

Leonardo Mouta Pereira Pinheiro

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EDUCATION

- **Instituto Tecnológico de Aeronáutica (ITA)** São José dos Campos, Brazil
Minor Degree - Physical Engineering
Jul 2019 - Dec 2022
Advisor: Prof. Dr. Ivan Guilhon Mitoso Rocha
- **Instituto Tecnológico de Aeronáutica (ITA)** São José dos Campos, Brazil
Bachelor's Degree - Aerospace Engineering
Jan 2017 - Dec 2022
Advisor: Prof. Dr. Christopher Shneider Cerqueira
- **ISAE-SUPAERO** Toulouse, France
Master's Degree (Diplôme d'Ingénieur) - Aerospace Engineering
Sep 2020 - Dec 2022
Double specialization in Autonomous Systems (with emphasis on UAVs) and Fluid Dynamics
Advisor: Prof. Dr. Yves Brière

RESEARCH EXPERIENCE

- **Laboratory for Analysis and Architecture of Systems (LAAS-CNRS)** France
Research Internship. Advisors: Dr. Simon Lacroix and Dr. Hai-Nguyen Nguyen
Apr 2022 - Sep 2022
 - **Manipulating a cable-suspended object with multiple UAVs:** During my internship at LAAS, one of the best robotics laboratories in the world and which is part of the prestigious French CNRS, I developed algorithms that combined path planning and object manipulation so that a fleet of UAVs could cooperatively transport an object and place it at a predefined pose, regardless of the environment's disposition
- **Dassault Aviation/ISAE-SUPAERO** France
Joint Research Project
Apr 2021 - Mar 2022
 - **UAV flight mechanics:** Working in close collaboration with Dassault Aviation, I led a team of students into solving the problem of how to best assess flight dynamic quality - including precision, speed and stability - for UAVs under various sensor loads
- **ISAE-SUPAERO** France
Research Project. Advisor: Dr. Jean-Baptiste Chaudron
Jan 2021 - Jun 2021
 - **Airborne Collision Avoidance Systems (ACAS) for quadcopters:** In this project I applied new ACAS X technologies, which are based on modeling airborne collisions as Markov decision problems, to the scenario of colliding quadcopters, resulting in a novel article at my university
- **Instituto Tecnológico de Aeronáutica (ITA)** Brazil
Research Project. Advisor: Prof. Dr. Christopher Shneider Cerqueira
Jul 2019 - Jul 2020
 - **Philosophical approaches to Systems Engineering:** This project consisted of trying to adapt the methodology of "decadialectics", which was developed by Brazilian philosopher Mário Ferreira dos Santos, to the field of Systems Engineering, in order to obtain a more complete view of the relations between a system and its environment

SKILLS SUMMARY

- **Programming:** Python, C/C++, Matlab/Simulink, Java, Mathematica, among others
- **Platforms:** Linux, Windows, ROS, Arduino, SU2, Dassault CATIA, Siemens NASTRAN, Missile Datcom, L^AT_EX
- **Languages:** Portuguese (native), English (fluent), French (fluent), Spanish (intermediate), Russian (beginner)
- **Soft Skills:** Leadership, Writing, Public Speaking, Teaching, Agile Methods

ADDITIONAL EXPERIENCE

- **Instituto Tecnológico de Aeronáutica (ITA)** Brazil
Teaching Assistantships
Jul 2018 - Jul 2020
 - **Teaching assistant:** Introduction to Computing
 - **Teaching assistant:** Differential and Integral Calculus II
 - **Teaching assistant:** Solid Mechanics
- **BOCOM BBM Bank** Brazil
Macroeconomics intern
Jan 2019 - Mar 2019

HONORS AND AWARDS

- Weis Award for excellence in teaching - ITA, Brazil - October, 2019. Second student ever to receive this award.
- "Best Student" Award - Reserve Officer's Training Course - December, 2017
- Medals in Scientific Olympiads: 5 Gold, 2 Silver, 2 Bronze