






# Victor Fernando Lopes de Souza

Engineering Student at CentraleSupélec

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## About Me

Passionate for innovation and technology. Interested in approaching complex problems and grasping complex concepts.

Looking for a final year internship starting in May 2023.

Enthusiast of Mathematics, System Modeling, Control Systems and Temporal Logic.

## Skills

Good Mathematical Background and knowledge in Control's Systems, Automata and Discrete-Event's Systems.

Multiple experiences on Python,  $\text{\LaTeX}$ , Matlab, Simulink, Linux, Git, R, Ladder, Java, C++, AutoIt and BASIC.

Experience on data analysis and neural nets using Pandas, Numpy, Tensorflow and Keras.

Experience on Web developing using PHP, HTML, CSS, SQL and JavaScript.

Languages: Portuguese (mother tongue), English, French and Spanish.

## Education

2022-2023	Université Paris-Saclay Master in Systems, Signals and Image Processing	Gif-Sur-Yvette (FR)
2021-2023	CentraleSupélec Engineering, with mention in Control	Gif-Sur-Yvette (FR)
2018-2023	UFSC - Universidade Federal de Santa Catarina Control and Automation Engineering PAM - Advanced Mathematics Program	Florianópolis (BR)
2021-2022	Paris IV - Sorbonne Université Bachelor's degree in Philosophy	Paris (FR)
2014-2017	IFSC - Instituto Federal de Santa Catarina Engineering Technician in Electronics	Florianópolis (BR)

## Work Experience

2020-2021	Student Researcher in Neural Nets <i>at EMBRAPPII, in partnership with Central Energia (R&amp;D on trading)</i> Worked on building, training, and evaluating LSTM networks regarding the prediction of precipitation data for energy trading	Florianópolis (BR)
2018-2021	Student Researcher in Algebraic Topology <i>at IMPA (Brazilian Institute of Pure and Applied Mathematics)</i> Research on advanced topics related to Geometric Group Theory	Florianópolis (BR)
2018-2019	Calculus Teaching Assistant <i>at the Mathematics Department, UFSC</i> Developed PHP, Shell, BASIC and Kernel scripts to automate tasks related to the management, monitoring and control of the backbone	Florianópolis (BR)
2016-2017	Intern as Web Developer <i>at Oi S.A. (third largest telecommunication company in Latin America)</i> Developed PHP, Shell, BASIC and Kernel scripts to automate tasks related to the management, monitoring and control of the backbone	Florianópolis (BR)

## Projects

2022	Training Neural Networks with Kalman Filters Implementation of modern control methods for training Neural Nets and use of the Kalman filter as an optimization algorithm	Gif-Sur-Yvette (FR)
2022	Exploring portfolio optimization methods, with BNP Construction, Implementation and Evaluation of different portfolio allocation methods	Gif-Sur-Yvette (FR)
2022	System for inform on cancer, with Health Guide AI Testing of different recommendation algorithms for this purpose	Gif-Sur-Yvette (FR)
2021-2022	Neural Nets: Attacks and Robustness, with SystemX Study and implementation of some attack methods on NN systems	Gif-Sur-Yvette (FR)

## Honours and Awards

2021	BRAFITEC, Merit Scholarship for Double Degree in France
2019	Qualified to Final Phase, OBMU (National University Maths Olympiad)
2018	Freshman Award, OEI (Organization of Ibero-American States)
2017	Silver Medal, OBMEP (National High School Mathematics Olympiad)
2016	Silver Medal, OBMEP (National High School Mathematics Olympiad)
2014	Honourable Mention, OBMEP (National High School Maths Olympiad)