

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 – **Research internship - Optimal Transport, INRIA Saclay, DataShape team**, France.
Nov. 2019 Hilbert space embedding of (discrete) measures with optimal transport maps.
Supervisors: Frédéric Chazal and Quentin Mérigot
- Feb. 2018 – **Research internship - Deep Learning & Computer Vision, Institute for Infocomm Research, A*STAR**, Singapore.
Jul. 2018 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 – **Data Science internship, Head of Statistics, Banque de France**, France.
Jan. 2018 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.

Teaching assistantship

- Spring 2020 **Optimization**, CentraleSupélec. Instructor: Jean-Christophe Pesquet.

Computer skills

Languages Python
R

*TensorFlow, PyTorch, Scikit-Learn, Pandas, Numpy
ggplot, tidyr, leaflet, shiny, imager, caret, nnet*

Matlab, C
Others Unix, Git

GitHub: alex-delalande

Languages

French Native
English Fluent
Spanish Intermediate

TOEFL iBT: 110/120, October 2017
Understanding and writing