ICIRA 2024 Special Session Proposal

Title of the Proposal: Advanced Sensing and Control Technologies for Intelligent Human-Robot Interaction

Technical Outline of the Session and Topics:

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In recent years, the field of robotics has witnessed remarkable advancements in sensing and control technologies, revolutionizing the landscape of human-robot interaction (HRI). These developments have paved the way for a wide range of applications spanning from industrial automation to healthcare assistance and service robotics. This special session aims to delve into cutting-edge advancements in sensing and control technologies tailored for fostering seamless interaction between humans and robots. This session will offer insights into the integration of advanced sensing and control systems, showcasing their applications across various domains such as healthcare, manufacturing, and service robotics. Through this session, we aim to gather all the latest theoretical and technological advances in the field of advanced sensing and control on shaping the future of HRI. This session covers a wide range of areas, which include but are not limited to, the following topic list.

Topics of the Session:
- *Theory/model/architecture for intelligent HRI*
- *Advanced control methods for intelligent HRI*
- *Advanced devices development for intelligent HRI*
- *Real-world applications of intelligent HRI*
- *Novel sensors developed for intelligent HRI*
- *Smart sensing integrated with AI for intelligent HRI*
- *Advanced learning and generalization methods for intelligent HRI*
- *Imitation learning and reinforcement learning for intelligent HRI*
- *Hardware/Software Development of the Testbed for intelligent HRI*
- *Experimental study/Performance analysis for intelligent HRI system*

Contact details of the Session Organizers

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