

Émile Esmaili

☎ +1 415 740 9561 | ✉ ede2110@columbia.edu | 🔗 LinkedIn | 🐙 GitHub | 🌐 Website | 📍 New York, NY

EDUCATION

Columbia University <i>M.A. in Applied Statistics & Data Science (QMSS) – GPA: 4.07/4.0</i>	New York, NY <i>Dec 2023</i>
Sorbonne Université (Pierre et Marie Curie - Paris VI) <i>BSc. in Mathematics</i>	Paris, France <i>June 2024</i>
PSL Research University (Paris-Dauphine) <i>MSc. in Financial Engineering - BSc. in Economics</i>	Paris, France <i>Sept 2020</i>

RESEARCH EXPERIENCE

Columbia University & NASA Goddard Institute for Space Studies <i>Research Intern</i>	New York, NY <i>Fall 2022 - Present</i>
<ul style="list-style-type: none">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	
Memorial Sloan Kettering Cancer Center & Columbia University <i>Practicum Data Scientist (Capstone Project)</i>	New York, NY <i>Jan 2023 – May 2023</i>
<ul style="list-style-type: none">Researched drivers of lower grade brain glioma using machine learning and survival modelsWorked on an image segmentation model for IHC staining based on MSK's proprietary DeepLIIF model	

CONFERENCE PAPERS

- **Modeling Human Migration with Non-Homogeneous Hidden Markov Models: an Application to Inter-state Mobility in the United States**, Emile Esmaili, Upmanu Lall, Michael J.Puma, Aric Cutuli, Rachata Muneepeerakul. AGU Fall Meeting 2023
- **A Bayesian Hierarchical Framework for Modeling Migration Flows**, Aric Cutuli, Upmanu Lall, Michael J. Puma, Emile Esmaili, Rachata Muneepeerakul. AGU Fall Meeting 2023

TEACHING EXPERIENCE

Columbia University <i>Teaching Assistant - Machine Learning for the Social Sciences (GR5073)</i>	New York, NY <i>Sep 2023 – Dec 2023</i>
<ul style="list-style-type: none">Held weekly recitations and office hours covering the basics of machine learning and graded homeworks	
Columbia University <i>Teaching Assistant - Projects in Advanced Machine Learning (GR5074)</i>	New York, NY <i>Jan 2023 – May 2023</i>
<ul style="list-style-type: none">Held weekly recitations and office hours covering the basics of applied deep learning and graded homeworks	

WORK EXPERIENCE

Ekimetrics <i>Data Scientist</i>	Paris, France <i>Sep 2021 – May 2022</i>
<ul style="list-style-type: none">Developed a web-app prototype from scratch that incorporates natural language processing (NLP) tools to detect investment opportunities	

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 & Bilinear Algebra, Abstract Algebra

Applied Mathematics: Convex Optimization, Differential Equations, Numerical Analysis

Other: Number Theory, Graph Theory & Combinatorics; Axiomatic Set Theory

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

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