



Salvatore Marcellini

PhD. Student

16-07-1994

(+39) 3460865187

[salvatore.marcellini\[at\]gmail\[dot\]com](mailto:salvatore.marcellini@gmail.com)

[GitHub](#)

[LinkedIn](#)

[Google Scholar](#)

SKETCH BIO

Salvatore Marcellini was born in Naples, Italy, on July, 1994. He received his Master’s degree in automation engineering from the University of Naples Federico II. In November 2020 he won the scholarship funded by Leonardo company for the three years challenge called "[Leonardo Drone Contest](#)".

Currently, he is a PhD student in aerial robotics at the Department of Electrical Engineering and Information Technology (DIETI) in the [PRISMA Laboratory](#) of the same institution. Within his research group, he is also involved in different industrial and EU-funded research projects focused on several topics, such as the use of unmanned aerial vehicles for inspection and maintenance. During his PhD he also spent six months at [Inria center at Rennes University](#) as visiting student, working under the supervision of Dr. Paolo Robuffo Giordano and Dr. Marco Tognon.

CURRENT POSITION

PhD Student in aerial robotics at [PRISMA Laboratory](#).

Main activities: Developer of autonomous and semi-autonomous UAV.

WORK EXPERIENCE

Jun 2020 Current	Consultant at Neabotics . Researcher and developer in Robotics. Topics: UAV control and development for infrastructure inspection and environment interaction
Jun 2020 Nov 2020	R&D Robotics Engineer at PRISMA Lab , department of Information Technology and Electrical Engineering, Naples (Italy). Researcher and developer in Robotics. Topics: control of omnidirectional drones, development and testing of a tilting-rotor coaxial octocopter prototype.

EDUCATION

Nov 2020 Current	PhD degree in Aerial Robotics at Università degli Studi di Napoli Federico II, Department of Information Technology and Electrical Engineering. Advisor: Prof. Vincenzo Lippiello.
Feb 2023 Aug 2023	Visiting PhD student at Inria center at Rennes University. Advisors: Dr. Paolo Robuffo Giordano, Dr. Marco Tognon.
Sept 2017 Jun 2020	MSc in Automation Engineering (Magna cum laude) at Università degli Studi di Napoli Federico II, Department of Information Technology and Electrical Engineering. Dissertation: <i>Modeling and control of omnidirectional drones</i> . Advisor: Prof. Vincenzo Lippiello.

Sep 2013 | **BSc in Automation Engineering** at Università degli Studi di Napoli Federico II, Department
Jul 2017 | of Information Technology and Electrical Engineering.
Dissertation: *Multimodal control of prosthetic device using EMG signals and voice commands*.
Advisor: Dr. Fanny Ficuciello.

TEACHING EXPERIENCES

- **Tutor** of the course Robotics Lab, spring semester: University of Naples Federico II. Master's Course in Automation Engineering (Second year, second semester)

SKILLS

Programming Languages	C/C++, Python, Latex.
Scripting Languages	MATLAB.
Operating System	GNU/Linux, Windows.
Development Environment	Simulink, ROS, ROS2, Boost, CMake.
Embedded Hardware Platforms	Mbed, Arduino, Pixhawk.
Main competencies	Intelligent Systems, Robotics, Aerial Robotics, Linear Control, Non-linear Control, Trajectory Planning.
Other	Docker, Git

SPOKEN LANGUAGES

- **Italian:** Mother tongue.
- **English:** Excellent knowledge in speaking and writing.
- **French:** Basic knowledge in writing and speaking

RESEARCH ACTIVITIES

The following is the list of the research activities conducted by Salvatore Marcellini:

- **Closed-loop sensitivity for trajectory planning:** Planning of state-trajectories robust with respect to parameters' uncertainties. This theory has been applied both to standard and tilting multirotors.
- **Control of tilt-rotor multicopter:** Development of novel control techniques for drone-environment interaction and infrastructure inspection. The aim of this research activity is to develop a UAV capable of performing autonomous or semi-autonomous measurements in contact with the environment.
- **UAV autonomous navigation in Indoor/GPS-denied :** In this field, the research is mainly focused on environment-aware trajectory planning and safe navigation.

Projects in which Salvatore Marcellini is currently or has been involved:

- **Koala** (2022 - Current): control of a H-shaped coaxial octocopter with five degrees of freedom, for push and slide measures and controlled landing on industrial pipes.
- **Leonardo Drone Contest**(2020 - 2022): Software development and hardware integration. The aim of this project is to develop an autonomous multirotor platform, capable of flying in a GPS-denied environment while searching for an intruder.

- **NDT (2020 - 2022):** control of an omnidirectional X-shaped coaxial octocopter with tilting rotors, for non-destructive testing measures.

SCIENTIFIC PUBLICATIONS

- **A PX4 Integrated Framework for Modeling and Controlling Multicopters with Tiltable Rotors**
Salvatore Marcellini, Jonathan Cacace, Vincenzo Lippiello
2023 International Conference on Unmanned Aircraft Systems (ICUAS), Warsaw, Poland, 2023, pp. 1089-1096
- **Nonlinear Model Predictive Control for Repetitive Area Reconnaissance with a Multirotor Drone**
Salvatore Marcellini, Fabio Ruggiero, Vincenzo Lippiello
2023 International Conference on Unmanned Aircraft Systems (ICUAS), Warsaw, Poland, 2023, pp. 515-522
- **The PRISMA Hand I: A novel underactuated design and EMG/voice-based multimodal control**
Fanny Ficuciello, Giulio Pisani, Salvatore Marcellini, Bruno Siciliano
Engineering Applications of Artificial Intelligence, Volume 93, 2020

LAST UPDATE

27 July 2023.