

RUOBIN LIU

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EDUCATION

University of California, Santa Barbara

2020 - Present

Ph.D. Statistics (*expected 2025*)

M.A. Statistics (*awarded 2022*)

University of Michigan, Ann Arbor

2009 - 2013

B.S. Honors Mathematics

B.S. Computer Science

INDUSTRY EXPERIENCE

Quantitative Risk Management Inc.

2013 - 2020

Software Developer

Chicago, IL

- Developed balance sheet management software for a leading financial risk management consultancy
- Built a system for cleaning and aggregating financial transaction data using *K*-means clustering
- Enhanced portfolio optimization engine to support haircut modeling
- Designed and maintained database systems to handle real-world banking requirements
- Worked on a small team and communicated daily with VP and other stakeholders

Spot Trading LLC

Summer 2012

Software Development Intern

Chicago, IL

- C++ development for the trade management system of a proprietary options trading firm
- Implemented trade execution on the Boston Options Exchange
- Contributed to a risk assessment infrastructure

ACADEMIC EXPERIENCE

UC Santa Barbara

2022 - Present

Graduate Student Researcher

Santa Barbara, CA

- Researching optimization methods for covariance matrix estimation
- Developing R packages for various applications

UC Santa Barbara

Summer 2022

Lead Instructor

Santa Barbara, CA

- Developed and taught an undergraduate data science course of 50 students, emphasizing R coding and databases

PUBLICATIONS

Mendez, D., Holton, M. J., **Liu, R.**, et al (2023). Deep residual networks for crystallography trained on synthetic data. *Acta Crystallographica Section D: Structural Biology*

TECHNICAL STRENGTHS

Coding C++, C#, R, Python, NumPy, `sklearn`, `tidyverse`

Skills End-to-end data analysis from raw data to statistical modeling to visualization

Tools Linux, Visual Studio Code, Git