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 (Erdös-Rényi, SBM).

@ kathryn.hess@epfl.ch

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.

@ frederic.chazal@inria.fr

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.

@ cedric.chauve@sfu.ca   @ leonid@sfu.ca

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   LaTeX

C/C++   Linux

Tools for Topology

GUDHI (Python Libraıry)

Flagser (Software)

LANGUAGES

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

HOBBIES

Climbing   Hiking

Paragliding   Sking

Music   Photography