Naoufal Acharki

3RD YEAR PHD STUDENT IN STATISTICS & MACHINE LEARNING
Born in 02 November 1996 · 24 years old · Moroccan

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PROFESSIONAL ACTIVITIES AND INTERNSHIPS

Oct 2019 – present	**Ph.D. Candidate** – Industrial PhD (CIFRE Contract)	TOTALENERGIES S.E.

In the CSE, AI and Data Science Program in the R&D division : working on a research subproject whose objective is to develop a data-driven approach, coupling causality with machine learning, with a focus on uncertainty quantification.

Mar – Sep 2019	**Research intern**	TOTAL S.A.

« Statistical learning and sensitivity analysis (Master's thesis) » – Supervisors: Prof. Josselin Garnier, Dr. Antoine Bertoncello.

EDUCATION

2019 – present	**Ph.D.** in Applied Mathematics	CMAP, ÉCOLE POLYTECHNIQUE

Title of Ph.D. : « Statistical learning and causal inference for gas and oil analysis and forecasting » – Supervisors: Prof. Josselin Garnier, Dr. Antoine Bertoncello.

2018 – 2019	**M.Sc.** in Applied Mathematics	PARIS 1 PANTHÉON-SORBONNE UNIVERSITY

Mathematical Models and Methods of Economics and Finance - MMMEF.

2016 – 2019	**Graduate Engineering degree**	ÉCOLE NATIONALE SUPÉRIEURE DES MINES DE SAINT-ETIENNE

Major in Data Science; Minor in Operations research and High Performance Computing.

2016 – 2017	**B.S.** in Mathematics	UNIVERSITY JEAN-MONNET SAINT-ETIENNE

Main areas of study: Measure and Integration, topology, statistical inference, probability and PDE.

2014 – 2016	**Preparatory classes**	LYCÉE MOULAY AL HASSAN, TANGIER

Two-year undergraduate intensive courses in mathematics and physics for nationwide competitive examination.

SUMMER AND WINTER SCHOOLS

Oct 2021	**Machine Learning Summer School MLSS 2021**, *National Taiwan University*, Taipei, Taiwan.
Jul 2021	**Hi! PARIS Summer School 2021 on AI & Data for Science, Business and Society**, *Institut Polytechnique de Paris and HEC*, Palaiseau, France.
Sep 2020	**Gaussian Process and Uncertainty Quantification Summer School**, *The University of Sheffield*, Sheffield, UK.
Jan 2020	**Data Science, Optimization and Operations Research Winter School**, *École Polytechnique Fédérale de Lausanne EPFL*, Zinal, Switzerland.

PUBLICATIONS

CONFERENCE AND JOURNAL PUBLICATIONS

1. Acharki, N. Bertoncello, A. and Garnier, J. (2021). "Robust Prediction Interval estimation for Gaussian Processes by Cross-Validation method". submitted to *Computational Statistics and Data Analysis*. Available at arXiv: 2106.05396.

On-going work

1. Acharki, N. Bertoncello, A. and Garnier, J. (2021). "Machine Learning for causal inference: Estimating Heterogeneous Treatment Effects under multiple treatments regime"

Oral and poster communications

	Young Statisticians and Probabilists 2021 (talk), *Société de Mathématiques Appliquées et Industrielles.* Saint Pierre d'Oléron, France.
Oct 2021	
Oct 2021	**MATHIAS Days 2021 (poster)**, *TotalEnergies R&D*, Serris, France.
Sep 2021	**European Network for Business and Industrial Statistics ENBIS 2021 (talk)**, Virtual.
	Machine Learning Summer School MLSS 2021 (poster), *National Taiwan University*, Taipei, Taiwan.
Aug 2021	
	Recent advances in machine learning and uncertainty workshop (talk), *Centre International de Rencontres Mathématiques*, Marseille, France.
Jun 2021	
Oct 2020	**Causal Inference workshop, (talk)**, *Total R&D*, Palaiseau, France.
	European Network for Business and Industrial Statistics ENBIS 2020 (invited talk, cancelled due to COVID-19), *Universitat Politècnica de València*, Valencia, Spain.
Sep 2020	
Sep 2020	**CSE, AI and ML workshop (talk)**, *Total R&D*, Palaiseau, France.
Oct 2019	**MATHIAS Days 2019 (talk)**, *Total R&D*, Serris, France.
Oct 2018	**MATHIAS Days 2018 (talk)**, *Total R&D*, Serris, France.

honors and scholarships

2020 – 2022	**Study abroad scholarship**, *Moroccan Ministry of Higher Education and Scientific Research.*
2016 – 2019	**Merit scholarship**, *Moroccan Ministry of Higher Education and Scientific Research.*
Jun 2014	**Baccalauréat with major in maths**, ranked 2nd in the city of Ksar El Kebir, Morocco.
Jul 2013	**Regional Competition in Sciences and Technology**, ranked 5th in the competition of maths.

Languages and programming skills

Arabic	Native		R	Advanced
French	Bilingual		Python	Proficient
English	Proficient		Matlab	Intermediate
Spanish	Elementary (CECRL A2/B1)		VBA, C++	Elementary

Miscellanous

I participated and have been declared Winner of the IMT-Total data science challenge in February 2018, and I have been also part of the organization committee of the AirLiquide/TotalEnergies data challenge.

References

Prof. Josselin Garnier   josselin.garnier@polytechnique.edu
Dr. Antoine Bertoncello   antoine.bertoncello@totalenergies.com
Prof. Olivier Roustant   roustant@insa-toulouse.fr
Dr. Rodolphe Leriche   leriche@mines-stetienne.fr;