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Proceedings of the  
**AIRO 2020**  
**The 7th Italian Workshop on**  
**Artificial Intelligence and Robotics**

Workshop co-located with AIxIA 2020  
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## Preface

The goal of the Italian workshop series on Artificial Intelligence and Robotics (AIRO) is to present, discuss and assess recent advances in the deployment of Artificial Intelligence (AI) methods in Robotics. AI principles and methods play a crucial role in several areas of the robotics research (e.g. field, service, social robotics, etc.) and are pervasively exploited at various levels of robot architectures for different purposes: sensing and perception, reasoning and decision, learning, intelligent control, adaptive and social behavior, verification and validation methods, etc. Starting from these diverse -yet intertwined- research fields, the AIRO workshop series aims at providing an established long-term Italian forum where the AI community and the Robotics community may find an interesting and stimulating common ground.

This volume contains the proceedings of the seventh edition of the AIRO workshop<sup>1</sup>, which was held on November 26th, 2020 in conjunction with the 19th International Conference of the Italian Association for Artificial Intelligence (AIxIA 2020). Due to COVID-19, the AIRO 2020 workshop (along with all the event of AIxIA 2020) was virtually accessible “anywhere” in the world through the internet.

This edition of the AIRO workshop accepted 10 papers involving 45 authors. The program was structured into four sections *Service and Industrial Robotics*, *Social Robotics*, *Assistive Robotics*, and *Planning and Scheduling*. The contributions covered several aspects of AI and Robotics in the areas of Service, Industrial, Social, Assistive Robotics and mainly concerned with the following research topics: Human-Robot Collaboration, Robot Competition, Autonomous Conversation, Computational creativity, BCI & Neurorobotics, Social Interaction and Assistance, Dialogue, Robot Navigation, Learning and Explainable AI, AI Planning and Scheduling, Multi-robot task allocation.

The workshop program included also the keynote talk of Lorenzo Jamone, Senior Lecturer at Queen Mary University of London, UK, titled *Toward intelligent robots: haptics and dexterity* and a Panel Session on *Verification and Anomaly Detection for Intelligent Robots* with speakers: Francesco Amigoni (Associate Professor, Politecnico di Milano), Davide Azzalini (Doctoral student, Politecnico di Milano), Domenico Bloisi (Associate Professor, Università della Basilicata), Giuseppe Di Luna (Research fellow, Università di Roma), Alessandro Farinelli (Full Professor at University of Verona), Luca Iocchi (Full Professor, Sapienza, Università di Roma).

The research topics and the results collected in these proceedings illustrate the work of an active and multidisciplinary research community and confirm the growing interest for a forum where AI and Robotics researchers can find a common ground.

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Workshop Organizers

<sup>1</sup> <https://www.airo-aixia.it/airo2020/>

## Workshop Organization

### Chairs

Alberto Finzi	University of Naples “Federico II”
Alberto Castellini	University of Verona
Luca Buoncompagni	University of Genoa
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