Lourenço **Gouveia Faria**

Toulouse (Occitanie), France

Upon request | lourencogfaria@gmail.com | lourenco-gouveia-faria

Education

ISAE-SUPAERO — *Toulouse, France*

M.S. in Aerospace Engineering (in progress) — *Sep. 2024 – Present*

Instituto Superior Técnico — *Lisbon, Portugal*

B.S. in Aerospace Engineering — *Oct. 2021 – Jul. 2024*

Professional Development

Community of Ariane Cities — *Augsburg, Germany*

24th CVA Summer School, Space Transportation Systems — *Jun. 2025 – Jul. 2025*

- Completed 40 hours of training on European launch systems and mission planning.
- Co-designed a hydrogen-powered Lunar Lander using MBSE; awarded **best presentation** for technical clarity and innovation.
- Built and launched a model rocket with recovery system for a team contest.

European Space Agency (ESA) — *ESEC-Galaxia, Belgium*

ESA Academy's Navigation Training Course 2025 — *Jun. 2025*

- Completed ESA-led training on GNSS fundamentals, Galileo architecture, and system performance.
- Engaged in workshops on signal analysis, constellation design, and MBSE for navigation systems.
- Visited ESA's in-orbit testing facilities and explored Galileo's ground segment and performance tools.

Projects

Space Rover Fleet Supervision Tool — *Toulouse, France*

Human Machine Interface Developer — *Feb. 2025 – Present*

- Developed a Human-Machine Interface to supervise a fleet of cooperative lunar rovers.
- Focused on GUI design and real-time telemetry integration to support multi-agent awareness and autonomy.

SupaeroMoon - Lunar Rover — *Toulouse, France*

Power Lead & Comm/Ground Segment Group Collaborator — *Nov. 2024 – Present*

- Led a 6-person team in developing the rover's power subsystem, ensuring integration with mission objectives.
- Designed and prototyped a custom PCB for robust power distribution across embedded systems.
- Collaborated with Comm/Ground Segment to improve software reliability and cross-subsystem compatibility.

In-Orbit Additive Manufacturing System — *Lisbon, Portugal*

Control Systems Intern – Space Robotics — *Jan. 2024 – Jun. 2024*

- Developed a 3-DoF dynamic model of a Free-flyer platform for in-orbit manufacturing; awarded **best prototype**.
- Implemented a Model Predictive Controller and modelled PWM actuation for precise thrust control.

Rocket Experiment Division — *Lisbon, Portugal*

Navigation Coordinator & Control Group Collaborator — *Apr. 2022 – Jul. 2024*

- Led navigation systems for Europe's largest rocketry competition, ensuring flight reliability; **Flight Award – Solid 3000 m** at EuRoC 22.
- Designed Kalman Filter-based algorithms and flight stage detection protocols.

Astro Pi – Mission Space Lab — *Ponta Delgada, Azores, Portugal*

Technical Project Lead — *Oct. 2020 – Jun. 2021*

- Led a student team in the Astro Pi program with an Earth observation experiment on the ISS; recognized as one of the **winnining teams**.
- Processed onboard magnetometer data using a geomagnetic model and validated results against global field models.

Tools and Technologies

Programming	C, C++, Python
Software & Tools	MATLAB/Simulink, Git/GitHub, SolidWorks, KiCad, LaTeX (Overleaf), Excel, ROS2, Docker, CMake, VSCode, SysML
Languages	English (C2), Portuguese (native), French (B1)

Work Experience

NAV Portugal — *Relva, Azores, Portugal*

CNS/ATM Systems Intern — *Aug. 2024*

- Reverse-engineered a runway anemometer communication protocol, enabling the simulator to process real-time user-generated messages.

Portfolio available at: https://louxonline.github.io/