Renato DE CARVALHO MARTINS FILHO

Double Degree Engineering Student | Aeronautics & Data Science

Mobility: France & Brazil | Available for Internships June 2026

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*Double Degree candidate (Centrale Méditerranée & USP) and winner of the **HackSEA Challenge (Embraer)**. Expert in bridging flight mechanics simulations (AVL, XFLR5) with data-driven optimization (Python, NLP). Focused on high-performance engineering. Projects at **Karyus Labs**.*

EDUCATION

École Centrale Méditerranée (ECM) — **2025 – Present**
Diplôme d'Ingénieur (Double Degree), Marseille, France — S5-S8 Cycle

- Generalist Excellence Program. Focus: Applied Mechanics, Control Systems, Material Science.

University of São Paulo (EESC-USP) — **2023 – Present**
B.Sc. in Aeronautical Engineering, São Carlos, Brazil — GPA: 8.2/10.0

- Ranked 1st in Latin America. Core: Aerodynamics, Flight Dynamics, Structural Calculus.

CORE ENGINEERING EXPERIENCE

HackSEA Challenge (Embraer & USP) — **Winner | 2024**
Technical Lead – eVTOL Thermal Management

- Developed an optimized cooling solution for eVTOL battery systems under high-load conditions.
- Integrated thermodynamic constraints with structural efficiency for a concept validated by Embraer engineers.

EESC-USP AeroDesign Team — **2023 – 2025**
Stability & Control Member | Sponsorship Director

- **Aero:** Executed stability analysis and control sizing for aircraft prototypes using **AVL**, **XFLR5** and **MATLAB**.
- **Validation:** Calibrated inertia derivatives using **VBA** tools to match simulations with flight telemetry.
- **Management:** Led a department securing **17 industrial partners** (e.g., Tractian, Henkel, STMicro).

DATA SCIENCE & RESEARCH

PICME Research (IMPA & CNPq) — **2023 – Present**
Undergraduate Researcher | Data Intelligence

- **Data Engineering:** Built a **Node.js** scraping pipeline to process **140,000+** consumer reviews.
- **Machine Learning:** Applied **Python** (NLP/Sentiment Analysis) to categorize automotive defects.
- **Mathematics:** Conducted research on Graph Theory and complexity of optimization algorithms.

TECHNICAL SKILLS

Aerospace	Flight Mechanics, Stability & Control, **FEA**, **CFD** (XFLR5, AVL), MATLAB/Simulink.
Tech & Data	**Python** (NLP, Pandas), **Node.js**, SQL, Web Scraping, Git, Excel/VBA (Macros).
Languages	**Portuguese** (Native), **English** (Advanced/C1), **French** (Intermediate/B1+).

HONORS & LEADERSHIP

Awards	**Gold Medal** (OBR - National Robotics Olympiad)	**2017**
	Silver Medal (OBMEP - Brazilian Math Olympiad)	**2022**
	Gold Medal (Math Kangaroo & Math without Borders)	**2018/19**
Leadership	**SEA (Eng. Week):** Organizing Committee (Logistics & Tech).	**2023**