Pierre LAFORGUE
PhD in Machine Learning

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Research Experience

2020 - Present	**University of Milan**, Postdoctoral researcher (Sup. N. Cesa-Bianchi)
	RESEARCH TOPIC: Online convex optimization, combinatorial semibandits, multitask learning
	SUPERVISING: Co-supervising a PhD thesis on sketching OVK machines with F. d'Alché-Buc
	PUBLICATIONS: [1], Google Scholar, Github
2016 - 2020	**Télécom Paris**, PhD in Machine Learning (Sup. F. d'Alché-Buc, S. Clémençon)
	DISSERTATION: *Deep Kernel Representation Learning for Complex Data and Reliability Issues*
	PUBLICATIONS: [2, 3, 4, 5, 6, 7, 8]
Grants, awards	Recipient of a research grant by the industrial chair *Good in Tech* (2020)
	2nd Best Thesis of IP Paris's computer science department (2021)

Other Professional Experience

2016 - 2019	**Scientific advisor on Data Science projects at Télécom Paris**
	- Energy saving in a silicon furnace (Bearing Point & Ferroglobe 2019)
	- Multi-dimensional time series visualization (Safran 2018)
	- Predictive maintenance on helicopters (Safran 2017)
2016 - 2019	**Teaching assistant at Télécom Paris** (64 hrs / yr)
	- Theoretical classes: Statistics, Linear Models, Advanced Statistical Learning
	- Practical sessions and computer classes: Applied Machine Learning, Data Mining
2015	**Statistical assistant at Assistance Publique des Hôpitaux de Paris** (5 months)
	- Birth evolution forecasting in Île-de-France (Paris region)
	- Optimization of the obstetrical care services in the region

Education

2015 - 2016	**ENS Cachan, Université Paris Dauphine**, master's degree MASH
	Theoretical machine learning courses (joint with MVA's: statistical learning theory, kernel methods, convex optimization, graphical models) and applied ones (data marketing, privacy and fairness)
2013 - 2016	**ENSAE Paris**, master's degree in Statistical Learning
	French engineering school (grande école) specialized in statistics and applied mathematics
2010 - 2013	**Lycée Henri IV (Paris)**, preparatory classes MPSI/MP
	Undergraduate courses in mathematics and physics to prepare nationwide competitive exams

Skills & Languages

Research interests :	Learning Theory, Online Convex Optimization, Robust Learning, Kernel Methods
Computer skills :	Python (numpy, pytorch, pandas, scikit-learn), Latex, R
Languages :	French (native), English (fluent), Spanish (basics)

Publications

[1] **Multitask Online Mirror Descent** (Preprint 2021).
N. Cesa-Bianchi, P. Laforgue, A. Paudice, M. Pontil.

[2] **Statistical Learning from Biased Training Samples** (Preprint 2021).
S. Clémençon, P. Laforgue.

[3] **Concentration Bounds in the Presence of Outliers: a Median-of-Means Study** (ICML 2021).
P. Laforgue, G. Staerman, S. Clémençon.

[4] **When OT meets MoM: Robust estimation of Wasserstein Distance** (AISTATS 2021).
G. Staerman, P. Laforgue, P. Mozharovskyi, F. d'Alché-Buc.

[5] **Deep Kernel Representation Learning and Reliability Issues** (PhD Manuscript).
P. Laforgue.

[6] **Duality in RKHSs with Infinite Dimensional Outputs: Application to Robust Losses** (ICML 2020).
P. Laforgue, A. Lambert, L. Brogat-Motte, F. d'Alché-Buc.

[7] **On Medians-of-(Randomized)-Pairwise Means** (ICML 2019).
P. Laforgue, S. Clémençon, P. Bertail.

[8] **Autoencoding any Data through Kernel Autoencoders** (AISTATS 2019).
P. Laforgue, S. Clémençon, F. d'Alché-Buc.

Research Activities

Reviewing for : NeurIPS, ICML, COLT, ICLR, ALT, JMLR, Machine Learning Journal (Springer)

Teaching for : Teaching assistant for RLVS 2021 (Online), participant to MLSS 2019 (South Africa)

Talking for : ELLIS 2021, Datacraft 2020, Le Palaisien 2020, Tōdai 2019, CAp 2019, JDS 2018, ENBIS 2018

Miscellaneous

Young talent : Selected as a *Young Talent in Big Data* for the France-Netherlands *Erasmus Conference* (2017)

Applications : Contributed to *Affluences* (queuing time forecasting), and *Pollux Vote* (political matching)

Associations : President of the ENSAE student *journal* (2014-2015)