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, Computer Systems & Networks, Machine Learning, Linear Algebra
- **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, PyTorch, Eclipse

EXPERIENCE

Georgia Institute of Technology — May 2024 – Present
Mathematics Research Internship — *Atlanta, GA*
- Exploring the properties of Hankel determinants through **log-concavity** and matrix blocks, contributing to advanced mathematical theory
- Extending the concept of **convexity** from continuous to discrete mathematical spaces, broadening its applicability

Trading at Georgia Tech — Jan. 2024 – May 2024
Quantitative Researcher — *Atlanta, GA*
- Identified correlations between daily market volatility and pivotal turning points with ThetaData, 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WiFi performance in over 60 schools by installing **at least 500** clean, fully-reset **Access Points**, replacing the outdated ones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* — May 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

Java 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
First Place ARML Team
USAPhO Semifinalist