

SIMON XIANG

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<http://github.com/simonxiangr>

EDUCATION

University of Texas at Austin

Austin, Texas

B.S. in Mathematics | GPA: 3.71

August 2020 - December 2023

- *Theoretical Coursework*: Graduate Algebra and Topology, Differential/Riemannian Geometry, Low-dimensional Topology, Measure Theory, Complex Analysis
- *Applied Coursework*: Statistics, Neural Networks, Regression, QIS, Algorithms
- *Activities*: Conducted research in geometric group theory, served as a Calculus TA

Texas Academy of Mathematics and Science

Denton, Texas

High School | *University of North Texas* | GPA: 3.82

August 2018 - May 2020

- *Coursework*: C++, Linear/Abstract Algebra, Real Analysis, Topology

EXPERIENCE

North Cut Trading (established by Quantlab co-founder)

Houston, Texas

Quantitative Researcher | 6th hire

January 2024 - October 2024

- Led the quantitative research team, developed automated strategies using statistical factor models alongside machine learning approaches that achieved >2 Sharpe Ratio
- Built research infrastructure that accelerated backtesting by 5x through parallel batch processing, automated experiment tracking, and optimized resource allocation
- Architected and implemented machine learning pipelines using PyTorch, pandas, and scikit-learn for feature engineering, model training, and statistical validation
- Performed risk decomposition and mean-variance optimization to construct portfolios of orthogonal alphas, using statistical and fundamental factor models

USAA

Plano, Texas

Software Engineering Intern

May 2023 - August 2023

- Deployed automated testing pipelines using Java SpringBoot and GitLab CI/CD
- Developed RESTful APIs and integrated them with frontend React components
- Built data access layer using MSSQL stored procedures, implemented queries

Directed Reading Program

Austin, Texas

Mentee

January 2021 - August 2023

- Gave presentations on Langevin Monte Carlo sampling, topological quantum field theory, category theory, and de Rham cohomology through guided reading courses

PROJECTS

Caught Stealing | R, Tidyverse, caret, keras

Applied machine learning to predict when a runner would successfully steal second base

- Tested several classifiers including random forests, logistic regression, and AdaBoost
- Analyzed hundreds of real baseball games, achieved an accuracy of 71%

L^AT_EX Math Notes | Vim, Bash, Git

Notes taken live in various mathematics courses, published through GitHub

- Optimized workflow to take live T_EX notes in class using nvim, zathura, and snippets

SKILLS

Languages: Python, Unix Scripting, HTML, CSS, R

Tools: Pandas, NumPy, scikit-learn, PyTorch, Polars, SQL, Git, Tidyverse

Hobbies: Triathlon, Mandarin/Japanese, Chess, Table Tennis