



Mario Coppola

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I'm a proactive and creative engineer and researcher, soon to finish my PhD in artificial intelligence and robotics from Delft University of Technology. I have a passion for learning and solving novel problems in the field of AI. I keep a grounded positive attitude and I value transparent communication and hard work.

SKILLS

Scientific

Artificial intelligence • Robotics • Machine learning • State estimation • Sensor fusion

Programming

Python • C++ • C • MatLab

Languages

English (Native) • Italian (Native) • Dutch (Intermediate) • Spanish (Intermediate)

EDUCATION

PhD ROBOTICS AND AI

DELFT UNIVERSITY OF TECHNOLOGY

2016-2020 | Delft, Netherlands

Thesis: *Automatic design of verifiable robot swarms.*

MSc AEROSPACE ENGINEERING

DELFT UNIVERSITY OF TECHNOLOGY

2013-2016 | Delft, Netherlands

Honors student, specialized in Control and Simulation. Thesis: *On-board relative localization for collision avoidance in micro air vehicle teams.*

EXCHANGE MINOR ROBOTICS

NANYANG TECHNOLOGICAL UNIVERSITY

Fall semester 2012 | Singapore

Focus on robotics and embedded systems.

BSc AEROSPACE ENGINEERING

DELFT UNIVERSITY OF TECHNOLOGY

2010-2013 | Delft, Netherlands

Thesis: *Design of a controllable system for the guided atmosphere-assisted deceleration of a human-rated precursor vehicle to Mars.*

Supervised by NASA Langley Research Center.

INTERNATIONAL BACCALAUREATE

INTERNATIONAL SCHOOL EINDHOVEN

2008-2010 | Eindhoven, Netherlands

ADDITIONAL ACTIVITIES

2019	Delft PhD council representative
2019	Multi-Robot Systems Summer School at Czech Technical University, Prague
2018	Lecturer at BEST Summer School
2017	International Graduate Summer School in Aeronautics at Beihang University

WORK EXPERIENCE

PhD CANDIDATE | DELFT UNIVERSITY OF TECHNOLOGY

Sep. 2016 – Current | Delft, Netherlands

- Expected completion date: September 2020.
- Research topic: **Automatic design of verifiable robot swarms**, with joint supervision by the Micro Air Vehicle Laboratory (MAVLab) and the Space Systems Engineering group.

Over the course of the PhD, I have developed:

- Novel **machine learning** solutions to automatically design, optimize, and verify the behavior of distributed robotic systems with limited on-board sensors.
- **Distributed intelligence algorithms** that enable teams of “simple” robots to self-organize and achieve collective goals.
- Novel **on-board relative localization technologies** that enable several tiny drones to localize each other when flying together.

RESEARCHER (INTERN) | MAX PLANCK INSTITUTE

Feb. 2015 – Jun. 2015 | Tübingen, Germany

- Intern within the Autonomous Robotics and Human-Machine Systems group at the Institute for Biological Cybernetics.
- I developed a **reinforcement learning** scheme to teach drones how to perform efficient evasive maneuvers.

R&D SCIENTIST (INTERN) | HONEYWELL

Jul. 2014 – Dec. 2015 | Brno, Czech Republic

- Project 1: **Software developer** for next generation flight-decks featuring multi-modal pilot interaction.
- Project 2: Review of the benefits and limitations of COTS model-based design tools for flight software development.
- From Feb. 2015 to Dec. 2015: remote part-time consultant helping to prepare proposals for Clean Sky 2.

TEACHING ASSISTANT | DELFT UNIVERSITY OF TECHNOLOGY

Aug. 2013 – Jul. 2014, Aug. 2015 – Jan. 2016 | Delft, Netherlands

- Taught classes, supervised, and/or graded Aerospace Engineering BSc students for various courses.

SELECTED AWARDS

2017	System Design award at the 2017 International Micro Air Vehicle (IMAV) competition and conference
2017	Excellent Student award at the International Graduate Summer School in Aeronautics and Astronautics of Beihang University, Beijing
2014	Third place at BestGraduates International Competition (judged by Shell, Philips, ASML, TNO, DSM, Fugro, and Friesland Campina)