

# Maxime NICAISE

👤 22 years    🌐 [ncaisemarseille.github.io](https://ncaisemarseille.github.io)    ✉ [maxime.nicaise@student-cs.fr](mailto:maxime.nicaise@student-cs.fr)    ☎ +33-6-64-11-31-77

## Education

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**MSc in mathematical engineering - CentraleSupélec, Université Paris-Saclay**      *Sept. 2023 – Present*  
2 years

*CentraleSupélec, France*

- French Grande École, admitted after national competitive examination - GPA 4.21/4.33.
- Machine Learning, Deep Learning, Natural Language Processing, Optimization, Probability, Statistics, Partial Differential Equations, Numerical Methods, Control Theory, Signal Processing, Algorithmics.

**Preparatory classes to Grandes Écoles - Lycée international de Valbonne**      *Sept. 2021 – Jul. 2023*  
2 years

*Valbonne, France*

- Intensive undergraduate training program in mathematics, computer science, and physics for the national competitive entrance exams to French engineering Grandes Écoles - GPA 4.0/4.0.

## Experience

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**Research Internship in Mathematics & Machine Learning**      *Sep. 2025 – Feb. 2026*  
6 months

*INRIA, France*

- Generalization of entropic optimal transport to  $f$ -divergence-regularized frameworks, with machine learning applications. Establishing theoretical guarantees, designed and implemented efficient algorithms for accelerated computation of Wasserstein distances.

**Forecasting CO2 Emissions in Real Estate**      *Jan. 2025 – Mar. 2025*  
3 months

*BNP Paribas, Paris, France*

- Group project conducted in a 4-person team, the focus being on the study of times series in order to forecast the future CO2 emissions by real estate property category. Tasks include data preprocessing, feature engineering, training models such as ARIMA, LSTM and PROPHET and performance benchmarking.

**Three-semester PDE research project**      *Jan. 2024 – Jun. 2025*  
18 months

*MICS laboratory, CentraleSupélec, France*

- The research focused on the Stokes system for fluids in domains with potentially rough, typically fractal boundaries, establishing both theoretical results and numerical implementations.

**Mathematics teaching assistant**      *Sept. 2024 – Feb. 2026*  
7 months

*CentraleSupélec, France*

- Designing and conducting weekly 2-hour tutorials in Probability and Statistics for third-year undergraduate students at CentraleSupélec. Selected for this role based on excellent undergraduate mathematics grades.

**Detection of anomalies in an IOT network**      *Apr. 2024*  
1 month

*Bouygues-Télécom, France*

- In a 5-person team, conducted an analysis of a log dataset following a DDoS attack to identify the characteristics of the attack. Developed machine learning tools for the detection of streaming DDoS attacks.

**Viral Marketing Campaign**      *Jan. 2024*  
One week research Project

*Artefact, France*

Analyzed data from social media posts, developed a network model based on the analysis results, and conducted simulations to try and determine an optimal strategy for a social media marketing campaign.

## Volunteering

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**President of the boxing and kickboxing association**      *Jun. 2024 – Present*  
9 months

*CentraleSupélec, France*

- Coordinated inter-school competitions with French Grandes Écoles and led recruitment of team members.
- Secured multiple Inter-University titles, including 2025 Regional Champion and 2024 Vice-Champion.

## Skills

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**Programming :** Python, OCaml, R, C,  $\LaTeX$ , Matlab, SQL.

**Languages :** French (native), English (proficient), Spanish (intermediate).