Andrea Berra

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Summary

Robotics engineer with three years of experience specializing in estimation and control for aerial robotics in industrial inspection. Currently a researcher at INRIA Rennes. Passionate about field robotics, I bring strong problem-solving and multitasking abilities to every project. Committed to making a significant impact in the aerial robotics industry.

Work Experience

Researcher Jan 2025 - present
INRIA, Rennes, France

- Develop aerial robotics solutions for industrial applications, focusing on aerial physical interaction.
- Design and implement the full software stack of the robotic system, from low-level control to high-level functionality, ensuring robustness and scalability.
- Responsible for the design, implementation, and optimization of all software components, including GUI development, control architecture, communication protocols, and system integration, tailored for industrial deployment.

Marie-Curie Industrial PhD Student Sept 2021 - Sept 2024
CATEC Research Center, Seville, Spain

- PhD student in aerial robotics.
- Developing and implementing advanced algorithms for localization and control of aerial manipulators and conducting extensive field experiments to validate them in industrial scenarios.
- Developing and implementing algorithms for estimation and control of aerial manipulators and conducting field experiments to validate them in industrial scenarios.
- Contributed to various projects

Research Guest Jun 2021 - Sept 2021
Politecnico di Milano, Milan, Italy

- Development of optimal control algorithms to improve Airborne wind energy performance

R&D Control Engineer Jun 2020 - May 2021
Alstom, Milan, Italy

- Design and implementation of control strategies for the tilting mechanism for high-speed trains.
- Programmed and optimized control algorithms in Simulink, MATLAB, and C++ to meet performance and safety requirements SIL2
- Close collaboration with cross-functional teams for integration and testing into the train platform during the testing phase.
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Education

2021 - present PhD in Aerial Robotics at **University of Seville**
2017 - 2020 Master's Degree in Automation and Control engineering at **Politecnico di Milano**
2014 - 2017 Bachelor's Degree in Automation Engineering at **Politecnico di Milano**

Skills

Languages Italian, English, Spanish, French.
Programming Bash, C, C++, Python, Matlab, Simulink, LaTex.
Tools Docker, ROS1, ROS2, Gazebo, PX4.
OS Windows, Debian