

LEONARDO DUARTE VARGAS

Control Engineer

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Passionate about innovation and eager to contribute to the development of tomorrow's world, I am fascinated by interacting multi-component systems and the complexity that emerges from them.

EDUCATION

PhD Student

Université Paris-Saclay

11/2024 – Ongoing Gif-sur-Yvette, France

M2 Control, Signal and Image Processing

Université Paris-Saclay

09/2022 – 11/2023 Gif-sur-Yvette, France

Double Degree: Control Engineering

CentraleSupélec

09/2021 – 11/2023 Gif-sur-Yvette, France

Control and Automation Engineering

Universidade Federal de Santa Catarina

2018 – 2024 Florianópolis, Brazil

EXPERIENCE

Robotics Software Engineer Intern

Wandercraft

05/2023 – 11/2023 Paris, France

- Use of **optimal control** to improve the motion of Wandercraft's personal exoskeleton.
- Development of the control architecture in **C++** with validation in simulation and hardware.

Research Project : cyber-physical systems

CentraleSupélec

09/2021 – 06/2022 Gif-sur-Yvette, France

- Neural Populations' self-organized criticality studied through control theory.
- Chaos Cryptography from Chua circuits synchronization.

Initiation to Research in Mobile Robotics

Department of Automation and Systems - UFSC

02/2019 – 06/2021 Florianópolis, Brazil

- Multi-Robot Construction:** Development of a simulation environment in Unity using C#.
- Mobile Robotics for Agriculture:** ROS (Robot Operating System), computer vision (OpenCV) and Machine Learning (Python).
- Robotics group inspired by natural systems.

SKILLS

Digital : Python C++ Linux LaTeX

Matlab+Simulink ROS Unity Git

Control : Stability Controllers

Linear and Non-Linear Systems

Automation : Ladder PLC Arduino

Automata Petri Nets

Soft Skills : Curious Proactive Adaptable

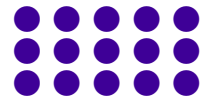
Open Minded Analytical Optimist

LANGUAGES

French (C2)

English (C2)

Portuguese (Native)



TEACHING EXPERIENCE

Teaching Assistant

CentraleSupélec

2024 – ongoing Gif-sur-Yvette, France

- Model Representation and Analysis (undergraduate level)
- Dynamical Multi-Agent Systems. Applications to Drone Formation Control (undergraduate level)
- Control Architecture of Complex Systems (master level)

Undergraduate Project Supervisor

CentraleSupélec

2024 – 2025 Gif-sur-Yvette, France

- Stability and Consensus Control for Drone Formations

Physics Teaching Assistant

Colégio Catarinense

08/2018 – 02/2019 Florianópolis, Brazil