Kevin Shan

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Education

Georgia Institute of Technology Atlanta, GA

B.S. in Computer Science, Minor in Mathematics, GPA: 4.0 *Expected Graduation: May 2026*

- **Skills:** C++, Rust, C, Python, C#, Java, JavaScript, HTML/CSS, SQL, Git, Agile/Scrum

Experience

Incoming Quantitative Developer Intern June 2025

Citadel LLC *Chicago, IL*

- Joining the Algo/Execution team in the Global Quantitative Strategies branch of Citadel LLC as a Summer 2025 intern.

Undergraduate Researcher May 2024 - Present

Georgia Institute of Technology *Atlanta, GA*

- Researching software, architecture, and algorithmic co-design to improve the efficiency of operating on graph-based, sparse, time-varying data randomly distributed on a system.

Software Engineering Intern May 2024 - Aug. 2024

Applied Research Associates *Raleigh, NC*

- Integrated new backend physics engine features into weaponeering simulation software using C++ and C#.
- Achieved upwards of a 60x reduction in simulation computation time by optimizing computational bottlenecks.

Independent Research May 2023 - Aug. 2024

University of Maryland *College Park, MD*

- Engineered a lightweight, adaptive real-time bidding algorithm for advertisement campaigns.

Software Engineering Intern June 2023 - July 2023

HydroGeoLogic, Inc. *Reston, VA*

- Cut down on survey project proposal costs by over 30%, through designing an optimization tool for polygonal simplification of munition site boundaries, using Python and geospatial data APIs.

Extracurriculars

Georgia Tech ICPC Team A Aug. 2023 - Present

Competitive Programming at Georgia Tech *Atlanta, GA*

- Placed 1st at 2024 International Collegiate Programming Contest (ICPC) Samford regional site, qualifying for the North American Championship and winning a silver medal for Georgia Tech in the Southeast American region.

Quantitative Developer Sep. 2023 - Present

Quantitative Development Team: Trading at Georgia Tech *Atlanta, GA*

- Designed and implemented complete high frequency trading infrastructure for cryptocurrencies using Rust.
- Developed and benchmarked custom memory allocators, orderbooks and data structures, and exchange connectivity for optimized cache efficiency, low-latency performance, minimal branching, and hardware utilization.

Competitive Programming Aug. 2020 - Present

All competitions done in C++, online, and in real-time.

- ***(250/5k)*** **USACO (United States Computing Olympiad) Platinum Division**: Among the top ∼250 pre-collegiate competitors in the U.S., with perfect scores in the bronze, silver, and gold divisions.
- ***(200/30k)*** **Meta Hacker Cup**: Placed top 500 among ∼30k international competitors to advance to Round 3, and won a top-200 T-shirt in Round 3.
- ***(1k/30k)*** **Google Code Jam**: Placed top 1k among ∼30k international competitors to advance to Round 3.
- ***(41/20k)*** **Google Kickstart Round F**: Placed 41st among ∼20k international competitors.
- ***(21/3k)*** **Codeforces "International Master" Rank**: Ranked the highest at 21st in the U.S. on Codeforces, with a rating of 2377. Top 0.5% of 150k+ international users on the platform.

Projects

Optimized Cryto Orderbook July 2024

C++ *https://github.com/kevins19/ring-orderbook*

- Developed a constant time access/modification cache-efficient orderbook for efficient bid/ask record keeping.
- Deployed orderbook on Bybit cryptocurrency exchange, yielding a 200% increase in efficiency over std::map.