Oussama ZEKRI

M2 MVA Student
"Normalien" Student Researcher
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EXPERIENCE

- **System Optimization Laboratory, University of Kyoto** — *Apr 2023 - Jul 2023*
  Research Intern — Kyoto, Japan
  – Subject : Convergence analysis under consistent error bounds.
  – New contributions to convex optimization. A journal paper is currently being published.
  – Supervisors : Dr. Ellen Hidemi Fukuda & Dr. Bruno Figueira Lourenço.

- **Centre Borelli, ENS Paris-Saclay** — *Mar 2022 - Jul 2022*
  Research Intern — Gif-sur-Yvette, France
  – Subject : Similarity measures between time series inspired by optimal transport.
  – Creation of tools for identification of spatio-temporal similarities, trained on real data from rehabilitation patients.
  – Supervisors : Dr Laurent Oudre (Centre Borelli) & Thibaut Germain.

EDUCATION

- **ENS Paris-Saclay, Gif-sur-Yvette** — *Sep 2023 - Present*
  Master's Degree, M2 MVA, Mathematics and Applications
  – Courses in Europe's leading MsC in ML, taught by top-level researchers.
  – Relevant coursework : Statistical learning, Optimal Transport, Convex optimization, Distributed and Large-Scale Computing Optimization, Kernel Methods, Deep Learning in Practice...

- **Ecole Polytechnique, ENS & Univ. Paris-Saclay, Palaiseau** — *Sep 2021 - Aug 2023*
  Master's Degree, Pure & Applied Mathematics.
  – Mathematics courses of a very high standard, which enabled me to acquire solid skills.
  – Courses are given in collaboration with Université Paris-Saclay and Ecole Polytechnique.
  – Relevant coursework : Functional Analysis, Optimization and Numerical Optimization, Advanced Probabilities, Statistics, Learning and Stochastic Simulation...

- **CPGE Lycée Thiers, Marseille** — *Sep 2018 - Aug 2021*
  Bachelor of Science, Mathematics & Physics, PCSI-PSI*
  – Advanced undergraduate courses leading to entrance exams for France's leading Scientific and Engineering schools.

TEACHING AND JURY ACTIVITIES

- **HEC Paris** — *2024*
  Jury member in Mathematics — Jouy-en-Josas, France
  – Member of the jury for the mathematics entrance examination to France's most selective business school.
  – Written and oral examination of candidates.

- **Lycée Louis-Le-Grand, Lycée Turgot** — *Sep 2022 - Present*
  Teaching Assitant & Oral Examiner in Mathematics — Paris, France
  – Courses and oral examinations "Khôlles" given to students in French "Classes Prépas".
  – Institutions frequented : Lycée Louis-Le-Grand PC*1 & Lycée Turgot PCSI.

PROJECTS

- **Optimal Transport :** JAX implementation and development of new ideas on the paper *Learning costs from structured Monge Displacements, M. Klein et al.*, advised by Prof. Gabriel Peyré.
- **PET Metabolic Imaging :** Working in pairs with the nuclear medicine physicians Arnaud Berenbaum and Florent Besson. Fine-tuning the very recent SSM model *U-Mamba*, for PET automatic segmentation.
- **Convolutional Kernel Netwwork :** From-scratch implementation, in Python and CUDA, of the CKN architecture introduced by Dr. Julien Mairal in *End-to-End Kernel Learning with Supervised Convolutional Kernel Networks, J. Mairal.*

AWARDS & GRANTS

- **Grant and title :** 4-year grant ($\sim$ 63k €), as a reward for my admission to the ENS and obtaining the grade of trainee civil servant.
- **Academic achievement :** Ranked in the top 200 out of more than 8,000 candidates for the ENS entrance exam (top 2.5%).

SKILLS & LANGUAGE

- **Code :** Proficient in Python, Latex, SQL...
- **Languages :** French (native), English (Cambridge CAE C1 certificate), Spanish (intermediate), Japanese (basics).