

ETIENNE LASALLE

Ph.D. Student in Mathematics Univ. Paris-Saclay & Inria Saclay

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RESEARCH INTERESTS

Topological Data Analysis (TDA) has revealed that topological and geometric information allows for a better understanding of complex and high dimensional data. My goal is to extend tools from TDA to **graph data analysis**, using **implementable** and **statistically well-founded** methods.

Key-Words : Topological Data Analysis, Statistics, Graphs.

EXPERIENCE

Pre-Doctoral Year : Statistical Tools for Neuro-Topology

📅 Oct 2018 - Jul 2019 📍 EPFL, Lausanne, Switzerland

- Probabilistic and statistical studies of topological features for random graph analysis, in the context of Neuro-science. A theoretical and experimental work on the homology of the *flag complex* of oriented random graphs (Erdős-Rényi, SBM).

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Internship : TDA for Anomaly Detection

📅 Apr - Jul 2018 📍 INRIA-Saclay, Palaiseau, France

- Development of anomaly detection methods based on tools and features from TDA. Bibliographic, theoretical and experimental study of vectorization and distance-based approaches.

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Internship : Bio-Informatics

📅 Apr - Jul 2017 📍 Simon Fraser Univ., Vancouver, Canada

- Study and development of unsupervised clustering algorithms combining several types of tuberculosis genomic data.

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Internship : Numerical Hydrology

📅 Jan - Jun 2016 📍 ENS Paris-Saclay, Cachan, France

- Study and development of algorithms modelling water flow on a large scale surfaces using elevation grids.

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STUDIES AND CAREER

Ph.D
📅 2019-on 📍 U. P-Saclay & Inria Saclay

- Statistical foundations of topological data analysis for graph structured data.
- Under co-supervision of F. Chazal et P. Massart.

Graduated from ENS Paris-Saclay
📅 2019 📍 ENS Paris-Saclay, Cachan

MSc in Probability et Statistics
📅 2018 📍 Univ. Paris-Sud, Orsay

TECHNICAL SKILLS

Informatics and Programming :

Python R Github
LaTeX

Tools for Topology

GUDHI (Python Library)

LANGUAGES

French ●●●●●
English ●●●●●
German ●●●●●

HOBBIES

Climbing Hiking
Paragliding Skiing
Music Photography