Turin, Italy

LinkedIn

Portfolio

danielegalati583@gmail.com

SKILLS

Programming Languages:

C#, Python, MATLAB.

Aerospace Software & Skills:

MATLAB, Simulink, Ansys Fluent, MSC Patran-Nastran, MSC Adams, Altair Inspire, OpenVSP, AVL, XFOIL, SolidWorks, Fusion360, Word, Excel, Power Point.

GNC, AOCS, orbital mechanics, CAD, CFD, structural optimizations, multibody sims.

Software Development:

Unity, GitHub, FMOD, Blender, Jira, Visual Studio, Notion, Photoshop, HTML, CSS, Bootstrap, Flask, Jinja.

Soft Skills:

organized, autonomous, flexible, time management, planning, critical thinking, meeting deadlines, goal setting, continuous learner.

DANIELE GALATI

Aerospace engineering MSc student specializing in GNC and orbital mechanics, with strong development skills in C#, MATLAB and XR applications. Currently developing a real-time mission design tool for Earth-Moon trajectories at AIKO space. I am focused on bridging the gap between space systems and advanced software engineering.

LANGUAGES

Italian: native
English: C1 - Cambridge FIRST certification

EXPERIENCE

AIKO Space

Master Thesis Internship ▪ [Feb 2026 – Present]

Developing an **XR mission design tool** for Earth-Moon trajectories. Focusing on high performance **C#** code, writing rigorous technical documentation and integration into the company's workflow.

Level Up Lab

Team Leader ▪ [Jul 2025 – Present]
Videogame Programmer ▪ [Jan 2024 – Jul 2025]

Currently leading the management of Level Up Lab, a student club of **60 people**, overseeing recruitment, events organization and administrative processes.

Led the technical development of two complete videogames in Unity, gaining experience in long-term project management.

Politecnico di Torino

Academic Tutor (LAG) ▪ [Mar 2025 – Jul 2025]
Academic Tutor (CS) ▪ [Oct 2024 – Feb 2025]

Supported teachers in laboratory activities by helping students to understand theoretical and practical concepts of **Python** (Computer Science course) and **linear algebra** (Linear Algebra and Geometry course).

EDUCATION

Master's degree in aerospace engineering

[Sep 2024 – Sep 2026*]
Politecnico di Torino · 107-110/110*

Bachelor's degree in aerospace engineering

[Sep 2021 – Jul 2024]
Politecnico di Torino · 107/110

*expected graduation period and final grade

RELEVANT PROJECTS

XR Space Mission Design & Real-time Telemetry

AIKO Space
Master Thesis
[Feb 2026 – Sep 2026]

DESCRIPTION

Currently developing a cross-platform XR application in Unity for interactive design and analysis of satellite trajectories within the Earth-Moon system.

- Custom C# numerical propagator for **CR3BP**, balancing physics fidelity and performance requirements needed for **XR** applications.
- Implementing a spatial UI to monitor state vectors and telemetry data.
- Integrating Human-in-the-Loop design capabilities, by allowing users to manipulate orbital parameters and delta-V vectors with instantaneous trajectory repropagation.
- Multi-platform deployment, with focus on optimization for **Meta Quest 3** passthrough mode to prevent motion sickness.

6-DOF Spacecraft Simulator for RVD Maneuver

Politecnico di Torino
University Project
[Oct 2025 – Jan 2026]

Implementation in MATLAB Simulink of an orbital simulator for a complete AOCS used in a sequence of RVD maneuvers.

- Implemented Hill and Euler equations for dynamics and kinematics.
- Implemented **free drift, Hohmann transfer, radial boost, cone approach** (straight line V-bar approach and APF) maneuvers in a full rendezvous sequence.
- Considered disturbances such as solar pressure, gravity gradient, J2 effect.
- Used closed-loop control laws with **LQR**, **SMC** and **PID** controllers.
- Implemented **PWPF modulator** for thrusters and saturation for reaction wheels.
- Data visualization and analysis, with particular attention to the best performing control strategies.