

Émile Esmaili

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EDUCATION

Columbia University

M.A. in Applied Statistics & Data Science (QMSS)

New York, NY

Dec 2023

Sorbonne Université

BSc. in Mathematics courses

Paris, France

Jun 2023

PSL Research University (Paris-Dauphine)

MSc. in Financial Engineering - BSc. in Economics

Paris, France

Sept 2020

RESEARCH EXPERIENCE

Columbia University & NASA Goddard Institute for Space Studies

Research Intern

New York, NY

Sep 2022 – Jan 2023

- Graduate research assistant at NASA GISS and Columbia University's Department of Earth and Environmental Engineering, jointly supervised by Prof. Upmanu Lall and Dr. Michael Puma.
- Topic: Using hierarchical Bayesian models to explore the driving factors of global migration and develop improved probabilistic projections of bilateral migration flows

WORK EXPERIENCE

Ekimetrics

Data Scientist

Paris, France

Sep 2021 – Apr 2022

- Developed a web-app prototype for a world-leading investment bank that incorporates clustering, web-scraping and NLP to analyze private firms (tech stack: Python, Git, Streamlit)
- Used pre-trained NLP models (transformers, embeddings, NER) for sentiment analysis of company news

Natixis Global Markets Research

Quantitative FX Research Intern

Paris, France

Sep 2020 – Apr 2021

- Researched portfolio optimization with cryptocurrencies using constrained optimization and machine learning
- Implemented statistical arbitrage on yield curves

TEACHING EXPERIENCE

Columbia University

Teaching Assistant - Projects in Advanced Machine Learning (GR5074)

New York, NY

Jan 2023 – May 2023

- Held weekly recitations and office hours covering the basics of applied deep learning and graded homeworks

SKILLS

Programming: Python, MATLAB, R

Frameworks: PyTorch, Keras, Scikit-learn, CVX, PyMC, Git

Natural Languages: French (Native), Farsi (Native), English (Professional), German (Elementary)

RELEVANT COURSEWORK

Analysis: Topology, Series, Lebesgue Integration

Algebra: Linear Algebra, Bilinear Algebra, Abstract Algebra

Applied Mathematics: Convex Optimization, Differential Equations

Other: Number Theory, Graph Theory & Combinatorics

Machine/Deep Learning: Deep Learning for Computer Vision, Machine Learning, Reinforcement Learning

Probability & Statistics: Probability Theory, Statistics, Econometrics