

# Alex Delalande

Ph.D. candidate in Applied Mathematics at Université Paris-Sud and INRIA ✉ [alex.delalande@inria.fr](mailto:alex.delalande@inria.fr)  
[alex-delalande.github.io](https://alex-delalande.github.io)

## Education

- Dec. **Ph.D. in Applied Mathematics, Université Paris-Sud & INRIA**, France.
- 2019–Present 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.

## Publications

- 2021 **Quantitative Stability of Optimal Transport Maps under Variations of the Target Measure**, A. Delalande, Q. Mérigot.  
*Preprint.*
- 2019 **Quantitative Stability of Optimal Transport Maps and Linearization of the 2-Wasserstein Space**, Q. Mérigot, A. Delalande, F. Chazal.  
*AISTATS 2020.*

## Talks and Poster Presentations

- June 2021 **PhD days in Analysis**, Orsay, France.
- August 2020 **AISTATS 2020**, Online.
- Dec. 2019 **NeurIPS 2019 "Optimal Transport and Machine Learning" Workshop**, Vancouver, Canada.
- Nov. 2019 **DataShape team seminar**, Porquerolles, France.

## Reviewing

- SIAM Journal on Imaging Sciences (SIIMS)
- Information and Inference: A Journal of the IMA

## Teaching assistantships

- 2020-2021 **Université Paris-Saclay**.
- Statistical inference (MEU354 - L3). Instructor: Nathalie Castelle
  - Numerical Analysis (MDD253 - L2). Instructor: Astrid Decoene
  - Ecology and Statistics (EcoStats - L2). Instructor: Nathalie Castelle
  - Statistical testing in Biology (Math291 - L2). Instructor: Pierre-Loïc Méliot
- Spring 2020 **CentraleSupélec**.
- Optimization (2CC3000 - M1). Instructor: Jean-Christophe Pesquet

## 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.

## Computer skills

Languages	Python	<i>TensorFlow, PyTorch, Scikit-Learn, Pandas, Numpy</i>
	R	<i>ggplot, tidyr, leaflet, shiny, imager, caret, nnet</i>
	Matlab, C	
Others	Unix, Git	<b>GitHub:</b> <i>alex-delalande</i>

## Languages

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