Alex Delalande

Ph.D. candidate in Applied Mathematics at Université Paris-Sud and INRIA

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Education

2019–Present **Ph.D. in Applied Mathematics**, ***Université Paris-Sud & INRIA***, France.
Thesis title: *Measure embedding with Optimal Transport and applications in Machine Learning.* Under the supervision of Quentin Mérigot (Laboratoire de Mathématiques d'Orsay) and Frédéric Chazal (INRIA DataShape team).

2018–2019 **M.Sc. MVA "Mathematics, Vision and Learning"**, ***ENS Paris-Saclay***, France, GPA: 17.3/20, Highest honors.

2015–2019 **Diplôme d'ingénieur**, ***École Centrale Paris (now CentraleSupélec)***, France, Majoring in Applied Mathematics. - GPA: 4.0/4.3.

Research experience

May 2019 – Nov. 2019 **Research internship - Optimal Transport**, *INRIA Saclay, DataShape team*, France.
Hilbert space embedding of (discrete) measures with optimal transport maps.
Supervisors: Frédéric Chazal and Quentin Mérigot

Feb. 2018 – Jul. 2018 **Research internship - Deep Learning & Computer Vision**, *Institute for Infocomm Research, A*STAR*, Singapore.
Conditional Random Fields and Deep Learning for multi-label classification. Awardee of the Singapore International Pre Graduate Award.
Supervisors: Foo Chuan-Sheng and Vijay Chandrasekhar

Work experience

Jul. 2017 – Jan. 2018 **Data Science internship**, *Head of Statistics, Banque de France*, France.
Modeling of the French international trade in services.
Supervisor: Martial Ranvier

2017 **Software Engineering mission**, *CNRS*, France.
Translation of 18 of Gabriel Peyré's *Numerical Tours of Data Science* tutorials from Python to R: principles of Wavelet Data Processing, Denoising, Edge Detection and Manifold Learning.

Publication

Quantitative stability of optimal transport maps and linearization of the 2-Wasserstein space, Q. Mérigot, A. Delalande, F. Chazal.
Accepted to *NeurIPS 2019 "Optimal Transport and Machine Learning" Workshop*. Accepted to *AISTATS 2020*.

Talks and Poster Presentations

June 2020 ***AISTATS 2020***, Palermo, Italy.

Dec. 2019 ***NeurIPS 2019 "Optimal Transport and Machine Learning" Workshop***, Vancouver, Canada.

Nov. 2019 **DataShape team seminar**, Porquerolles, France.

Computer skills

Languages Python *TensorFlow, PyTorch, Scikit-Learn, Pandas, Numpy*
R *ggplot, tidyr, leaflet, shiny, imager, caret, nnet*
Matlab, C

Others Unix, Git ***GitHub: AlxDel***

Languages

French	Native	
English	Fluent	*TOEFL iBT: 110/120, October 2017*
Spanish	Intermediate	*Understanding and writing*