Aric Cuteli

School of Engineering and Applied Sciences · Columbia University
aric.j.cutuli@columbia.edu · ajcutuli.github.io

Education

Columbia University — *New York, NY*
M.S. Financial Engineering — *Sep 2022 – Dec 2023*
GPA: 3.7/4.0

University of California, Los Angeles — *Los Angeles, CA*
B.S. Mathematics/Economics, Specialization in Computing — *Sep 2019 – Jun 2022*
GPA: 3.9/4.0

Research Experience

Columbia University — *New York, NY*
Research Assistant, *Center for Climate Systems Research @ NASA GISS* — *Feb 2023 – Present*
Supervisors: Upmanu Lall, Michael J. Puma

- Bayesian hierarchical regression and machine learning to develop improved models of human migration flows

AbleMarkets — *Remote*
Research Assistant — *Dec 2021 – Mar 2022*

- Collated literature for an internal whitepaper surveying the microstructure of decentralized exchanges

Professional Experience

Citigroup — *New York, NY*
Quantitative Summer Analyst, *Equities Central Risk* — *Jun 2023 – Aug 2023*

- Development and uncertainty quantification of systematic order filtering strategies

Quantitative Summer Analyst, *AI Innovation Lab* — *Jun 2022 – Aug 2022*

- Language model fine-tuning for news data classification

Consulting Startup — *Remote*
Quantitative Developer — *Dec 2021 – May 2022*

- Created derivative pricing and risk management tools for trading bots

Edelman Financial Engines — *Santa Clara, CA*
Data Analyst Intern, *Fiduciary Quality Assurance* — *Jun 2021 – Aug 2021*

- Identification of fiduciary performance issues through statistical testing

Publications

In Prep

A Bayesian Hierarchical Framework for Modeling Migration Flows. **Aric Cutuli**, Upmanu Lall, Michael J. Puma, Emile Esmaili, Rachata Muneepeerakul. 2023.

Modeling Migration Flows with Non-Homogeneous Hidden Markov Models. Emile Esmaili, Upmanu Lall, Michael J. Puma, **Aric Cutuli**, Rachata Muneepeerakul. 2023.

Technical Reports

Separation Capacity of Randomly Initialized DNNs. **Aric Cutuli**, Harold Haodong Miao, Weitao Zhu. EECS 6699: Mathematics of Deep Learning. 2023.

Invited Talks

** presenting contributor*

Aric Cuturi*, Upmanu Lall*, Michael J. Puma, Emile Esmaili, Rachata Muneepeerakul. August 2023. A Bayesian Hierarchical Framework for Modeling Migration Flows. MURI Migration 2023 Annual Evaluation, Virtual.

Aric Cuturi*, Xia Li. January 2022. Hawkes Processes in Finance. Directed Reading Program Student Colloquium, University of California, Los Angeles.

Teaching Experience

Teaching Assistant

- IEOR 4733 - Algorithmic Trading, *Spring 2023*

Awards, Fellowships, & Grants

University Grant, *University of California, Los Angeles*	*$ 45,000*
Legacy Scholar, *Elks National Foundation*	*$ 4,000*
IAHF Scholar, *Italian American Heritage Foundation*	*$ 1,000*
Most Valuable Student Scholar, *CA-Hawaii Elks Association*	*$ 200*

Affiliations

UCLA Directed Reading Program, *Reading Group Lead*
UCLA Bruin Capital Management, *Co-founder of quant division*

Coursework

** in progress*

Doctorate — Reinforcement Learning in Continuous Time*, Bayesian Models in Machine Learning*, Computational Stochastic Modeling*, Mathematics of Deep Learning

Graduate — Reinforcement Learning*, Time Series, Statistical Inference, Optimization, Sampling & Monte Carlo Simulations, Stochastic Calculus, Stochastic Processes, Object-oriented Programming, Trading Systems

Undergraduate — Linear Algebra, Algorithms, Econometrics, Real Analysis, Numerical Analysis

Skills

Programming Languages — Python, C++, q/kdb+, SQL, Java, Go

Technical Libraries — NumPyro, Pyro, JAX, PyTorch, TensorFlow, scikit-learn, statsmodels