

Manuel Boldrer

Postdoctoral Scholar

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Born in Trento (Italy) on 29.07.1992
CV Updated to July 2023

Work Experiences

- May '22 - Present **Postdoctoral Scholar**, *Cognitive Robotics Department, Delft University of Technology, Netherlands.*
- **Supervisor:** Laura Ferranti
 - **Title:** Secure and Private Robot Control
- Oct '18-Sep '20 **Teaching support activity**, *held at University of Trento, Italy, (80 hours).*
- **Department:** Information Engineering and Computer Science (DISI)
 - **Course:** Systems Theory
- Jun-Nov 2018 **Scholarship**, *held at University of Trento, Italy.*
- **Title:** Distributed estimation and control algorithms for a team of service robots

Education

- Nov '18-May '22 **PhD Student in Mechatronics, 34th cycle**, *University of Trento, Italy.*
- **Supervisors:** Daniele Fontanelli, Luigi Palopoli
 - **Title:** Distributed control algorithms for a team of service robots
 - **PhD Defense Date:** 06 June 2022;
 - **PhD Committee:** Lucia Pallottino, Dimos Dimarogonas, Andrea Del Prete.
 - **Research Interests:** Multi-agent systems, Distributed control, Robotics.
- Sep '21-Feb '22 **Visiting Scholar**, *University of California, Riverside, United States.*
- **Supervisor:** Fabio Pasqualetti
 - **Research Activity:** Networked system control, Reinforcement learning
- Sep '15-Mar '18 **Master's degree in Mechatronics Engineering**, *University of Trento, Italy.*
- **Curriculum in Electronics and Robotics**
 - **Grade:** magna cum laude
 - **Master thesis:** "Control of a Synchrotron with LMI-based Techniques".
 - *Advisor:* Luca Zaccarian
- Sep '12-Jul '15 **Bachelor's degree in Industrial Engineering**, *University of Trento, Italy.*
- **Methodological Curriculum**
 - **Bachelor thesis:** "Study of Lateral Vibrations in a Beam".
 - *Advisor:* Daniele Bortoluzzi
- Sep '06-Jun '12 **Secondary Education Diploma**, *Liceo Scientifico "L. Da Vinci", Trento, Italy.*

Publications

Journal Articles

- [J6] **M. Boldrer***, **L. Lyons**, **L. Palopoli**, **D. Fontanelli**, **L. Ferranti**, *Time-inverted Kuramoto Model Meets Lissajous Curves: Multi-Robot Persistent Monitoring and Target Detection*, in IEEE Robotics and Automation Letters, IF 4.321, Q1, 2022.
doi: 10.1109/LRA.2022.3224661
- [J5] **M. Boldrer***, **L. Palopoli**, **D. Fontanelli**, *A Unified Lloyd-based Framework for Multi-Agent Collective Behaviours*, in Elsevier, Robotics and Autonomous Systems, IF 3.7, Q1, 2022.
doi: 10.1016/j.robot.2022.104207
- [J4] **M. Boldrer***, **F. Pasqualetti**, **L. Palopoli**, **D. Fontanelli**, *Multi-Agent Persistent Monitoring via Time-Inverted Kuramoto Dynamics*, in IEEE, Control Systems Letters, IF 3.698, Q1, 2022.
doi: 10.1109/LCSYS.2022.3178294
- [J3] **M. Boldrer***, **A. Antonucci**, **P. Bevilacqua**, **L. Palopoli**, **D. Fontanelli**, *Multi-Agent Navigation in Human-Shared Environments: a Safe and Socially-Aware Approach*, in Elsevier, Robotics and Autonomous Systems, IF 3.7, Q1, 2021.
doi: 10.1016/j.robot.2021.103979
- [J2] **M. Boldrer***, **P. Bevilacqua**, **L. Palopoli**, **D. Fontanelli**, *Graph Connectivity Control of a Mobile Robot Network with Mixed Dynamic Multi-Tasks*, in IEEE Robotics and Automation Letters, IF 4.321, Q1, 2021.
doi: 10.1109/LRA.2021.3061072

- [J1] **M. Boldrer***, **M. Andreetto**, **S. Divan**, **L. Palopoli**, **D. Fontanelli**, *Socially-aware Reactive Obstacle Avoidance Strategy based on Limit Cycle*, in IEEE Robotics and Automation Letters, IF 4.321, Q1, 2020.
doi: 10.1109/LRA.2020.2976302

Refereed Conference Publications

- [C6] **M. Boldrer***, **F. Riz**, **F. Pasqualetti**, **L. Palopoli**, **D. Fontanelli**, *Time-Inverted Kuramoto Dynamics for κ -Clustered Circle Coverage*, In IEEE Conf. on Decision and Control (CDC), doi: 10.1109/CDC45484.2021.968331, 2021.
- [C5] **M. Boldrer***, **D. Fontanelli**, **A. Antonucci**, **L. Palopoli**, *A Novel Framework for Multi-Agent Navigation in Human-Shared Environments*, In Italian Institute of Robotics and Intelligent Machines Conference (I-RIM), doi: 10.5281/zenodo.5900505, 2021, (***Best Student Paper Finalist***).
- [C4] **M. Boldrer***, **L. Palopoli**, **D. Fontanelli**, *Lloyd-based Approach for Robots Navigation in Human-shared Environments*, In IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), doi: 10.1109/IROS45743.2020.9341272, 2020.
- [C3] **M. Boldrer***, **L. Palopoli**, **D. Fontanelli**, *Socially-aware Multi-agent Velocity Obstacle based Navigation for Nonholonomic Vehicles*, In IEEE Computer Software and Applications Conference (COMPSAC), doi: 10.1109/COMPSAC48688.2020.00012, 2020.
- [C2] **A. Antonucci***, **P. Bevilacqua**, **L. Palopoli**, **M. Boldrer**, **D. Fontanelli**, *Motion Planning in Crowds: Proxemics as a Base for a Socially Acceptable Behaviour*, In 1st Italian Conference on Robotics and Intelligent Machines (I-RIM), doi: 10.5281/zenodo.4782236, 2019.
- [C1] **M. Boldrer***, **D. Fontanelli**, **L. Palopoli**, *Coverage control and distributed consensus-based estimation for mobile sensing networks in complex environments*, In IEEE Conf. on Decision and Control (CDC), doi: 10.1109/CDC40024.2019.9028967, 2019.

* Corresponding Author and Main contributor.

Language Skills

Italian Mother tongue
English Fluent

Computer Skills

Languages C++, L^AT_EX, MatLab, Phyton
Other Software Ansys, Maple, Maplesim, Mathematica, NI LabVIEW, Blender, Microsoft Office Package

Links

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