Kilian Fatras

Post-doctoral researcher 2021

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Scholar
Website

Education

2021 **PhD candidate "Large scale Optimal Transport for Deep Learning"** - INRIA Rennes - Supervisors : Professor Nicolas Courty & Professor Rémi Flamary

2018 **Master of Science in Technological Innovation sp. data science** - UC Berkeley & Polytechnique

2018 **Master of Science in Applied Mathematics and Computer Science** - ENSTA Paris

2015 **Bachelor in Mathematics and Physics (Double Major)** - University of Western Brittany

Papers

2021 **POT: Python Optimal Transport**

Journal of Machine Learning Research Open Source Software

2021 **Unbalanced minibatch Optimal Transport; applications to Domain Adaptation** - *Kilian Fatras, Thibault Séjourné, Nicolas Courty, and Rémi Flamary*

Under review at a Conference

2021 **Minibatch optimal transport distances; analysis and applications** - *Kilian Fatras, Younes Zine, Szymon Majewski, Rémi Flamary, Rémi Gribonval and Nicolas Courty*

Under review in a Journal

2020 **Generating natural adversarial Remote Sensing Images** - *Jean-Christophe Burnel, Kilian Fatras, Rémi Flamary and Nicolas Courty*

Under review in a Journal

2020 **Learning with minibatch Wasserstein: asymptotic and gradient properties** - *Kilian Fatras, Younes Zine, Rémi Flamary, Rémi Gribonval and Nicolas Courty*

AISTATS 2020, Palermo, Italia

2020 **Wasserstein Adversarial Regularization (WAR) on label noise** - *Kilian Fatras, Bharath Damodaran, Sylvain Lobry, Rémi Flamary, Devis Tuia and Nicolas Courty*

Under review in a Journal

2019 **Proximal Splitting meets Variance Reduction** - *Fabian Pedregosa, Kilian Fatras and Mattia Casotto*

AISTATS 2019, Naha, Okinawa, Japan

Experiences

May 2018 **Research Assistant - University of British Columbia, Vancouver**

The purpose of this 6 month research internship was to work on optimization for optimal transport and on the generation of adversarial examples. I worked under the supervision of Professor Mark Schmidt.

Sept. 2017 **Research Assistant - University of California, Berkeley**

The purpose of this 8 month research project was to develop and to improve the analysis of sparse distributed variance reduction algorithms. I worked under the supervision of Fabian Pedregosa.

May 2017 **Research Assistant - University of Otago, New Zealand**

The purpose of this 4 month internship was to study and to model the 'Zitterbewegung' behavior of a Dirac field over a sphere. I also implemented a framework in Python.

Languages

French (Native), **English** (Fluent/ TOEIC 975/990), **Spanish** (Basics)

Associations

President of TApage - Communication student organization of ENSTA Paris

Role I was President of ENSTA Paris's communication student organization. I managed 11 communication projects with a 40.000-euro budget. My team was composed of 30 people.

Vice-President of FUPS - Music Festival of Paris-Saclay University

Role Co-founder and Vice-President of the student 'University Paris-Saclay music festival'. The festival had a 14.000-euro budget and had gathered 800 people. The FUPS won the 'EY prize' (6000 euros).