

# Manuel Boldrer

PhD Student

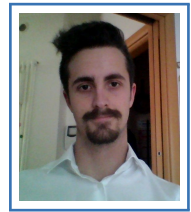
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...Updated in July 2019



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## Education

- Nov 2018 - Present **PhD Student in Mechatronics, 34th cycle**, *University of Trento*, Italy.
- **Supervisor:** Daniele Fontanelli, Luigi Palopoli
  - **Title:** Distributed control algorithms for a team of service robots
  - **Research Interests:** motion planning and control for nonholonomic vehicles, flocking control for multi-agent dynamical systems, multi-agent systems and cooperative control.
- March 2018 **Master Thesis in “Control of a Synchrotron with LMI-based Techniques”**, held at *University of Trento*, Italy, (in Italian).
- **Short description:** Design strategies of anti-windup control schemes for discrete-time large-scale cross-directional saturated linear control system. The approach is developed within the framework of a synchrotron machine (Diamond Light Source).
  - **Supervisor:** Luca Zaccarian
  - **Key Words:** Linear Matrix Inequalities (LMI), Anti-windup, Direct Linear Anti-windup (DLAW), Model Recovery Anti-windup (MRAW), Convex Optimization
  - **Tools:** L<sup>A</sup>T<sub>E</sub>X, MatLab/Yalmip/Simulink, Maple
- 2015-2018 **Master’s degree in Mechatronics Engineering**, *University of Trento*, Italy.
- **Curriculum in Electronics and Robotics**
  - **Grade:** magna cum laude
- July 2015 **Bachelor Thesis in “Study of Lateral Vibrations in a Beam”**, held at *University of Trento*, Italy, (in Italian).
- **Short description:** Development of a VI Labview for data acquisition about the acceleration of a beam subjects to transversal vibrations and analysis of the analytical behaviour. Comparison between analytical model and experimental data.
  - **Supervisor:** Daniele Bortoluzzi
  - **Key Words:** Lateral Vibrations, Continuous Systems, Hammer Impact, Shaker Test, Parameter Estimation
  - **Tools:** L<sup>A</sup>T<sub>E</sub>X, MatLab, LabVIEW, Mathematica.
- 2012-2015 **Bachelor’s degree in Industrial Engineering**, *University of Trento*, Italy.
- **Methodological Curriculum**
- Summer 2013 **Study abroad experience**, *Dublin*, Ireland.
- English course (4 weeks)
- 2006-2012 **Secondary Education Diploma**, *Liceo Scientifico “L. Da Vinci”*, Trento, Italy.

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## Work Experiences

- Oct - Sep 2019 **Teaching support activity**, held at *University of Trento*, Italy, (40 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
  - **Short description:** The research goal is the development of distributed control algorithms for a team of wheeled service robots, as in the ACANTO project. The algorithms should implement the “authority sharing” idea, hence controlling the robot only when necessary and towards the desired destination while maintaining the social group structure. To this end, suitable estimation algorithms have to be developed as well to reconstruct the relative positions among the team members.
  - **Supervisor:** Daniele Fontanelli
  - **Key Words:** Social Force Model (SFM), Potential Field Navigation, Authority Sharing, Obstacle avoidance, Limit cycle method

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## Language Skills

- Italian Mother tongue
- English **Understanding:** Listening (B2), Reading (B2). **Speaking:** Spoken interaction (B1), Spoken production (B2). **Writing:** (B2)

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## Computer Skills

Languages	C++, L <sup>A</sup> T <sub>E</sub> X, MatLab, R, Ruby, Phyton
Other Software	Ansys, Maple, Maplesim, Mathematica, NI LabVIEW, Blender, Microsoft Office Package

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Driving license	B
Sports	Table tennis, Tennis, Football
Linkedin.com	<a href="#">Manuel Boldrer</a> - Professional profile.