Claire DONNAT

Date of Birth: 08/01/1993
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4^{th}-year PhD student majoring in Statistics at Stanford University, specializing in statistics and machine learning on graphs, and particular in Graph Signal Processing and its applications to neurosciences and social networks.

Education

Sept 2015-Current — Stanford, USA

PhD student majoring in Statistics at **Stanford University**.

Followed courses 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. equivalent obtained in July 2014. Masters of Science (M.Sc.) obtained in December 2016.

2010-2012 — Versailles, France

Undergraduate student at **Lycée Sainte Geneviève**.

Attended a selective undergraduate course in sciences preparing for the competitive entrance exams to French "Grandes Ecoles" (elite science academic institutions). Majored in Mathematics and Physics. Passed the entrance exams in Spring 2012 and was successfully qualified to be admitted in the top French Institutes of Technology.

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.).*

I am interested in statistical and machine learning methods for graph-structured data. Current areas of focus include methods in graph signal processing and geometric deep learning (with applications to neurosciences).

Publications:

— *Tracking network dynamics: a survey of distances and similarity metrics.* With Prof. Susan Holmes, to appear in the Annals of Applied Statistics. (arXiv:1801.07351)

— *Hierarchical Convex Clustering for Graph Data.* With Prof. Susan Holmes, under review, arXiv version soon available.(Oct. 2018)

— *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

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. Voted second best poster.

Talks:

— *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

06/2018-09/2018 — 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.

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 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 2016.

Computer Skills, Languages

Frequent User	Python, Pytorch,R
Working Knowledge	Java, Tensorflow, SQL
Others	Matlab, LaTeX

French	Mothertongue
English	Fluent
Russian	Beginner

Interests and Activities

Keen Endurance Jogger — Took part in several Adventure Races (Raid de la Vallée Blanche 2016, Prologue Centrale Paris, 2014), and competitions (Death Valley half-marathon 2017)