Antonio Rizza
Space Engineer

📞 (+39) 3209218918

✉ antonio.rizza@polimi.it

in https://www.linkedin.com/in/anto-niorizza95/

Languages

Italian	Mother Tongue
English	C1

Computer Skills

Confident

MATLAB, Simulink, GMAT, CEA, AMPL, INVENTOR, Solid Edge, SolidWorks, FreeFem++, LaTex, Office, Windows

Familiar

DRAMA, STK, ANSYS fluent CFD, ABAQUS, Python, Fortran90, Linux

Personal Interests and Volunteering

Scientific Divulgation

Support ASTRA Team Polimi, Meet Me Tonight 2019
Support COMPASS Team Polimi, Meet Me Tonight 2018
Gruppo Astrofili Salentini, 2012-2014

Free time

ARDUINO, Astrophotography, Books & Films

Sport

Fencing, Jogging, Gym

Profile Overview

Enthusiastic and motivated Space Engineer, with strong background in GNC, System Engineering and ground testing methodologies for Aerothermal Demise. Currently enrolled in a PhD course at Politecnico di Milano.

Research Experience

Now	**PhD Student**	Politecnico di Milano
	Development of autonomous guidance methodologies for on-board real-time implementation in deep-space CPOD scenarios.	
11/2020 - 10/2021	**Research Fellow**	*Politecnico di Milano*
	Development of a six-degrees-of-freedom AOCS simulator for CubeSats missions. Member of the GNC analysis and design team for Milani, HERA second CubeSat.	
10/2019 - 06/2020	**Master Thesis**	*VKI, Belgium*
	Simulation and testing of gas-surface interaction phenomena in atmospheric re-entry conditions for Design for Demise analysis.	
08/2017 - 09/2017	**Internship**	*VKI, Belgium*
	Software developer for VESTA to predict boundary layer transition in high speed flow.	

Education

09/2017 - 06/2020	**M.Sc. in Space Engineering**	*Politecnico di Milano*
	Graduated with 110/110 cum laude.	
05/2019	**ESA Accademy Space Debris Training Course**	*ESEC GALAXIA, Belgium*
10/2014 - 09/2017	**Bachelors in Aerospace Engineering**	*Politecnico di Milano*
	Graduated with 108/110.	

Publications on conference proceedings

A. Rizza, M. Pugliatti, F. Piccolo, V. Franzese, C. Bottiglieri, C. Giordano, F. Ferrari, F. Topputo. "A semi-autonomous optical-based GNC design for Milani mission". In 12th European CubeSat Symposium (ECS 2021).

C. Bottiglieri, F. Piccolo, **A. Rizza**, C. Giordano, M. Pugliatti, V. Franzese, F. Ferrari, F. Topputo. "Trajectory design and orbit determination of Hera's Milani CubeSat". In 2021 AAS/AIAA Astrodynamics Specialist Conference (AAS 2021).

University projects

08/2019	**Mathematical Programming for Space Debris orbit determination**	
	Optimization of the observation planning for a ground station with the aim of minimizing the error on debris orbit determination.	
03/2019 - 07/2019	**Lunar tech kit, a preliminary design (Team)**	
	Played the role of Mission Analysis Engineer in a team project for the phase A, preliminary mission design of a lunar science tech kit mission to map lunar resources and distribution of lava tubes.	
10/2018 - 01/2019	**Spacecraft Attitude Dynamics**	
	Design and simulation of the ADCS for a ComSat in GEO.	
12/2018 - 01/2019	**Model based design on GOCE (Team)**	
	Modeling and Simulation of the Drag Free and Attitude Control System for GOCE Spacecraft. Multi-objective optimization of the control parameters and out of nominal robustness verification.	
10/2017 - 01/2018	**Mission to Uranus (Team)**	
	Design of optimal interplanetary trajectory from Earth to Uranus with gravity assist on Mars. Robustness verification against an high fidelity 10 bodies simulation.	
10/2017 - 01/2018	**Perturbed Earth environment (Team)**	
	Long term orbit propagation in MEO under the effects of orbital perturbations.	