



## Andrea Pizzetti

GNC/AOCS Engineer

## Technical Skills

- Modelling and Simulation
- Navigation
- Autonomous Systems
- Data Processing
- Statistics

## Soft Skills

- Dedication and commitment
- Time and stress management
- Confident speaking

## Coding

**MATLAB**

**Simulink & Stateflow**

**Python**

**Java**

## Software

**MS Office**

**L<sup>A</sup>T<sub>E</sub>X**

**Git**

**Confluence and Jira**

## Work Experience

### GNC/AOCS Engineer

Deimos Space | Madrid, Spain

nov/2021 - nov/2023

- *ClearSpace-1*. Development of a flexible modes model for the solar panels and robotic arms. Design of orbital estimator with delay management. Design of fully-magnetic controller for safe mode with adaptive spin-stabilization.
- *SAT4EO*. Simulation and verification of requirements during safe mode. Development of guidance algorithms. Modelling of Albedo effect. Draft of commissioning procedures.
- *DRACO*. Analysis of re-entry for the design of the Attitude Determination System.
- *Comet Interceptor*. Development of a comet dust flow model. Analytical validation of MC campaign with statistical distributions fitted on empiric data.
- *eAOCS, Cassini, LEO-PNT, Endurance*. Preliminary AOCS analysis and units sizing.

### AOCS Team Leader

PoliSpace | Milan, Italy

mar/2021 - nov/2021

- Trade-off analysis, definition, design, simulation and tuning of the AOCS for a 1U CubeSat.
- Interaction with CubeSats hardware providers for procurement and funding.
- Selection of the AOCS team (5 students out of 90 applicants), through assessment of multiple-choice tests, CV/Motivational Letter screening and interviews.

### Simulation Engineer

PoliMOVE | Milan, Italy

sep/2020 - oct/2021

- 1<sup>st</sup> place @ CES, Las Vegas
- Generation and simulation of scenarios for autonomous racing cars in Ansys.
- Implementation and refinement of car behaviours and trigger conditions.
- Development of an automatic pdf report generation tool from race logs.
- Development and simulation of the state machine for transition to the real vehicle.

## Education

### PhD in Aerospace Engineering

Politecnico di Milano | Milan, Italy

nov/2023 - today

Investigating the usage of star trackers as double-purpose sensors, for attitude estimation and optical navigation

### MSc in Space Engineering

Politecnico di Milano | Milan, Italy

sep/2019 - dec/2021

110/110 Cum Laude

*Orbital Mechanics* • *Spacecraft Attitude & Control* • *Space Propulsion* • *Launch Systems* • *Space Physics* • *Payload Design* • *Telecommunication Systems*

### BSc in Aerospace Engineering

Politecnico di Milano | Milan, Italy

sep/2016 - sep/2019

102/110

*Thermodynamics and Heat Transfer* • *Applied Numerical Analysis* • *Aerospace Technologies and Materials* • *Aerospace Propulsion* • *Fluid Dynamics* • *Modelling of Aerospace Structures*

## Languages

### Italian

### English

C1

### Spanish

B2

### French

A1

## Interests

- ▶ Piano
- ▶ Analog Photography
- ▶ Hiking & Climbing
- ▶ Snowboard

## Contact

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in LinkedIn [↗](#)

## Publications

- Pizzetti, A. Rizza, A. and Topputo F.. Autonomous wheel off-loading strategies for deep-space cubesats. *Aerotecnica Missili & Spazio* (2022): 1-13 [↗](#)

## Conferences

- ASI CubeSat Workshop | Rome, 2022
- XVIII PEGASUS Student Conference | Pisa, 2022
- 4th Symposium on Space Educational Activities | Barcelona, 2022  
*A student-made approach for CubeSat design: the 6S roadmap* [↗](#)  
*Effective student team infrastructure towards CubeSat mission design in pandemic times* [↗](#)

## Awards

- 8th place at XVIII Pegasus Student Conference | Pisa, 2022  
Selected for publication in a peer-reviewed journal
- MATLAB Minidrone Competition | Milan, 2020  
Winning team for the development of an autonomous path tracking and landing control system for minidrones [↗](#)
- Best Freshmen of the A.Y. | Milan, 2017

## Certificates

- ESA/ELGRA Gravity-Related Research Experiment | ESA Academy [↗](#)  
White Adipose Tissue (WAT) in micro-gravity and hypergravity [↗](#)
- Neural Networks & Deep Learning | Coursera [↗](#)
- Computational Design for Additive Manufacturing | IDEA League [↗](#)
- Sports, Building & City Aerodynamics | KU Leuven Athens Programme [↗](#)

Milan, 7th November 2023

