

# François-Pierre Paty

## PhD Student at ENSAE

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🔗 francoispierrepaty • French nationality

### Education

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#### PhD Student at ENSAE Paris

- PhD under the supervision of Prof. Marco Cuturi (ENSAE, Google Brain)
- Grant from CREST

Palaiseau, France

Since Sept 2018

#### Université Paris-Sud

*Masters in Statistics and Machine Learning*

Advanced courses in theoretical statistics and machine learning

Orsay, France

2017–2018

#### ENSAE Paris

*Engineering Track*

Specialized in statistics and data science

Palaiseau, France

2017–2018

#### École polytechnique

*Engineering Track*

Studied applied mathematics with focus on applied and theoretical statistics, probability and data analysis

Palaiseau, France

2014–2018

#### Lycée Louis-le-Grand

*Classe préparatoire aux Grandes Écoles*

Intensive two-year university foundation course in mathematics and physics preparing for the nationwide competitive entrance examinations to the Grandes Ecoles

Paris, France

2012–2014

### Professional experiences

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#### Teaching Assistant

*Teaching of maths and computer science for engineering students*

ENSAE Paris

Since Sept 2018

#### Sparse recovery of time series

*Finance For Energy Market Research Centre and EDF R&D*

Adapted sparse deconvolution techniques to missing data imputation for time series. Received *congratulations* from the Applied Mathematics department of École polytechnique. A patent has been registered by EDF

Palaiseau, France

April 2017–August 2017

#### Modelling of raw material markets

*EDF R&D*

Modelling of the long-term ore markets, in collaboration with EDF R&D

Palaiseau, France

Sept 2016–March 2017

### Scientific Publications

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- **Regularized Optimal Transport is Ground Cost Adversarial**, F-P. Paty, M. Cuturi, in *International Conference on Machine Learning*, 2020
- **Regularity as Regularization: Smooth and Strongly Convex Brenier Potentials in Optimal Transport**, F-P. Paty, A. d'Aspremont, M. Cuturi, in *International Conference on Artificial Intelligence and Statistics*, 2020, **Notable paper award**
- **Subspace Robust Wasserstein Distances**, F-P. Paty, M. Cuturi, in *International Conference on Machine Learning*, 2019, **Oral presentation**

## Awards and Distinctions

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- Notable paper award (*top 3 out of 423 accepted papers*), International Conference on Artificial Intelligence and Statistics, 2020
- Oral presentation (*top 20% of accepted papers*), International Conference on Machine Learning, 2019
- Congratulations from the Applied Mathematics department of École polytechnique, 2017

## Talks, Tutorials and Conference participation

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### Conferences.....

- **August 2020:** I gave an online talk at *AISTATS 2020*
- **July 2020:** I gave an online talk at *ICML 2020*
- **June 2019:** I gave a 20-minute oral presentation at *ICML 2019* in Long Beach

### Seminars.....

- **March 2021:** I will give a talk at the *Image, Optimization and Probability seminar* at the Institut de Mathématiques de Bordeaux
- **March 2021:** I will give a talk at the *EDMH PhD students seminar* in Université Paris Sud
- **January 2020:** I gave a talk at the seminar day *Learning meets Astrophysics* in CEA Saclay
- **November 2019:** I gave a talk at the seminar *Stat·Eco·ML* in ENSAE Paris
- **November 2019:** I gave a talk at *Le Séminaire Palaisien* in INRIA Saclay

### Summer Schools.....

- **August 2019:** I gave a tutorial about computational optimal transport during the *Machine Learning Summer School 2019* in Moscow
- **July 2019:** I gave a talk at *Saint-Flour Probability Summer School*

### Conference and Workshop participation (non-speaker).....

- **December 2019:** I presented a poster at *NeurIPS Optimal Transport and Machine Learning Workshop* in Vancouver
- **June 2019:** I participated in the workshop *People in Optimal Transportation and Applications* in Cortona
- **March 2019:** I presented a poster at the workshop *Optimization and Statistical Learning* in Les Houches

## Service to the community

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### Conference Reviewer

*AISTATS 2020, ICML 2020, NeurIPS 2020*

### Seminar Organizer

*StatEcoML.github.io*

I co-organize the “Statistics, Econometrics, Machine Learning” (Stat·Eco·ML) seminar at ENSAE Paris

**ENSAE Paris**

*2019-2020 and 2020-2021*

## Teaching experience

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### Teacher Assistant

**ENSAE Paris**  
*Since Sept 2018*

- Maths (taught in French):
  - Topology and Analysis (*last-year Bachelor students*), Fall 2018, Fall 2019, Fall 2020
  - Differentiable Optimization (*last-year Bachelor students*), Spring 2019, Spring 2020, Spring 2021
  - Mathematical Statistics (*MSc. students*), Fall 2018, Fall 2020
- Computer Science (taught in English):
  - Geometric Methods in Machine Learning (*MSc. students*), Spring 2019
  - Stochastic Optimization and Automatic Differentiation for Machine Learning (*MSc. students*), Spring 2019
  - Optimal Transport : Theory, Computations, Statistics and ML Applications (*MSc. students*), Spring 2020
  - Deep Learning: Models and Optimization (*MSc. students*), Spring 2020

## Programming skills

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**Machine Learning:** Python (sklearn, notebooks)      **Web:** ReactJS, PHP, SQL

## Languages

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**French:** Mother tongue

**Italian:** Fluent

**English:** Fluent

**Chinese:** High intermediate (HSK4)