

Special Session

MLAIR - Machine learning and AI in robotics

Description/Scope

Robotics is a vast and complex knowledge field that includes the scientific concepts and principles of different areas of expertise, such as mathematics, physics, computer science, electronics, and mechanics. Since it is extensive, its challenges can be divided into different and active research areas. Despite being a relatively mature subject, it has much to evolve, especially in autonomous robotics. With the advent of machine learning (ML) algorithms, new and improved solutions are being proposed. One example is the application of embedded Machine Learning (also known as Edge ML), which allows local sensor data processing to improve robot perception and control. Although the current hardware is powerful enough to run power-hungry software, machine-learning techniques typically require high processing power and increased energy consumption. This situation creates a gap in implementing Edge ML and AI in equipment with limited processing power, energy, and connectivity, like autonomous robots. Therefore, this session welcomes machine learning works applied to robotics and its sensors, including those related to embedded ML, Edge ML, or Edge AI.

Topics (but are not limited to)

- Robotics
- Machine Learning (ML)
- Case Studies
- Deep Learning
- Embedded ML
- Edge ML
- Edge AI

Organizers

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