

ETFA 2022

27th INTERNATIONAL CONFERENCE
ON EMERGING TECHNOLOGIES
AND FACTORY AUTOMATION

STUTTGART, GERMANY
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Call for Papers

Towards the factory of the future: advances in planning, control, and perception of industrial robots

Organized and Co-Chaired by
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- ◆ **FOCUS.** Research on robotic planning, perception, and control has made huge advancements over the last few years. Innovative approaches pursuing the integration of technologies from these areas could boost flexibility and efficiency of manufacturing processes. This workshop focuses on three application areas that are receiving great attention from the research community but whose advancements did not make it to the industry yet: (i) human-robot collaboration; (ii) cognitive manufacturing and; (iii) manipulation in challenging scenarios.

◆ TOPICS

- ◆ Human-aware planning and execution in human-robot collaboration
- ◆ Motion planning and control in dynamic environments
- ◆ Manipulation of deformable/large objects
- ◆ Combined task and motion planning
- ◆ Multi-robot coordination and synchronization
- ◆ Human-centered design of robotized cells
- ◆ Safety and ergonomics of physical human-robot collaboration
- ◆ Failure detection and recovery in HRC control systems
- ◆ Smart perception for HRI applications
- ◆ Novel Sensing and grasping technologies for HRI
- ◆ Interfaces for real-time path and motion planning and collision avoidance
- ◆ Case studies, experiments, ethics and outreach

- ◆ **AIM.** Industrial robots play a key role in industrial automation. Robotic arms populate shop-floors: they are used for pick-and-place, assembly, inspection, and many other tasks, to increase the throughput of productive processes and alleviate fatigue and risks of human workers. A huge research effort has been put into the reasoning, planning, and control of robotic manipulators. Nonetheless, industrial implementations often do not exploit at full the great advancements made in these fields. This workshop aims at discussing how recent developments in planning and control of robot manipulators, on the one hand, and synergetic integration with results from Artificial Intelligence and cognition, on the other, can advance the state of the art and be applied to real-world manufacturing.

- ◆ **WORKSHOP FORMAT.** Half-day workshop based on solicited research papers. Contributions are limited to 8 pages, they must comply with ETFA formatting guidelines and must be submitted electronically through the conference system. **Accepted papers presented at the workshop will be included into the ETFA conference proceedings on IEEE Xplore.**

◆ AUTHOR'S SCHEDULE (2022)

- ◆ Regular and special sessions papers

Submission deadline May 13

Acceptance notification June 10

Deadline for final manuscripts June 24

Workshop: September 6, 2022

Technical Program Committee

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