

JIURU LYU

400 Dowman Dr, Atlanta, GA 30322
+1 (404)-791-0290◇jiuru.lyu@emory.edu◇GitHub: @JrLyu

EDUCATION

BS in Applied Mathematics and Statistics; Minor in Computer Informatics <i>Emory University, Emory College of Art and Science</i>	Aug 2022 - May 2026 <i>Atlanta, GA</i>
· Cumulative GPA: 4.0/4.0; Honor: Deans List · Coursework: Optimization Theory, Mathematical Statistics, Differential Equations, Real Analysis, Graduate-Level Numerical Analysis, Graph Theory, Regression Analysis, Causal Inference, Data Structures & Algorithms, Database System.	

SKILLS AND INTERESTS

Research Interests	Numerical Optimization, Global Optimization, Causal Inference, Machine Learning
Hobbies	Speciality Coffee, Aviation, Traveling, Photography
Skills	MS Office, Python, Java, LaTeX, R, MATLAB, HTML, CSS, JavaScript, Typescript, Angular, PostgreSQL.
Language	Mandarin Chinese (Fluent), English (Fluent), Spanish (Elementary).

RESEARCH PROJECTS

Research Assistant <i>Department of Mathematics, Emory University</i>	Oct 2023 - Present <i>Atlanta, GA</i>
· Conduct independent research on global optimization methods supervised by Professor Manuela Manetta. · Enhanced the efficiency of the Double Descent with Color Diffusion algorithm with derivative-free optimization techniques. · Applied the algorithm to find global minimized potentials for Morse Clusters and Lennard-Jones Clusters.	
Directed Reading Program: Numerical Optimization <i>Department of Mathematics, Emory University</i>	Aug 2024 – Dec 2024 <i>Atlanta, GA</i>
· xxxx	
Directed Reading Program: Probabilistic Method in Graph Coloring <i>Department of Mathematics, Emory University</i>	Aug 2023 - Dec 2023 <i>Atlanta, GA</i>
· xxxx	
Student Researcher <i>Xian Jiaotong-Liverpool University</i>	Jun 2023 - Aug 2023 <i>Suzhou, China</i>
· Implemented deep learning models (LSTM, GRU, Attention Mechanism, Transformer Model) for stock price prediction. · Co-authored a conference paper comparing deep learning models for stock price forecasting (under review).	

TEACHING/METORING EXPERIENCES

Tutor in Mathematics <i>Office of Undergraduate Education, Emory University</i>	Sep 2023 - Present <i>Atlanta, GA</i>
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Teaching Assistant for QTM 151 (Scientific Computing with Python)
Department of Quantitative Theory & Methods, Emory University

Aug 2024 – Dec 2024
Atlanta, GA

Course Tester
DeepLearning.AI

Jun 2022 – Nov 2022
Remote

- Contributed to course quality enhancement during development by testing and providing feedback.
- Acquired proficiency in Machine Learning concepts, including TensorFlow, Regression Analysis, Decision Trees, Deep Learning techniques, Clustering Analysis, PCA, and Backpropagation.
- Gained experience with NumPy, SciPy, Pandas, and other essential Machine Learning packages.

INTERNSHIP EXPERIENCES

Digital Technology Intern
Baker Hughes

Jun 2024 - Aug 2024
Shanghai, China

- Developed and tested the SaaS platform ValvKeep Asset Management (VKAM), a valve lifecycle management system.
- Applied Angular, SQL, HTML & SCSS to implement features and designed UIs for customer report.
- Used Rally to write and execute test cases, gaining experience in SQL queries for database validation.
- Practiced Agile software development workflow, participating in regression testing and hotfix releases.

Quantitative Investment Analyst
Algory Capital

Jan 2023 – Aug 2024
Atlanta, GA

- Managed investments and risk profiles for Algory Capital, a student-managed endowment fund exceeding \$100,000.
- Utilized Monte Carlo Simulation to calculate Conditional Value at Risk (cVaR) for risk management and integrated insights into a grid search algorithm to provide risk-averse portfolio management suggestions.
- Developed Mean Reversion in Pair Trading algorithms based on historical data, cointegration tests, and ADF tests.
- Conducted sentiment analysis using Reddit API and Web Scraper packages to inform portfolio management decisions.

HONORS AND AWARDS

Certificates	Machine Learning Specialization Certificate, Google Data Analytics Specialization Certificate.
Honors	Phi Eta Sigma Honor Society.