Claire DONNAT

5^{th}-year PhD student majoring in Statistics at Stanford University, specializing in statistics and machine learning for graphs and networks, and their applications to neuroscience. Expected graduation date: Spring 2020.

DATE OF BIRTH: 08/01/1993
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EDUCATION

Sept 2015-Current — STANFORD, USA

PhD student majoring in Statistics at **Stanford University**.
Extensive training in applied and theoretical statistics (STATS 305A-C, 300A-D), probability theory (STATS 310A-C) , Computer Science (including Convex Optimization, NLP with Deep Learning, Probabilistic Graphical Models). Qualifying Exams passed in Aug. 2016.

2012-2015 — PALAISEAU, FRANCE

Graduate student at **École Polytechnique**.
Majored in Applied Mathematics and Computer Science (Data Science track). B.Sc. (July 2014), and M.Sc. (December 2016.)

2010-2012 — VERSAILLES, FRANCE

Undergraduate student at **Lycée Sainte Geneviève**.
Selective undergraduate program in Maths and Physics preparing for the competitive entrance exams to French "Grandes Ecoles" (elite science academic institutions). Was successfully qualified to be admitted in the top French Institutes of Technology (June 2012).

RESEARCH EXPERIENCE

Sept.2015-Current — STANFORD UNIV.,USA

Statistics PhD program at Stanford University. *Jointly advised by Susan Holmes (Statistics) and Jure Leskovec (Computer Sc.).*
Mind, Brain, Computation and Technology (MBCT) Graduate Trainee since Sept. 2018.
I am interested in developing statistical and machine learning methods for graph-structured data, with a special focus on topics such as graph signal processing and geometric deep learning. As an MBCT graduate trainee since Sept. 2018, I have begun focusing on developing statistical methods for brain connectome analysis.

Publications:

— *Tracking network dynamics: a survey of distances and similarity metrics*. With Prof. Susan Holmes, Annals of Applied Statistics. .
— *Hierarchical Convex Clustering for Graph Data*. With Prof. Susan Holmes, Proceedings of the IEEE Asilomar conference, 2019
— *Learning Structural Node Embeddings Via Diffusion Wavelets*, joint work with M. Zitnik, D. Hallac and J. Leskovec. SIGKDD'18
— *Geomstats: a Python Package for Riemannian Geometry in Machine Learning*, Nina Miolane, Johan Mathe, Claire Donnat, Mikael Jorda, Xavier Pennec. Under review
— *Neuroimaging Analysis Replication and Prediction Study (NARPS analysis) project*. Paper soon to be submitted in Nature.
— *A Constrained Bayesian ICA model for connectome inference*. With Prof. Susan Holmes, arXiv preprint, 2019.

Posters:

— *Tracking network changes through heat wavelets with applications to the microbiome*. Joint work with Prof. Susan Holmes, presented at the 2^{nd} Graph Signal Processing workshop, Carnegie Mellon University, 05/31/2017-06/02/2017.
— *Analyzing and inferring Microbiome networks*. Joint work with Prof. Susan Holmes, presented at the BCAT symposium, Stanford University, 04/19/2018. 2^{nd} best poster award.

Talks:

— *Convex Hierarchical Clustering for Graph-Structured Objects*. Joint work with Prof. Susan Holmes, presented at the IEEE Asilomar Conference on Signal, Systems and Computers , Asilomar, 11/06/2019.
— *Estimating Brain Connectomes from Multimodal Data*. Joint work with Prof. Susan Holmes, presented at the 4^{th} Graph Signal Processing workshop, University of Minnesota, 06/05/2019-06/07/2019.
— *Hierarchical Convex clustering for graph data*. Joint work with Prof. Susan Holmes, presented at the 3^{rd} Graph Signal Processing workshop, École Polytechnique Fédérate de Lausanne, 06/06/2018-06/08/2018.

03/2015-08/2015 — Johns Hopkins Univ. BALTIMORE, MA, USA

Research internship in the VISION LAB at **Johns Hopkins University**. *Supervised by Prof. René Vidal*
Development of scalable algorithms for Sparse Subspace Clustering with applications to Computer Vision Research project was granted a *Research Internship award* from Ecole Polytechnique's department of Applied Mathematics (CMAP).

Publication: You, C., Donnat, C., Robinson, D. P. & Vidal, R. (2016, November). A divide-and-conquer framework for large-scale subspace clustering. In Signals, Systems and Computers, 2016 50th Asilomar Conference on (pp. 1014-1018). IEEE.

WORK EXPERIENCE

06/2019-08/2019 — NEW YORK, NY

HAIL RESEARCH FELLOW IN THE AI TEAM at *Hudson River Trading*.
Fellowship in HRT's AI Research Lab, focusing on using deep-learning techniques for time series and market structure analysis.

06/2018-09/2018 — MENLO PARK, CA

PHD RESEARCH INTERN IN CORE DATA SCIENCE at *Facebook*.
Summer research internship as part of the Core Data Science team at Facebook, working on graph classification to improve understanding of user groups' dynamics.

06/2017-08/2017 — LONDON, UK

QUANTITATIVE ANALYST -RESEARCH INTERN at *G-Research*.
Summer research internship as a Quantitative Research Analyst Intern at G-Research, Europe's largest quantitative hedge fund, which leverages tools from statistics and machine learning to analyze financial datasets .

2015-CURRENT — STANFORD, USA

TEACHER ASSISTANT at Stanford University: CS229 (Machine Learning), STATS 60, 110, 191, 200, 216, 305A, 315B.
Responsibilities include preparing exams, homework assignments, holding office hours, leading recitation sessions and grading for classes of various sizes (from 60 to 220 students). Won one of the department's best TA awards in Spring 2016 and a University Centennial award in Spring 2019.

COMPUTER SKILLS, LANGUAGES

Frequent User	Python, Pytorch, R
Working Knowledge	JAVA, Tensorflow, SQL, C++
Others	Matlab, LaTeX

FRENCH	Mothertongue
ENGLISH	Fluent
RUSSIAN	Beginner

INTERESTS AND ACTIVITIES

KEEN JOGGER — Enjoys running trails, and occasionally half-marathons.