

AI-MHRI

The “AI for Multimodal Human Robot Interaction” Workshop at the Federated AI Meeting (FAIM) 2018 in Stockholm

The Artificial Intelligence for Multimodal Human Robot Interaction (AI-MHRI) workshop offers a platform for researchers at the intersection of AI and Multimodal HRI. HRI research studies the interaction between humans and increasingly intelligent and autonomous machines, from the sensory to the physical modality, from problems of learning, social signals, collaboration, to design. Sophisticated AI models and implementations are critical in this endeavor but are not often explicitly addressed. AI models and implementations, on their part, are often developed without sufficiently considering how humans interact with them, whether they understand them, trust them, and are willing to collaborate with them. We thus believe that AI is a significant challenge in HRI research and HRI is a significant challenge in AI research, and this mutual significance motivates our workshop.

Because the AI-MHRI workshop takes place during the IJCAI/ECAI, AAMAS, and ICML meetings, researchers working on AI, Autonomous Systems, and Machine Learning have an opportunity to contribute to the emerging connection between AI and HRI. This workshop builds on previous AAAI Fall Symposia (AI-HRI 2014, 2015, 2016, and 2017, see <http://ai-hri.github.io>) and connects on previous workshops in the area of social signals in HRI (e.g., Vocal Interactivity in-and-between Humans, Animals and Robots; see <http://vihar-2017.vihar.org>). The AI-MHRI workshop, however, puts a greater emphasis on discussions, joint research development, and identifying promising future directions of the intersection of these fields, rather than strictly adhering to the standard “mini-conference” format.

Workshop themes

The workshop is dedicated to studying AI-based solutions to multimodal HRI, and to feeding AI with socially acceptable, trustworthy and effective multimodal HRI data. It is aimed at participants with diverse backgrounds ranging from AI, robotics, interaction and speech technology, machine learning, computer vision, social psychology, and multimodal interaction. The discussions in the workshop are organized around specific themes, based on the participants’ submissions. We have contributions on the following topics:

- Methods and architectures (e.g., learning in HRI, interactive machine learning, cognitive architectures for HRI, autonomous systems)
- Rich communication capabilities (e.g., multimodal interaction, nonverbal communication, social signals, challenges for machine learning, availability of suitable data).
- Interactive social robots (e.g., spoken dialogues for HRI, natural language processing for HRI, mutual adaptation, machine ethics, human-machine trust)
- Complexity of reasoning (e.g., planning for interaction, explainable AI, knowledge representation, transfer learning: new tasks, new robots, new users)
- Social and ethical implications of AI (e.g., biased AI systems, workforce replacement, ethics of creating AI)

Invited Speakers

- Amit Kumar Panday, Softbank Robotics Europe (formerly Aldebaran Robotics)
- Elisabeth André, University of Augsburg, Germany

Organizers

G rard Bailly, GIPSA-Lab, Univ. of Grenoble-Alps, France
Laura Hiatt, NRL, Washington DC, USA
Kristiina Jokinen, AIRC, AIST Tokyo Waterfront, Japan
Tatsuya Kawahara, Kyoto Univ., Japan
Roger Moore, Univ. of Sheffield, UK
Elin A. Topp, Lund Univ., Sweden

Program Committee

G�rard Bailly, Grenoble-Alps Univ., France	Kristiina Jokinen, AIRC, AIST Tokyo Waterfront, Japan
Nick Campbell, Trinity College Dublin, Ireland	Tatsuya Kawahara, Kyoto Univ., Japan
Mary Ellen Foster, University of Glasgow, UK	Takanori Komatsu, Meiji Univ., Japan
Anders Green, S�dertorn University, Sweden	Stefan Kopp, Bielefeld University, Germany
Marc Hanheide, University of Lincoln, UK	Yukiko Nakano, Seikei Univ., Japan
Laura Hiatt, NRL, Washington DC, USA	Alessandra Sciutti, Italian Institute of Technology, Italy
Ayanna Howard, Georgia Tech., USA	Elin Anna Topp, Lund Univ., Sweden
Hung-Hsuan Huang, Riken, Japan	