Elyas BENYAMINA

94220 Charenton-Le-Pont \cdot +33(0)7.58.02.39.67 \cdot elyas.benyamina@ens-paris-saclay.fr

ED	UCA	TION
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2023-2024 ECOLE NORMALE SUPÉRIEURE PARIS-SACLAY (PART OF UNIVERSITÉ PARIS-SACLAY) Saclay, France Master 2 MVA (Mathematics, Vision, Learning) Award: Laureate of Sophie Germain excellence scholarship given by the Foundation Jacques Hadamard Université Paris Cité (ex Paris Diderot & Descartes) 2022-2023 Paris, France Master 1 in Mathematics (Mathematics, Modeling & Machine Learning) - Rank: 1st & Admitted to Cambridge Relevant coursework: Advanced Probabilities, Functional Analysis, Stats, Fourier Analysis, Markov Chains, Optimization, Variational Methods and PDEs, Time Series, Image Processing, Distributions & Sampling 2020-2024 ECOLE CENTRALE DE NANTES - TOP FRENCH GRANDE ECOLE ENGINEERING SCHOOL Nantes, France Bachelor & Master of Science (BSc & MSc) in General Engineering (Data Science Track) - GPA: 3,83/4 Relevant coursework: Bayesian Stats, Hilbertian Analysis, Advanced Statistical Learning, Computer Science, R LYCÉE SAINT-LOUIS / CLASSE PRÉPARATOIRE (MPSI-MP* WITH COMPUTER SCIENCE) 2016-2019 Paris, France

WORK EXPERIENCE

Sep 22-Apr 24 MINISTRY OF HIGHER EDUCATION AND RESEARCH (20 months) Teaching Assistant (Oral Examiner in Mathematics)

Paris, France

• Weekly examination and coaching of undergraduate PCSI and TSI students enrolled in "Classe Préparatoire"

Advanced undergraduate coursework leading to the examination for entry to French Engineering Schools

Jul 23-Sep 23 *(3 months)*

ECOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE - ADAPTIVE SYSTEMS LAB Lausanne, Switzerland Research Intern (E3 - Excellence in Engineering Program)

- Worked on learning over graph and social learning problems
- Implemented deep learning based model to approach optimal predictions in hidden state estimation problem

May 22-Aug 22 (4 months)

King's College London & University of Oxford

London, England

(4 months) Research Intern

- Worked on finite-time liquidation strategy and market-making mathematical models
- Implemented deep learning algorithms to find optimal strategies using Python and PyTorch
- Visited the Oxford-Man Institute

Jul 21-Mar 23 *(20 months)*

MERCK LIFE SCIENCE Data Scientist Intern & Apprentice

Paris, France

- Collected, structured, and pre-processed more than 8 million raw measurement data collected from 200,000+ Milli-Q professional water purifiers (laboratories, hospitals)
- Implemented predictive maintenance algorithms to determine the condition of components in real-time

PROJECTS

- Meshroom (3D Reconstruction Software) Contributor: Fixed UI bugs and worked on camera tracking and SfM improvements in dynamic scenes with a focus on accurate feature matching
- Molecule Retrieval with Natural Language Queries (Deep Learning and NLP): Worked on contrastive learning to map text and linked molecule graphs together
- Automatic Video Segmentation: Implemented a fully automatized framework generalizing SAM-PT method, focusing on trajectories classification and using CoTracker
- Applications of Dynamic Time Warping: Application of Dynamic Time Warping and variants to speech recognition and EEG classification
- ENS / Qube Research & Technologies: Participated in the 2021 & 2024 data challenges

LANGUAGE & IT SKILLS

- Languages: French (native), English (fluent), Spanish (intermediate), Arabic (notions)
- IT: Proficient in Python, SQL, Office and LaTeX Notions in R, C++, Matlab, web development skills
- Statistics & Data Science: Data Management (Numpy, Pandas, Seaborn), Machine Learning (sklearn, PyTorch)

ACTIVITIES & INTERESTS

- IT, created a website for a maths teacher during high school (4,000+ monthly visitors) & was the IT Advisor
 of a doctor during the creation of a medical cabinet in gynecology
- Volunteering, gave 800+ hours of mathematics lessons to high school and bachelor students, created an online platform (10,000+ members, 800+ speakers), which enables students to learn about Grandes Ecoles
- Member of the Renovo association from 2016 to 2021, gave maths and physics courses (500+ hours) to 100+ students from disadvantaged backgrounds in difficulty or wishing to improve their skills for a preparatory class
- Judo (8 years of practice, brown belt), participated in regional tournaments