

# ANTOINE VIALLE

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Intern at **Télécom** Deep Simplicial Neural Network

## EDUCATION

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**Master MVA**, Paris-Saclay 2024 - 2025

Geometry : Geometric Data Analysis, Geometric Processing and Geometric Deep Processing, ALTEGRAD, Geometry and shape spaces

Other : Introduction to Probabilistic Graphical Models, Machine Learning for Time Series, Foundations of Distributed and Large Scale Computing Optimization, Deep Learning, Deep Learning in practice, Generative Models for images, LLM.

**Engineering Degree, CentraleSupélec**, Paris-Saclay 2021 - 2025

Last year courses : Machine Learning, Harmonic Analysis, Stochastic calculus, Statistics, Theory of deep learning, Modern Mathematical Morphology, Reinforcement Learning, NLP

**Master's Degree in Fundamental Mathematics, Université Paris-Saclay**, Paris-Saclay 2022 - 2023

Courses taken: Geometry, Algebra, Advanced Probability, Distributions and Operators, Algebra and Cryptography

**Bachelor's Degree in Mathematics, Université Paris-Saclay**, Paris-Saclay 2021 - 2022

**MPSI - MP\* preparatory classes, Lycée Blaise Pascal**, Paris-Saclay 2019 - 2021

**French baccalaureate, Science Major (with highest honor, mention TB)** Paris 2019

## PROFESSIONAL EXPERIENCE

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**R&D Intern in Simplicial Deep Learning, Télécom**, Paris May 2025 - November 2025

*6-month internship in the MultiMédia laboratory of Télécom.* Study of Deep Simplicial Neural Networks for Advanced Geometry Processing.

**R&D Intern in AI, Setics**, Cologne 2024

*5-month internship in the software development team for Sttar.* Automatic generation of fiber-optic infrastructure using AI (Deep Learning, Point Cloud Neural Networks, Graph Neural Networks, Supervised Learning) and implementation of an assistant using RAG (Retrieval Augmented Generation).

**R&D Intern in AI, STMicroelectronics**, Grenoble 2023 - 2024

*6-month internship in the Analog Design Optimization team.* Development of a Reinforcement Learning approach and Optimization Algorithms applied to analog electronic circuit design (Reinforcement Learning, Deep Learning, Graph Neural Networks, Supervised Learning, Unsupervised Learning, Heuristic Algorithms).

**Teaching Assistant, CentraleSupélec**, Gif-sur-Yvette 2022 - 2023

Mathematics courses for fifteen students, 1.5 hours per week throughout the year.

**Instructor, Summer School (BasiCS), CentraleSupélec**, Vichy Summer 2022

Mathematics instruction for international students, 3 hours per day over 3 weeks.

## SKILLS

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<b>Language</b>	English C1+
<b>Computer languages</b>	Python, C#, C++, F#
<b>Python specific</b>	Numpy, Pytorch, Tensorflow, Ray, Scikit-Learn, ...
<b>Soft Skills</b>	Project Management, Creativity, Pedagogy, Team working

## INTERESTS

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**Volunteering:** teaching and coaching for students in underprivileged area with *Espérance en Béton* association

**Hobbies:** Video editing, Cooking, Video games, Coding, Badmington