

Renato DE CARVALHO MARTINS FILHO

Double Degree Engineering Student | Aeronautics & Data Science

Mobility: France & Brazil | Available for Internships June 2026

□ (+33) 7 43 50 28 14

○ karyus-labs.github.io

✉ renatocmf@usp.br

✉ linkedin.com/in/renato-cm-filho



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)

Diplôme d'Ingénieur (Double Degree), Marseille, France

2025 – Present

S5-S8 Cycle

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

University of São Paulo (EESC-USP)

B.Sc. in Aeronautical Engineering, São Carlos, Brazil

2023 – Present

GPA: 8.2/10.0

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

CORE ENGINEERING EXPERIENCE

HackSEA Challenge (Embraer & USP)

Technical Lead – eVTOL Thermal Management

Winner | 2024

- 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

Stability & Control Member / Sponsorship Director

2023 – 2025

- 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)

Undergraduate Researcher / Data Intelligence

2023 – Present

- 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 Engineering: Flight Mechanics, Stability & Control, **CFD** (Ansys, XFLR5, AVL), **FEA** (ABAQUS), MATLAB/Simulink, Aerodynamics (Steady/Unsteady).

Data Science & Software: **Python** (NLP), **Node.js** (Web Scraping), SQL, Git, Excel/VBA (Macros).

Languages: Portuguese (Native), English (Advanced/C1), French (Intermediate/B1+).

HONORS & LEADERSHIP

Awards

- Gold Medal** (OBR - National Robotics Olympiad)
- Silver Medal** (OBMEP - Brazilian Math Olympiad)
- Gold Medal** (Math Kangaroo & Math without Borders)

2017

2022

2018/19

Leadership

- SEA (Eng. Week):** Organizing Committee (Logistics & Tech)

2023