THIZIRI NAIT SAADA

Nationality: French, Gender: Female
Language: English, French
thiziri.naitsaada@maths.ox.ac.uk
https://thizirinait.github.io

Education

Mathematical Institute, University of Oxford, UK. — Oct. 2021 - Apr. 2025
Doctor of Philosophy - PhD in Applied Mathematics (Data Science research group) under the supervision of Prof. Jared Tanner.

École Normale Supérieure (ENS) Paris-Saclay, France. — Sept. 2020 - Oct. 2021
MVA Mathématiques, Vision, Apprentissage - English-language curriculum
Master by Research with major in Applied Mathematics (Convex Optimisation, Computational Optimal Transport, Statistical Learning, Probabilistic Graphical Models, Numerical Images, Deep Learning, Computational Statistics, Graphs in Machine Learning, Kernel Methods, Sequential Learning, Représentations Parcimonieuses, Random Matrix Theory, Introduction to Medical Image Analysis.)

Telecom Paris, Paris, France. — Sept. 2018 - Sept. 2021
French engineering « Grande École » - English-language curriculum
Top ranked French Engineering school in Computer Science and Applied Mathematics
Master's degree with major in Statistics and Data Science.

Lycée Henri-IV and Saint-Louis, Paris, France. — Sept. 2016 - June 2018
Scientific Preparatory Classes
Undergraduate intensive courses in Advanced Mathematics, Physics and Engineering Sciences, preparing for admission to French Engineering Grandes Écoles.

Research experience

Optimal Transport applied to Gaussian mixtures, Paris Descartes, France. — Apr. 2021 - Sept. 2021
Research internship supervised by Julie Delon, research professor in MAP5 Lab at Université Paris Descartes, Paris.
Introduced a new Wasserstein distance, whose transport plan is restricted to gaussian mixtures. Reviewed some convergence properties satisfied by this distance and applied it to standard Machine Learning methods.

Machine Learning for inference on biomolecules, INRIA, France. — Sept. 2019 - 2020
Research project supervised by F. Cazals, research director at INIRIA, Sophia-Antipolis. Used Machine Learning techniques to study the tryptic structure-dynamics-function of biomolecules.
Performed a careful bibliographical study of four interdisciplinary complementary papers at the intersection of Machine Learning and Computational Biology.

Professional experience

College Lecturer in Probability and Statistics, Hertford College, University of Oxford, UK. — Since Oct. 2022
Tutoring 2nd year undergraduate students, marking their problem sheets and presenting solutions.

Tutor in Theories of Deep Learning, Mathematical Institute, University of Oxford, UK. — Since Oct. 2022
Tutoring 4th year undergraduate students and presenting solutions to their problem sheets, including proofs and implementation in Python (TensorFlow, PyTorch, SmartGit).

Teaching Assistant in Optimisation, Mathematical Institute, University of Oxford, UK. — Since Jan. 2022
Tutoring 3rd year undergraduate students and marking their problem sheets of the Optimisation for Data Science course (B6.2, Hilary term).

Mathematics Teaching Assistant and Oral Assessor, Lycée Chaptal, Paris, France. — Sept. 2018 - 2021
Taught Advanced Mathematics (Analysis, Linear Algebra and Probability) to students in the Physics section of the Preparatory Classes for 2 hours a week. Provided a weekly guidance to students preparing for oral entrance exams (by group of 3 students).

Publicatons

Nait Saada, T., Tanner, J. (2023). On the Initialisation of Wide Low-Rank Neural Networks, an Edge of Chaos perspective. Under review at ICML23.

Grants

EPSRC Studentship (2021).
RATP 'Trajets d'avenir' Scholarship (2020) awarded based on social and academic merit.
'Ingénieuses 2021' Scholarship (2020), selected from a nationwide pool of female scientific candidates.