Edoardo Argenti

Graduate AOCS Engineer

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Professional Summary

Graduate Aerospace Engineer specialized in Attitude and Orbit Control Systems (AOCS) for small satellites. Experience in the complete development of an ADCS simulation for a CubeSat, including attitude estimation, control algorithms, sensor and actuator modelling, orbital dynamics, environmental disturbances and ground station tracking. Strong MATLAB/Simulink background with experience in GNSS navigation, orbit determination and multidisciplinary CubeSat development within ESA's Fly Your Satellite! programme.

Education

2023–2025 **Master's Degree**, *Aerospace Engineering*, University of Padua

2019–2023 **Bachelor's Degree**, *Aerospace Engineering*, University of Padua

2014–2019 **High School Diploma**, *Linguistic Curriculum*, Giuseppe Berto High School

Master Thesis

Title **Modeling and Simulation of Alba CubeSat ADCS with Ground Station Tracking**

- Developed the complete spacecraft ADCS simulation in MATLAB/Simulink
- Designed and implemented attitude determination and control algorithms
- Modelled spacecraft sensors and actuators (reaction wheel, magnetorquers, gyroscopes, magnetometers, sun sensors)
- Implemented orbital propagation and environmental disturbance models
- Developed a dedicated Ground Station Tracking mode for communication optimization
- Performed system-level verification and performance analysis under realistic mission scenarios

Academic Projects

Title **Alba CubeSat — AOCS Team Leader | University of Padua / ESA Fly Your Satellite!**

- 2 years of hands-on CubeSat AOCS experience
- Coordinated the AOCS subsystem within a multidisciplinary CubeSat team
- Led the integration of AOCS solutions with other spacecraft subsystems
- Contributed to spacecraft AOCS architecture and system design
- Supported system verification and validation activities
- Collaborated with electrical, mechanical and software teams during spacecraft development

Title **GNSS Workbooks**

- GNSS positioning algorithms in MATLAB
- Extended Kalman Filter implementation for sensor fusion
- Orbit determination using SP3 and RINEX observations
- Satellite navigation data processing and state estimation

Title **EJBAX rocket**

- Design and building of a model rocket
- Aerodynamic and propulsion principles application

Technical Skills

Programming MATLAB, Simulink, Python, GMAT, LaTeX

Software Office Suite, Google Workspace

AOCS Attitude Determination, Attitude Control, Orbit Propagation, State Estimation, Sensor Fusion, Rigid Body Dynamics, Quaternion Kinematics, Coordinate Transformations

Space Systems	Reaction Wheels, Magnetorquers, Magnetometers, Sun Sensors, Gyroscopes, GPS/GNSS, CubeSat ADCS

Soft Skills

Analytical problem solving
System thinking
Technical documentation
Team collaboration
Cross-functional communication

Relevant Coursework

Spacecraft Attitude Control
Space Instrumentation
Space Propulsion
Space Systems
Astrodynamics
Global Positioning and Navigation

Languages

Italian	Native
English	B2/C1
French	B1/B2
Spanish	B1

Work Experience

2018	Lifeguard — Wela Venice Lifeguards
2017	Customer Care — Hertz (Venice Airport)

Interests

Water Polo (Competitive level – Italian Serie B)
Photography
Cooking