

Antoine COMMARET

Third year of PhD - 2023-2024

Nice, France

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📄 <https://acommaret.github.io>



📖 Education

- 2021 – 2024 **PhD Candidate**, *DataShape Team, INRIA Sophia-Antipolis & J. A. Dieudonné Lab*, France.
"Persistent Geometry", under the supervision of David Cohen-Steiner & Indira Chatterji.
- 2019 – 2020 **Master 2 "Mathématiques, Vision, Apprentissage" with highest honors**, *ENS Paris-Saclay*.
Courses over the mathematics of Vision and Learning.
- 2017 – 2019 **Master 1 & Last Year of Bachelor**, *École Normale Supérieure de Paris*, France.
General advanced maths in the highly selective mathematics path of the ENS.
- 2015 – 2017 **Classes préparatoires aux Grandes Ecoles**, *Lycée Hoche, Versailles*, France.
Admitted to both École Polytechnique and ENS Paris after 2 years of intense preparation.
- 2012 – 2015 **Baccalauréat scientifique with highest honors**, *Lycée Jean-Pierre Vernant, Sèvres*, France.

👜 Other experience

- Feb 2023 **Startup Week 3IA**, *Sophia-Antipolis*.
One week project on the segmentation femoral arteries on ultrasound scans for Caranx Medical.
- June 2022 **Summer School EUTOPIA**, *Paris*.
Topology in the context of soft matter and proteins.
- 2020 – 2021 **Research Internship**, *INRIA Saclay*, under the supervision of Frédéric Chazal & Bertrand Michel.
TDA and study of the dimension reduction algorithm UMAP.
- 2019 **Research Internship**, *Göttingen University, Germany*, under the supervision of Harald Helfgott.
Analytic Number Theory. Reviewing the proof of the weak Goldbach conjecture.

🏛️ Teaching

- 2021 – 2024 **Lecturer**, *Université Côte d'Azur*.
Introduction to Topological Data Analysis (M2), Graph Theory, Analysis I, Algebra II (Bachelor)
- 2017 – 2021 **Colleur in Preparatory Classes**, *Lycée Hoche, Versailles*.
Weekly oral exams.

👥 Talks & Conferences

- Oct 2023 **Young Researcher in Geometry Day**, *Paris, France*.
Organization and Talk about Geometric Measure theory.
- July 2023 **Young Topologist Meeting**, *Lausanne, Switzerland*.
Talks for *Generalized Morse Theory for Tubular Neighborhoods*.
- Feb 2023 **World AI Festival**, *Cannes, France*.
Presenting the work done during the Startup Week 3IA.
- June 2022 & 2023 **Math PhD Students' Colloquium**, *Nice, France*.
Talks about Persistent Homology & Organization.

🗨️ Languages

Native	French
Fluent	English, German
Beginner	Esperanto, Italian

🔗 Programming

- Advanced \LaTeX
- Advanced Python : Machine Learning with Numpy, Scipy, Pytorch and Topological Data Analysis with GUDHI.