Mattia Giurato, PhD Candidate





Design, integration and control of multirotor UAV platforms

During my Doctorate I have developed a systematic approach for the design of multirotor UAVs. Moreover I gained experience on the design and tuning of the flight controllers (both position and attitude) for multirotor UAVs using both model based and data driven approaches. In particular I have studied and implemented robust controllers, adaptive controllers and non-linear controllers. Such control laws have been designed, implemented and tested on conventional and unconventional platforms which I designed over the years. I have also worked on the model identification and parameter estimation for the flight dynamics modelling of these platforms which have lead to the design of accurate simulators.

EDUCATION

MAR. 2019 – JUL. 2019 Visiting researcher

LAAS

CNRS Toulouse, France

NOV. 2016 – ONGOING Philosophiæ Doctor

Aerospace Engineering Politecnico di Milano, Italy

OCT. 2013 - DEC. 2015 Master of Science

Automation and Control Engineering

Politecnico di Milano, Italy

SEPT. 2010 - OCT. 2013 Bachelor of Science

Automation and Control Engineering

Politecnico di Milano, Italy

WORK EXPERIENCE

JAN. 2016 - NOV. 2016 (FT)

Department of Aerospace Science and Technologies Politecnico di Milano, Italy

Research assistant

Title of the project: "Modelling, identification and control of multirotor UAV", supervisor Prof. Marco Lovera

CERTIFICATION

FEB. 2017 Creative Technologies in the Classroom 101 Trainer

Arduino

MAR. 2014 Simulink for System and Algorithm Modelling

MathWorks Training Services



Via A. Volta 17, 20094 Corsico (Milan) - Italy (+39) 340 640 2959 mattia.giurato@polimi.it mgiurato.eu mattia.giurato



COMPUTER SKILLS

DOB: 27/08/1991

BEGINNER Python

INTERMEDIATE C, C++, PX4, ArduPilot, CATIA,

Modelica, Dymola

EXPERT MATLAB/Simulink, LATEX, UNIX,

SolidWorks, Arduino, Processing,

Ultimaker Cura

SKILLS

Communication

Knowledge of two languages (Italian: Mother tongue, English: Fluent). Good attitude with public speaking. Optimal capacity to interact with people of different background and several geographical realities

Management

Leadership, team managing and scheduling, long-term strategy planning

Goal Oriented

I believe in action over long-winded discussions. I listen to everyone's viewpoints and use my judgement to immediately act based on consensus to achieve goals quickly and efficiently.

Physical Dexterity

Manual manipulation of experimental equipment within the Aerospace System and Control Laboratory (ASCL) have contributed to an enjoyment of working with my hands.

Passionate

I have been interested in engineering and the understand of how the world works from an early age. My education and research have cemented this interest into a passion. I greatly enjoy carrying out control theory applied to the aerospace research with potential practical applications.

INTERESTS & HOBBIES

For years, I have developed a passion about RC Models (planes, helicopters, drones, etc.). Thanks to this passion I have learnt how to make them fly and first of all how to design and build them, and I have also improved my capabilities with hand-crafting. After years spent handson with a lot of practical projects (from domotics to 3D printing) I gained determination and patience. In my life I have also practised many sports: basketball, football, swim, boxe, muay-thay, gym. Few years ago I also started to homebrew beer.