



Mario Coppola

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SKILLS

Scientific

Artificial Intelligence • Machine Learning • Robotics • State estimation • Sensor fusion

Programming

Python • C++ • C • MatLab

Languages

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

EDUCATION

PhD ROBOTICS

DELFT UNIVERSITY OF TECHNOLOGY

2013-2020 | Delft, Netherlands

Thesis: *Designing provable robotic 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, real-time programming, 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 University PhD council member
- 2019 | Multi-Robot Systems Summer School at Czech Technical University, Prague
- 2018 | Lecturer at BEST Summer School
- 2017 | International Graduate Summer School in Aeronautics and Astronautics at Beihang University, Beijing

EXPERIENCE

PhD CANDIDATE | DELFT UNIVERSITY OF TECHNOLOGY

Sep. 2016 – Current | Delft, Netherlands

- Expected graduation date: September 2020.
- Research topic: *Designing provable robotic swarms*.
- Developed novel **machine learning** solutions to automatically design, optimize, and verify the on-board controllers of distributed robotic systems.
- Developed **distributed intelligence** such that a team of robots can collaborate to complete a cooperative task.
- Developed **on-board relative localization technologies** to enable swarms of tiny drones to localize each other during flight.

RESEARCHER (INTERN) | MAX PLANCK INSTITUTE

Feb. 2015 – Jun. 2015 | Tübingen, Germany

- Autonomous Robotics and Human-Machine Systems group.
- Developed an **approximate reinforcement learning** procedure to teach quadrotors to perform evasive maneuvers when faced with moving obstacles such as people or other drones.

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: Surveyed potential benefits and limitations of model-based design tools in order to improve flight software development procedures.
- From Feb. 2015 to Dec. 2015, remote part-time consultant.

TEACHING ASSISTANT | DELFT UNIVERSITY OF TECHNOLOGY

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

- Taught classes, supervised, and/or graded students for the following courses: 'Simulation, Verification, and Validation', 'Computational Modeling', 'Exploring Aerospace Engineering'.

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 | **3rd** place at BestGraduates International Edition
- 2014 | Winner of the Critical Reflections in Technology essay award from Delft University of Technology