

Manuel Boldrer

PhD Student

Via al Braidon, 19
38123 Trento, Italy
☎ +39 3490563578

✉ manuel.boldrer@gmail.com
...Updated in August 2021



Education

Nov '18 - Present **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
- **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

2015-2018 **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

2012-2015 **Bachelor's degree in Industrial Engineering**, University of Trento, Italy.



- **Methodological Curriculum**
- **Bachelor thesis:** "Study of Lateral Vibrations in a Beam".
 - *Advisor:* Daniele Bortoluzzi

Summer 2013 **Study abroad experience**, Dublin, Ireland.

- English course (4 weeks)

2006-2012 **Secondary Education Diploma**, Liceo Scientifico "L. Da Vinci", Trento, Italy.

Publications

Papers Under Review

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.

M. Boldrer, L. Palopoli, D. Fontanelli, *A Unified Lloyd-based Framework for Multi-Agent Collective Behaviours*, in Elsevier, Robotics and Autonomous Systems.

Journal Articles

- [2] **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, Feb., 2021.
- [1] **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, Feb. 2020.

Refereed Conference Publications

- [5] **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), Dec. 2021.
- [4] **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), Oct. 2021, (**Best Student Paper Finalist**).
- [3] **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), Oct. 2020.
- [2] **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), Jul. 2020.

- [1] **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), Dec. 2019.

Work Experiences

- 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

Language Skills

- Italian Mother tongue
- English **Understanding:** Listening (B2), Reading (B2). **Speaking:** Spoken interaction (B2), Spoken production (B2). **Writing:** (B2)

Computer Skills

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

-
- Driving license B
- Sports Table tennis, Tennis, Football
- Linkedin.com [Manuel Boldrer](#) - Professional profile.
- Youtube [Intelligent Robots at UNITN](#) - Lab Channel.
- Google Scholar [Google Scholar Profile](#).