

Michael Zuo

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EDUCATION

Georgia Institute of Technology

Atlanta, GA

B.S. in Computer Science, B.S. in Mathematics – GPA: 4.0/4.0

May 2026

- **Relevant Coursework:** Data Structures, Honors Algorithms, Objects and Design, Object-Oriented Programming, Systems & Networks, Machine Learning, Data Science, Linear Algebra, Database Systems
- **Clubs and Activities:** Trading at Georgia Tech, Competitive Programming @ Tech, Georgia Tech Swim Club

TECHNICAL SKILLS

Languages: Java, Python, C++, HTML/CSS, JavaScript, C, MySQL, Assembly, LaTeX

Developer Tools: Git, Github, VS Code, IntelliJ, Jupyter, PyTorch, Eclipse

EXPERIENCE

Georgia Institute of Technology

May 2024 – Present

Mathematics Research Internship

Atlanta, GA

- Exploring the logarithmic properties of determinants and semi-definite matrices through **concavity**
- Extending **convexity** from continuous to discrete mathematical spaces, generalizing from factorizations to convex sequences

Trading at Georgia Tech

Jan. 2024 – May 2024

Quantitative Researcher

Atlanta, GA

- Identified correlations between daily market volatility and pivotal turning points in Vix ETF with **Theta Data**, predicting future profit opportunities
- Utilized **Kernel Density Estimation** for data modeling, enabling accurate probability density estimation

Susquehanna International Group, LLP

Feb. 2024

SIG Discovery Day Fellow

Atlanta, GA

- Mastered **market making** by maximizing profit in mock trading games, through active engagement in industry expert presentations
- Internalized **decision science** by connecting probability theory and game theory with popular football, basketball, and video game strategies

Southwest Ohio Computer Association

May 2023 – Aug. 2023

SWOCA IT Project Internship

Cincinnati, OH

- Improved WiFi performance in over 60 schools by installing **at least 500** clean, fully-reset **Access Points**, replacing the outdated ones
- Documented WiFi performance change in at least **50 heatmaps** using **Visiwave**, precisely tracking scaling and blind spots

PROJECTS

Stock Price Analysis | *Python, MySQL*

June 2024 – Present

- Designed and implemented a MySQL database schema to store and manage large volumes of stock price data
- Created Python scripts for data extraction, cleaning, and preprocessing
- Set up and managed Python virtual environments to ensure consistent and isolated development environments

Malloc Implementation | *C*

Apr. 2024

- Programmed the **heap** to mimic a linked list of free space, dynamically allocating additional memory to resolve conflicts
- Enhanced the linked list to **dynamically** merge or split based on memory location and overlap

Startup Idea Generator | *Java*

Nov. 2023 – Dec. 2023

- Utilized **JavaFX** to make a **GUI** assist the user with generating startup problems and solutions
- Configured to seamlessly load from a **CSV file** and automatically save data

AWARDS

Putnam Competition Top 30%: Ranked in the top 30% of participants in a highly prestigious proof-based math competition.

4-Time AIME Qualifier: Placed among the top 2.5% of participants in a fast-paced math competition.

First Place ARML Team: Achieved first place in a speed, proof, and team-based math competition.

USAPhO Semifinalist: Earned a spot in the top 400 in the F=ma exam to qualify for the USA Physics Olympiad.