

# Anastasios Tsolakis

Robotics and Control Engineer  
Delft, The Netherlands

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## PROFILE

Robotics and Control Engineer with expertise in motion planning, model predictive control, and ROS2-based system integration. Skilled in developing and deploying robust algorithms on autonomous platforms such as ground robots and marine vessels. Solid background in control and optimization, with experience translating advanced research into validated engineering solutions. Collaborative team player with international, interdisciplinary experience and strong communication skills. Seeking engineering roles in robotics autonomy, motion planning, and control system design.

## EDUCATION

### PhD in Cognitive Robotics

Dec 2020 – Jun 2025

TU Delft, The Netherlands

- Thesis: *"Rule-compliant and Fault-tolerant Motion Planning: With Application to Autonomous Surface Vehicles"*.
- Developed real-time algorithms for collision avoidance with rule compliance, fault diagnosis, and reconfiguration, resulting in safer and more reliable navigation compared to existing solutions.
- Collaborated within an international, interdisciplinary research team and co-supervised MSc students on projects related to autonomous navigation.

### MSc in Systems and Control

Sep 2018 – Dec 2020

TU Delft, The Netherlands

GPA: 8.56/10 **Cum Laude**

- Thesis: *"Distributed IDA-PBC for Nonholonomic Mechanical Systems"*. Designed a distributed passivity-based control algorithm for heterogeneous, nonholonomic multi-robot systems.
- Specialized in control theory, dynamical systems, optimization, and adaptive/predictive/robust control methods.
- Collaborated in small international teams to deliver high-quality results in demanding course projects.

### M.Eng. in Mechanical Engineering (Integrated BSc & MSc equivalent)

Sep 2011 – Jul 2018

Aristotle University of Thessaloniki, Greece

GPA: 8.08/10

- Thesis: *"The Effect of Power Distribution Architectures and Torque Vectoring in Vehicle Dynamics"*. Investigated vehicle dynamics under different power distribution architectures and developed a torque-vectoring controller.
- Specialized in design, analysis, dynamics, and control of mechanical systems.
- Member of Formula Student team; collaborated to deliver a competitive racing vehicle for international competitions.

## EXPERIENCE

### Research & Development (PhD)

Dec 2020 - Jun 2025

TU Delft, The Netherlands

- Designed and implemented advanced motion planning algorithms for autonomous surface vehicles.
- Integrated ROS-based planning and control pipelines for simulation.
- Collaborated in multidisciplinary teams and published in international venues and journals (ECC, IEEE T-ITS).

### Teaching Assistant

Nov 2019 - Jan 2020

TU Delft, The Netherlands

- Supported MSc-level course on nonlinear systems theory, guiding and evaluating students in assignments.

### Mechanical Engineering Intern

Jul 2016 - Oct 2016

Maniatopoulos S.A. IDEAL BIKES, Patras, Greece

- Designed and prototyped components and tools for a cargo e-bike.
- Performed statistical quality analysis to reduce frame defects and improve manufacturing robustness.

### Formula Student Team Member

Jul 2013 - Oct 2014

Aristotle Racing Team, Thessaloniki, Greece

- Led design and structural analysis of the vehicle's tubular steel frame.
- Coordinated subsystem integration and ensured competition readiness; achieved top-10 placements internationally.

## SKILLS

**Programming:** C++, Python, Matlab/Simulink

**Tools:** Git, CAD/CAE (Altair MotionView, Inventor, SolidWorks, Creo Parametric)

**Languages:** Greek (native), English (fluent)

**Interests:** Rock climbing, hiking, skiing, sailing, motorcycle trips, classical guitar