ICIRA 2024 Special Session Proposal

Title of the Proposal: Integrating World Models for Enhanced Robotic Autonomy

Technical Outline of the Session and Topics:

Outline of the Session: The concept of world models is significant in elevating the autonomy and adaptability of robots in complex environments, representing a focal point in the current research within the fields of artificial intelligence and robotics technology. By constructing and utilizing world models, robots can better comprehend their environments, anticipate changes, and make decisions with improved adaptability. The application of world models spans various techniques, including imitation learning and reinforcement learning, among others. The advancement of world models offers a new perspective and tools for the learning and transfer of robotic skills. Despite progress in integrating world models to boost robot autonomy, challenges remain in accurately constructing complex environments and efficiently establishing and utilizing world models. This necessitates further in-depth research.

Topics of the Session:

- *Applications of World Models in Intelligent Robotics*
- *Integration of World Models in Autonomous Driving Systems*
- *Intelligent Decision Support through World Models*
- *AI Learning and Integration with World Models*
- *Application of World Models in Vision Tasks for Robotics*
- *Multimodal Information Fusion with World Models in Robotics*
- *High-Fidelity Simulation for Robotic Training and Development through World Models*
- *Control Theory Applications within World Models for Robotics*
- *Other related topics.*

Contact details of the Session Organizers

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