JIMIN LIN

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EDUCATION

Ph.D. in Statistics and Applied Probability, *Chancellor's Fellowship* — Expected 2023
University of California, Santa Barbara — Santa Barbra, CA
Advisor: Jean-Pierre Fouque, Nils Detering
Award: Bloomberg Quantitative Finance Ph.D. Fellowship 2022-2023
Visiting: SDSC 2022 (UCSD), IMSI 2021 (Uchicago, NSF Grant)

M.S. in Computational Finance and Risk Management — Dec 2018
University of Washington — Seattle, WA

B.S. in Finance, *magna cum laude* — June 2017
Southwestern University of Finance and Economics — Chengdu, China
Visiting: Erasmus 2017 (ULiège, Exchange Student Fellowship)

PUBLICATION

Reinforcement Learning for Intra-and-Inter-Bank Borrowing and Lending Mean Field Control Game,
ICAIF'22 Best Paper Award, with A. Angiuli, N. Detering, J.-P. Fouque, and M. Laurière — 2022
· Proposed a MFCG model for the intra-and-inter-bank borrowing and lending problem.
· Studied the impact of the three-timescale, action exploration heuristics, and the convergence of RL algorithm.

Reinforcement Learning Algorithm for Mixed Mean Field Control Games, *on arXiv*, — 2022
with A. Angiuli, N. Detering, J.-P. Fouque, and M. Laurière
· Raised a new model for competitions between large number of large groups with coordinated players.
· Designed an unified three-timescale Q-learning algorithm to solve MFG, MFC, and MFCG problems.

Percolation in Random Graphs of Unbounded Rank, *on arXiv*, with N. Detering — 2022
· Derived percolation in random graphs with functional fixed point method and differential equations.
· Designed both Monte Carlo method and neural network approach to simulate and solve the percolation.

On Carr and Lee's Correlation Immunization Strategy, *Applied Mathematical Finance*, with M. Lorig 2019
· Built a robust model to price and hedge derivatives written on the quadratic variation of a risky asset.
· Affirmed model effectiveness with Monte Carlo experiment on the Heston model.

The Quadrant Probabilities of Paired Financial Time Series, on SSRN — Spring 2018
· Evaluated inter-asset co-movements and conducted empirical studies with numerical simulations.

PROFESSION

Quantitative Researcher - CTO Office — June 2021 - Present
Bloomberg. *Mentor: Bruno Dupire* — New York, NY
· Researched on calibration methods for stochastic local volatility and approximation for correlation matrix.
· Developed TensorFlow neural network structure for solving partial differential equations to price derivatives.
· Cooperated in a Jupyter-IPyWidgets-based market data visualization project and develop interactive templates.
· Investigated visualization libraries, such as plotly and bokeh, and contrasted them with bqplot.

Teaching Assistant — Jan 2020 - Present
University of California, Santa Barbara — Santa Barbara, CA
· Mentored undergraduate student research projects in mean field game and path-dependent volatility model.

· Taught undergraduate and graduate level courses on Probability and Statistics, Statistic Modeling, Time Series Analysis, Stochastic Process, Machine Learning, SAS Programming, etc.

Quantitative Researcher Apr 2019 - Aug 2019
Hony Capital Hong Kong, China
· Launched a real-time evaluation system to backtest performances of 3,272 security analysts on Asian market.
· Synchronized the system with the backend SQL database of the company's mobile application for investors.
· Backtested and evaluated 10+ analyst-driven trading strategies with a hedge fund manager.

Quantitative Analyst June 2018 - Mar 2019
Kavout Corporation Seattle, WA
· Established a Python package for financial data processing, asset management, and portfolio backtesting.
· Studied 40+ investment strategies by backtesting and paper trading on the interactive broker platform.
· Productized three portfolio strategies, designed and distributed one-pagers with a marketing manager.

Quantitative Analyst Intern July 2017 - Aug 2017
Bopu Asset Management Shanghai, China
· Reproduced and verified two option arbitrage strategies from external financial engineering reports.
· Optimized a commodity trading strategy with quadratic programming for a fund manager.

Investment Analyst Intern July 2016 - Aug 2016
Lingqing Investment Management Shanghai, China
· Analyzed three industries on the quantitative fund, blockchain, and big data with competitive force model.
· Performed data visualization on target companies' financial reports to facilitate investment decisions.

Household Finance Investigator Sept 2014 - Sept 2015
Survey and Research Center for China Household Finance Chengdu, China
· Cooperated in a team of eleven to survey 216 sampled college students for 150+ types of financial statistics.
· Led a team of seven to travel interstate to interview 248 families for 300+ household financial statistics.

PRESENTATION

SIAM FM23. June 2023. Philadelphia, PA.
ICAIF Conference. Nov 2022. New York, NY.
INFORMS Annual Meeting. Oct 2022. Indianapolis, IN.
CFMAR Workshop. Sept 2022. University of California. Santa Barbara, CA.
IMSI Workshop Flash Talk. Dec 2021. University of Chicago. Chicago, IL.
CFMAR Seminar. Nov 2020. University of California. Santa Barbara, CA.

TEACHING

University of California, Santa Barbara (as Teaching Assistant/Reader)

PSTAT 199: Undergraduate Level Independent Studies in Statistics	Fall 2022
PSTAT 223A: Graduate Level Stochastic Calculus	Fall 2021
PSTAT 213A: Graduate Level Probability Theory and Stochastic Process	Fall 2021
MATH CS 121: Undergraduate Level Probability	Fall 2021
PSTAT 160B: Undergraduate Level Stochastic Process	Winter, Spring 2021
PSTAT 174/274: Graduate Level Time Series Analysis	Fall 2020
PSTAT 130: SAS Base Program	Summer 2020
PSTAT 131/231: Graduate Level Statistical Machine Learning	Spring 2020
PSTAT 120C: Undergraduate Level Probability and Statistics	Spring 2020
PSTAT 127: Undergraduate Level Advanced Statistical Models	Winter 2020

QUALIFICATION

Computer Languages	Human Languages	Qualifications
Python, R, Julia, C++	Mandarin(Native)	Deep Learning Specialization, April 2021
Mathematica, MATLAB	Fukienese(Native)	Machine Leaning with Python, June 2018
SQL, SAS	English(Fluent)	Data Scientist with R, Dec 2017
Bash, Git	French(Elementary)	SAS Advanced Programmer, June 2017
LaTeX, Markdown		CFA Level I, June 2017
		FRM, passed May 2017, chartered 2022