

Maxime NICAISE

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

Education

M2 Mathematics, Vision and Learning (MVA) <i>ENS Paris-Saclay, Université Paris-Saclay</i> - Research-oriented master's program in mathematics and machine learning.	<i>Sep. 2026 – Aug. 2027</i> 1 year
Engineering Degree – CentraleSupélec, Université Paris-Saclay <i>CentraleSupélec, Paris, France</i> - French Grande École, admitted after a national competitive examination. Gap year in 2025–2026 for research and industry internships.	<i>Sep. 2023 – Aug. 2027</i> 4 years
Preparatory Classes for the Grandes Écoles <i>Lycée International de Valbonne, Valbonne, France</i> - Intensive undergraduate training in mathematics, computer science, and physics.	<i>Sep. 2021 – Jul. 2023</i> 2 years

Research Experience

Research Internship in Optimal Transport <i>INRIA, Sophia-Antipolis, France</i> - Supervised by Dr. Samir Perlaza. - Established theoretical equivalence between f-divergence-regularization schemes for optimal transport. Results accepted at <i>IEEE ISIT 2026</i> and extended into a journal submission to <i>Information and Inference: A Journal of the IMA</i> (conference preprint: arXiv:2604.12996 and research report: hal-05454647). - Designed and implemented a stabilized Sinkhorn-type algorithm for semi-relaxed regularized optimal transport. Established strong theoretical convergence guarantees with explicit linear rates, supported by experimental results (research report: hal-05635975 and code: GitHub). - Served as a reviewer for <i>IEEE ISIT 2026</i> conference via EDAS.	<i>Sep. 2025 – Feb. 2026</i> 6 months
Research Project in Functional Analysis & PDEs <i>CentraleSupélec, Paris, France</i> - Supervised by Prof. Anna Rozanova-Pierrat. - Studied topics in functional analysis and partial differential equations, focusing on the extension of classical results to domains with weaker regularity assumptions.	<i>Jan. 2024 – Jun. 2025</i> 18 months

Teaching Experience

Mathematics Teaching Assistant <i>CentraleSupélec, Paris, France</i> - Designing and conducting weekly 2-hour reinforcement tutorials in probability and partial differential equations for third-year undergraduate students at CentraleSupélec.	<i>Sep. 2024 – Feb. 2025</i> 7 months
Mathematics Oral Examiner (Colleur) - CPGE <i>Lycée International de Valbonne, Valbonne, France</i> - Mathematics oral examiner for classes préparatoires MPI/MPI* and PC, conducting weekly oral examinations and providing feedback on problem-solving and mathematical reasoning.	<i>Sep. 2025 – Feb. 2026</i> 6 months

Applied / Industry Experience

Data Science & ML Internship <i>Hypertrade, Bangkok, Thailand</i> - Investigated retail sales forecasting and prepared an LLM-based analytics agent integrating database queries and predictive ML models on real-world client data.	<i>Feb. 2026 – Aug. 2026</i> 6 months
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Skills

Programming: Python (PyTorch, NumPy, Pandas, SciPy, POT, scikit-learn, LightGBM, statsmodels), OCaml, R, C, $\LaTeX$, MATLAB, SQL.

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