Émile Esmaili

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Education

Columbia University — New York, NY
M.A. in Applied Statistics & Data Science (QMSS) – GPA: 4.08/4.0 — *Dec 2023*

Sorbonne Université (Pierre et Marie Curie - Paris VI) — Paris, France
BSc. in Mathematics — *June 2024*

PSL Research University (Paris-Dauphine) — Paris, France
MSc. in Financial Engineering - BSc. in Economics — *Sept 2020*

Research Experience

Columbia University & NASA Goddard Institute for Space Studies — New York, NY
Research Intern — *Fall 2022 & Summer 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 and Hidden Markov Models to explore the driving factors of global migration and develop improved probabilistic projections of bilateral migration flows

Work Experience

Memorial Sloan Kettering Cancer Center & Columbia University — New York, NY
Practicum Data Scientist (Capstone Project) — *Jan 2023 – May 2023*

- Researched drivers of lower grade brain glioma using machine learning and survival models
- Worked on an image segmentation model for IHC staining based on MSK's proprietary DeepLIIF model

Ekimetrics — Paris, France
Data Scientist — *Sep 2021 – May 2022*

- Developed a web-app prototype from scratch that incorporates natural language processing (NLP) tools to detect investment opportunities

Teaching Experience

Columbia University — New York, NY
Teaching Assistant - Projects in Advanced Machine Learning (GR5074) — *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, Functional Analysis, Complex Analysis, Measure Theory

Algebra: Linear Algebra, Bilinear Algebra, Abstract Algebra

Applied Mathematics: Convex Optimization, Differential Equations, Numerical Analysis

Other: Number Theory, Graph Theory & Combinatorics

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

Probability & Statistics: Probability Theory, Statistics, Econometrics, Stochastic Calculus