

NICOLA PISCARDI
Space and Astronautical
Engineer

PROFILE

Aspiring Aerospace Engineer with a profound enthusiasm for interplanetary missions and the intricate details of mission analysis and remote sensing. My academic journey and personal interests have led me to develop a deep understanding of remote sensing and the innovative use of satellite imagery for planetary observation. Beyond this, I am particularly captivated by the complexities of orbital mechanics and the meticulous processes involved in mission analysis like trajectory design, orbital determination.

LANGUAGES

- French (A1)
- English (C1)
- Italian (Native)

TECHNICAL SKILLS

- GIS: QGIS, SNAP
- Mathematical Software: Matlab, Simulink, Python (Entry-Level)
- Typesetting: LaTeX
- Office Suite: MS Word, Excel, PowerPoint

SOFT SKILLS

- Communication and team collaboration
- Problem solving and critical thinking

EXPERIENCE

Student Engineer at *Tolosat -Toulouse, France* **2024- 3 Months**

◇ **Gravimetry Engineer:** Technical support for the gravimetry team, studying spacecraft perturbations and their effects on measurements.

Master Thesis at *Isae Supaero - Toulouse, France* **2024 - 6 months**

◇ **Serendipitous Perturbations of Titan on Saturn Moon Tours** Studied the Saturnian system to explore spacecraft navigation using flybys, reducing the need for propellant. I dove deep into analyzing Tisserand Graphs, focusing on the search for minimum v_∞ to avoid ballistic capture in the complex Saturnian system. I also explored optimal ΔV strategies leveraging Titan's perturbation to transition between 6:1 and 5:1 resonances, minimizing fuel consumption and enhancing mission efficiency.

Power System Engineer at *ESA - European Space Agency - Toulouse, France*. **2024 - 1 week**

◇ **ESA Concurrent Engineering:** Developed a power budget, designed and sized solar panels and batteries, optimizing for spacecraft efficiency and reliability.

Handyman - General Maintenance at *Family Pool - Andria, Italy* **Multiple years, Jun-Sep**

◇ Managed and maintained a rental pool area; responsibilities included cleaning, coffee preparation, and waitstaff duties.

Electronics Tutor at *Private Tutoring (Remote)*. **2023.07 - 2 months**

◇ Provided tutoring in electronics topics, including circuit theory, Ohm's law, and basic circuit design. Conducted online lessons to support academic progress.

EDUCATION

Master of Science in Space and Astronautical Engineering *Sapienza University* **2022-21/03/2025**

◇ Specialized in satellite applications for communications and surface-level imagery processing, covering all fields of the space environment, including structures, orbital mechanics, aerodynamics, and satellite propulsion systems.

◇ **Erasmus Exchange Student** *ISAE - Supaero University*. **2024.02 - 6 months**

Bachelor of Science in Aerospace Engineering. *Sapienza University*. **2017 - 2021**

◇ Core topics included mathematical analysis, solid mechanics, aerodynamics, propulsion, and remote sensing, supported by lab modules for practical skill development.

ADDITIONAL EDUCATION

Boolean Data Week *Boolean - Remote* **2024 - 1 week**

Intensive program focused on advanced data analysis, algorithms, and real-world simulation techniques.

OTHER ACTIVITIES

- Music: Electronic music with a passion for DJing
- Sports: Gym, football, hiking
- Miscellaneous: Cinema, theatre, museums, arts