics, so providing to the UMUAI journal with a different perspective related to the specific characteristics of the interaction with a physical robot. The submitted papers will undergo peer review process before they can be accepted. Notification of acceptance will be communicated as we progress with the review process.

LIST OF TOPICS

- Context and situation awareness for robots
- User modelling for HRI
- User cognitive state assessment and monitoring
- Activity, intention, and emotion recognition
- Engagement evaluation and re-engagement strategies
- Adaptation in physical interaction

- Personalized dialogue with robots
- Socially Aware Navigation
- Adaptive Task Planning
- Cognitive Architectures and Theory of Mind for adaptive interaction
- Reinforcement learning for robotic adaptation
- Adaptation in multimodal interaction
- Non-verbal social signals in adaptation
- Affective and emotion-adapted HRI
- Personalized Social Assistive Robotics
- Performance evaluation for adaptive robotic behavior

SUBMISSION

Authors must submit an extended abstract via EasyChair by the deadline indicated below. It must be at most 3 pages long, not counting references, and formatted according to the journal template. The guest editors of the special issue will then screen all submitted extended abstracts and will invite authors of submissions that pass this screening to submit a full manuscript to be submitted via the journal's submission system.

UMUAI formatting guidelines are available here:

<http://www.umuai.org/submission.shtml#instructions>

The abstract submission needs to be done through EasyChair at:

<https://easychair.org/conferences/?conf=siumuai2020>

After abstracts have been accepted, the final full submission needs to be done through the UMUAI journal submission system: <http://www.springer.com/computer/hci/journal/11257>

SCHEDULE

Extended abstract deadline – November 1st, 2020

Deadline for abstract review - November 15th, 2020

Full Paper Submission – January 15th, 2021

First review notification – March 15th, 2021

Deadline for revised manuscript– June 15th, 2021

Final notice of acceptance/rejection – July 15th, 2021

Camera-ready Deadline – September 15th, 2021

Publication – October, 2021

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