Call for Papers
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Special Issue: Reintegrating Artificial Intelligence and Robotics

Special Issue Guest Editors:
* Federico Pecora (Örebro University, Sweden)
* Masoumeh Mansouri (Örebro University, Sweden)
* Nick Hawes (University of Oxford, United Kingdom)

A major goal of Artificial Intelligence (AI) is to create autonomous, intelligent machines, or robots, that can sense their surroundings, reason about what they have perceived, plan their next actions, and act accordingly to accomplish their tasks. Moreover, robots should be able to learn from their own experience (including interactions with other agents) and adapt to changing conditions within their environments over their lifetime.

Several of these challenges have been addressed and investigated by different sub-disciplines of AI including Perception, Knowledge Representation & Reasoning, Planning, Interaction, and Learning. However, although these research areas have made tremendous progress over the last decade, their developed methods and techniques have not always been reintegrated into situated robot systems and deployed in the real world.

It is the aim of this Special Issue on "Reintegrating Artificial Intelligence and Robotics" to emphasize that the reintegration of AI methods is a non-trivial factor in the design, development and evaluation of robot systems. In particular, we are interested in work related to both fully-integrated robots systems that use methods of AI to perform complex tasks in realistic environments and fundamental AI techniques that have the potential to transform the capabilities of robot systems, but which not been convincingly demonstrated in integrated systems.

Topics of interest include, but are not limited to:
* Knowledge representation and reasoning for robots
* Qualitative representations for robots
* Integrated task and motion planning
* Context-based scene understanding
* Semantic mapping and reasoning with semantic maps
* Constraint-based reasoning for robots
* Continuous planning and on-line problem solving for robots
* AI-enabled human-robot interaction
* Lifelong learning and adaptation
* Verification of autonomous systems
* Reasoning with uncertain and inconsistent knowledge
* System-level AI for robots

Types of submission:
* Technical contributions (6-10 pages)
* System Descriptions (4-6 pages)
* Project reports (4-6 pages)
* Dissertation abstracts (2-4 pages)
* AI transfer (2-4 pages)

Authors can find all relevant information on the KI website (https://www.springer.com/computer/ai/journal/13218, cf. Instructions for Authors).
Manuscripts should be submitted in LaTeX. Please use Springer’s LaTeX macro package and choose the formatting option “twocolumn” (http://static.springer.com/sgw/documents/468198/application/zip/LaTeX_DL_468198_220518.zip).
Submissions to the KI Journal go to the Editorial Manager site (http://kuin.edmgr.com/).

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Important Dates
* Submission deadline: December 15, 2018
* First decision communicated to authors: January 31, 2019

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