

Aric Cutuli

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Education

Columbia University	New York, NY
M.S. Financial Engineering	Sep 2022 – Dec 2023
University of California, Los Angeles	Los Angeles, CA
B.S. Mathematics/Economics, Specialization in Computing	Sep 2019 – Jun 2022

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	
<ul style="list-style-type: none">Bayesian hierarchical regression and machine learning to develop improved models of human migration flows	
AbleMarkets	Remote
Research Assistant	Dec 2021 – Mar 2022
<ul style="list-style-type: none">Developed internal whitepaper surveying the microstructure of decentralized exchanges	

Professional Experience

Citigroup	New York, NY
Quantitative Summer Analyst , Equities Central Risk	Jun 2023 – Aug 2023
<ul style="list-style-type: none">Systematic order filtering using sentiment	
Quantitative Summer Analyst , AI Innovation Lab	Jun 2022 – Aug 2022
<ul style="list-style-type: none">Language model fine-tuning for news data classification	
Consulting Startup	Remote
Quantitative Developer	Dec 2021 – May 2022
<ul style="list-style-type: none">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
<ul style="list-style-type: none">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 Muneeppeerakul. 2023.

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

Technical Reports

Separation Capacity of Randomly Initialized DNNs. **Aric Cutuli**, Harold Haodong Miao, Weitao Zhu. 2023.

Invited Talks

** presenting contributor*

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

Aric Cutuli*, Xia Li. 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, <i>University of California, Los Angeles</i>	\$ 45,000
Legacy Scholar, <i>Elks National Foundation</i>	\$ 4,000
IAHF Scholar, <i>Italian American Heritage Foundation</i>	\$ 1,000
Most Valuable Student Scholar, <i>CA-Hawaii Elks Association</i>	\$ 200

Professional Memberships

QWAFAXNEW
American Geophysical Union

Affiliations

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

Coursework

Doctorate — Bayesian Models in Machine Learning, Computational Stochastic Modeling, Mathematics of Deep Learning

Graduate — Reinforcement Learning, Data-driven Decision Modeling, 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