

# Leonardo Santos

✉ leohmcs@gmail.com | 🏠 leohmcs.github.io | 🐙 GitHub | 🔗 LinkedIn

## Education

### UFMG Federal University of Minas Gerais

**BSc. in Electrical Engineering**, GPA: 89.6/100

Relevant coursework: Mobile Robotics, Linear Control Systems, Signals and Systems

*Belo Horizonte, Brazil*

*Mar 2020 - Present*

### KTH Royal Institute of Technology

**Study Abroad, School of Electrical Engineering and Computer Science**

Coursework (all Master's Courses): Introduction to Robotics, Machine Learning, Safe Robot Planning and Control, Reinforcement Learning

*Stockholm, Sweden*

*Aug 2023 - Jan 2024*

## Skills

**Programming** Python, C++.

**Technologies** ROS, RViz, Git, LaTeX.

**Languages** English, Portuguese

## Experience

### Division of Robotics, Perception and Learning, KTH

Research Assistant

- Working on safe motion planning under uncertainty with Matti Vahs and [Prof. Jana Tumova](#).

*Stockholm, Sweden*

*Sep 2023 - Present*

### AirLab, Carnegie Mellon University

Research Intern, Robotics Institute Summer Scholar

- Mentored by [Brady Moon](#) and [Prof. Sebastian Scherer](#).
- Worked on Bayesian filters for multi-object tracking using autonomous drones.
- Technical skills:** C++, ROS

*Pittsburgh, United States*

*Jun 2023 - Aug 2023*

### Computer Vision and Robotics Lab, UFMG

Undergraduate Researcher

- Worked on path planning for networked multi-robot systems with end-to-end connectivity guarantees advised by [Prof. Douglas G. Macharet](#). First-author submission in preparation.
- Technical Skills:** Python, ROS, MoveIt!

*Belo Horizonte, Brazil*

*Aug 2021 - Mai 2023*

### Computer Vision and Robotics Lab, UFMG

Research Assistant

- Collaborated with a graduate student on his research on autonomous exploration of confined spaces with applications to the mining industry.
- Worked primarily on testing frontier exploration algorithms on [simulations](#).
- Technical Skills:** Python, ROS, CoppeliaSim

*Belo Horizonte, Brazil*

*Fev 2021 - Jul 2021*

### AVANT, UFMG

Autonomous Drones Competition Team

- Worked on Computer Vision and Autonomous Navigation teams.
- Mentored incoming members on implementation of planning and SLAM algorithms using mainly Python and ROS.
- Led the Computer Vision, Autonomous Navigation and Systems Integration team from Jan 2021 to Jul 2021.
- Served as Technical Leader for the Autonomous Navigation Team from Jun 2022 to Oct 2022.
- Technical Skills:** Python, OpenCV, ROS, Gazebo

*Belo Horizonte, Brazil*

*Aug 2020 - Oct 2022*

## Publications

### CONFERENCES

Collaborative UGV/UAV Path Planning for Inventory Management in Warehouses

Caio C. G. Ribeiro, Leonardo H. M. C. Santos, Douglas G. Macharet

2022 Latin American Robotics Symposium (LARS), 2022 Brazilian Symposium on Robotics (SBR), and 2022 Workshop on Robotics in Education (WRE), 2022

## Awards

2022 **National Finalist, Top 3 Overall, 2nd SARC-Barinet Aerospace Competition**

2022 **15 Best Papers Awards**, IEEE/Latin American Robotics Symposium

## Grants & Scholarships

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### Research Scholarship

Research Support Foundation of the State of Minas Gerais (FAPEMIG)

Was also offered an one-year extension of CNPq Scholarship, but chose this instead

*Brazil*

*Oct 2022 - Sep 2023*

### Research Scholarship

National Council for Research and Development (CNPq)

*Brazil*

*Sep 2021 - Aug 2022*

## Service & Outreach

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### RoboLaunch

*Pittsburgh, United States*

Co-Lead Organizer

*Jun 2023 - Present*

- Helping organize a robotics seminar series aimed at introducing undergraduate students to robotics through a series of talks.
- Co-Leading logistics involving speaker invitations, advertisement, and general team coordination.