

The 5th Workshop on Ontologies for Autonomous Robotics – RobOntics 2025

Preface

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The fifth edition of the RobOntics workshop was colocated with the IEEE RoboticCC conference on robotic and computing and communication. By design, RobOntics is opened for papers covering a spectrum from position to research showcases at various stages of maturity, and with a broad variety of topics in the ontology-robotics intersection. As a guideline, the workshop organizers suggested some particular topics of interest in the call; for this year, these were neuro-symbolic architectures for autonomous agents, cognitive-inspired world models for knowledge-driven reactive agents, and knowledge driven human robot interaction.

A significant part of the accepted submissions chose instead to focus on more fundamental aspects, such as modelling capabilities and functions of robots, mereology of assemblies, skill knowledge for adaptive control and perception, and robotic orchestration. One paper presented a neurosymbolic approach to explainable path planning. Another paper presented an approach to use ontologies for normative decision-making architectures. Finally, one paper presented initial steps towards formalizing interoception in robotic agents.

The workshop took place on the 10th of December as a hybrid, but mostly in-person, session.

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