



ICIRA 2024 Special Session Proposal

Title of the Proposal: Computational Neuroscience and Cognitive Models for Adaptive Human-Robot Interactions

Technical Outline of the Session and Topics:

Our interdisciplinary workshop is a collaborative endeavor aimed at unraveling the complexities of human-centered design in adaptive robotic behavior, drawing insights from computational neuroscience and cognitive models. We extend our invitation to researchers hailing from diverse backgrounds including engineering, human-machine interaction, neuromorphic computing, and cognitive science, fostering a rich tapestry of perspectives. Together, we endeavor to scrutinize architectural paradigms that can enhance adaptive human-robot interaction (HRI) frameworks, pushing the boundaries of what's achievable.

Through a blend of interactive talks and panel discussions, our workshop serves as a crucible for exchanging ideas and forging new research directions. By nurturing collaboration and cross-fertilization of ideas among our esteemed experts, we aim to catalyze advancements in HRI systems that are not only more intuitive and responsive but also finely attuned to the intricacies of human needs and behaviors. We invite you to join us on this transformative journey, as we collectively unlock the full potential of adaptive robotics to enrich and elevate human lives.

Topics of the Session:

- *Computational neuroscience for robotic perception*
- *Neuromorphic computing in robots*
- *Brain dynamic for cognitive human-robot interaction*
- *Cognitive modeling and development on robots*
- *Knowledge representation and reasoning on robots*
- *Other related topics*

Contact details of the Session Organizers

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