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

**Georgia Institute of Technology** — Jan. 2024 – May 2024
*Applied Combinatorics Teaching Assistant* — *Atlanta, GA*
- Hosted office hours every week to answer additional questions and clarified confusing concepts
- Ensured fair grading for **85 students** through consistent rubrics and taking every regrade request into consideration

**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WiFi performance in over 60 schools by installing **at least 500** clean, fully-reset **Access Points**, replacing the outdated ones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

**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:** 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.