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Title: AI Based Robotics and Control

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Motivation and Relevance:

Recent advances in artificial intelligence are fundamentally transforming the way robotic systems including perception are modeled, controlled, and deployed in real-world environments. Learning-based control, reinforcement learning, adaptive and data-driven methods offer new possibilities for handling nonlinear dynamics, uncertainty, and complex interactions that are difficult to address with classical control approaches alone. At the same time, integrating AI techniques into safety-critical and real-time robotics and control raises important challenges related to stability, robustness, interpretability, and certification.

This special session aims to bring together researchers, practitioners, and industry leaders to explore emerging trends, key challenges, and transformative opportunities

arising from intelligent and robotics control systems. The session aims to promote a breakthrough in the emerging domain of robotic systems both in fundamental and applied aspects. This discussion sustains the creation of future, secure, and human-centered solutions based on robotics systems.

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