



# 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, Stochastic Systems, System Modeling, Financial Markets and Blockchain

## Skills

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

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

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

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

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  
at EMBRAPPII, in partnership with Central Energia (R&D on trading)  
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  
at IMPA (Brazilian Institute of Pure and Applied Mathematics)  
Research on advanced topics related to Geometric Group Theory  
Florianópolis (BR)
- 2018-2019 Calculus Teaching Assistant  
at the Mathematics Department, UFSC  
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  
at Oi S.A. (third largest telecommunication company in Latin America)  
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)