Manuel Boldrer

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Born in Trento (Italy) on 29.07.1992
CV Updated to January 2026

Work Experiences

Mar '24 - Now **Postdoctoral Researcher**, *Department of Cybernetics, Czech Technical University in Prague*, Czechia
- **Lab:** Multi-robot systems group (MRS)
- **Tasks:** Research and development of coordination algorithms for multiple Unmanned Aerial Vehicles; algorithm deployment and testing in the field; supervision of students; organization of seminars; dissemination and publication of research findings; funding acquisition; peer-review of scientific papers.

May '22 - Nov '23 **Postdoctoral Researcher**, *Cognitive Robotics Department, Delft University of Technology*, The Netherlands
- **Lab:** Reliable Robot Control Lab (R2C)
- **Tasks:** Research and development of secure algorithms for multi-robot Unmanned Grounded Vehicles; algorithm deployment and testing in controlled environments; PhD mentoring; organization of seminars; dissemination and publication of research findings; funding acquisition; peer-review of scientific papers.

Nov '18-May '22 **Doctoral Researcher**, *Department of Industrial Engineering, University of Trento*, Italy
- **Lab:** The Interdepartmental Robotics Labs (IDRA)
- **Tasks:** Research and development of safe algorithms for multi-robot Unmanned Grounded Vehicles; algorithm deployment and testing in controlled environments; dissemination and publication of research findings; peer-review of scientific papers.

Sep '21-Feb '22 **Visiting Scholar**, *University of California, Riverside*, United States
- **Research Activity:** Networked system control, Reinforcement learning

Oct-Nov 2025 **Guest Lecturer**, *Czech Technical University in Prague*, Prague
- **Department:** Cybernetics
- **Course:** Multi-Robot Systems

Oct '18-Sep '20 **Teaching Assistant**, *University of Trento*, Italy
- **Department:** Information Engineering and Computer Science (DISI)
- **Course:** Systems Theory

Jun-Nov 2018 **Postgraduate Researcher**, *held at University of Trento*, Italy

Education

Nov '18-May '22 **PhD in Mechatronics**, *University of Trento*, Italy
- **PhD Thesis:** Distributed control algorithms for a team of service robots
- **Research Interests:** Multi-robot systems, Distributed control, Mobile robotics

Sep '15-Mar '18 **MSc 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"

Sep '12-Jul '15 **BSc in Industrial Engineering**, *University of Trento*, Italy
- **Bachelor thesis:** "Study of Lateral Vibrations in a Beam"

Sep '06-Jun '12 **Secondary Education Diploma**, *Liceo Scientifico "L. Da Vinci"*, Trento, Italy

Publications

Journal Articles

[J10] **M. Boldrer, V. Krátký, V. Walter, M. Saska**, *Distributed Lloyd-Based Algorithm for Uncertainty-Aware Multi-Robot Under-Canopy Flocking*, In Robotics and Automation Letters, Under Review.

[J9] **M. Boldrer, V. Krátký, M. Saska**, *Aerial Robots Persistent Monitoring and Target Detection: Deployment and Assessment in the Field*, Springer, Autonomous Robots, 2026
doi: 10.1007/s10514-025-10239-y.

[J8] **M. Boldrer, A. Serra-Gomez, L. Lyons, V. Krátký, J. Alonso-Mora, L. Ferranti**, *Rule-Based Lloyd Algorithm for Multi-Robot Motion Planning and Control with Safety and Convergence Guarantees*, in International Journal of Robotics Research, Under Review.

[J7] **L. Lyons, M. Boldrer, L. Ferranti**, *Distributed Attack-Resilient Platooning Against False Data Injection*, IEEE Transactions on Vehicular Technology, 2025
doi: 10.1109/TVT.2025.3614452.

[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, 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, 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, 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, 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, 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, 2020
doi: 10.1109/LRA.2020.2976302.

Language Skills

Italian	Mother tongue
English	Fluent

Computer Skills

Languages	C++, Python
Software/Tools	Vim/Neovim, Tmux, Tmuxinator, Bash, Latex, ROS, Git, Github, Docker, Docker hub, Apptainer, Ansible, Maple/Maplesim, Matlab/Simulink, Kdenlive.
OS	Linux

Personal Information

Driving license	B
Sports	Table tennis, Tennis, Football, Basketball
Linkedin.com	Manuel Boldrer - Professional profile.
Website	https://manuelboldrer.github.io