

Avery Joseph Clapp

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EDUCATION

Johns Hopkins University

- Majors: Computer Science (BS), Economics (BA)
- GPA: 3.5/4.0
- Coursework: Networks, Data Structures, Algorithms, Parallel Computing, Operating Systems, Portfolio Management
- Awards: Pistrutto Fellowship - \$5,000 annual grant to a JHU Computer Science student displaying research excellence

Expected May 2026

Baltimore, Maryland

TECHNICAL SKILLS

- **Languages:** Python, C, C++, SQL, TypeScript, JavaScript, Rust, CUDA
- **Frameworks/Libraries:** React.js, Node.js, Pandas, Polars, NumPy, Statsmodels, Dash, FastAPI, DuckDB
- **Technologies/Platforms:** Linux, NeoVim, Git, Jira, AWS, Kubernetes, Docker, gRPC, Bloomberg, CI/CD, Perf, CMake

WORK EXPERIENCE

Single Phase Capital

August 2025 – Present

Quantitative Developer

Remote

- Constructed parallel backtesting engine for energy spread strategies across 100+ paths with DuckDB and multiprocessing
- Developed ETL pipeline processing 10k+ daily energy market data points with automated validation and normalization

Johns Hopkins Whiting School of Engineering

September 2024 – Present

Machine Learning Research Assistant

Baltimore, Maryland

- Architected CUDA sparse matrix multiplication kernel achieving 41% speedup over NVIDIA's SoTA cuBLAS implementation through pattern-based compression and warp-level optimization, reaching near-theoretical memory bandwidth
- Optimized GPU memory hierarchy via compile-time template specialization and cache-aware tiling, leveraging vectorized float4 loads, bank-conflict-free shared memory access, and register blocking to maximize instruction-level parallelism

Garda Capital Partners

June 2025 – August 2025

Software Engineer Intern

New York City, New York

- Streamlined work of 60+ portfolio managers and traders through overhaul of critical data-intensive Dash application, utilizing Pandas, gRPC services, and REST APIs to facilitate the communication of 500,000+ data points in real-time
- Built complex SQL queries to handle production-level data volumes across distributed systems, aggregating prices, rates, and historical time series across a variety of financial markets while enforcing low-latency data delivery
- Engineered historical VaR pipeline quantifying PM efficiency per unit of risk across \$1B+ bond futures exposure
- Migrated firm-wide database layer to async architecture, reducing query latency by 10% for all incoming requests

Institute for Applied Economics

May 2023 – January 2024

Quantitative Developer

Baltimore, Maryland

- Created 15+ trading algorithms with proprietary sentiment scores and gold price data to optimize risk-adjusted returns
- Delivered 275% algorithm return improvement through systematic parameter tuning and rigorous quantitative research
- Expanded subscriber base to 500+ paying users by developing a Telegram Bot delivering real-time trade signals

PERSONAL PROJECTS

High-Frequency Orderbook Engine

C++ | Boost

- Architected low-latency order matching system achieving sub-millisecond execution times, leveraging advanced C++ techniques, memory-optimized algorithms, and object-oriented programming to process 1,800,000+ orders per second

Crypto QuantLab

Python | React.js

- Engineered comprehensive quantitative research framework applying stochastic modeling, mathematical optimization, and statistical inference methods to develop systematic alpha-generating strategies across volatile cryptocurrency markets

LEADERSHIP & ACTIVITIES

Johns Hopkins Varsity Swimming, Team Captain

August 2022 – Present

- Coordinated 20 weekly training hours with rigorous course load, achieving 18 NCAA All-American Honors

Student Conduct and Ethics Board, Selected Member

April 2024 – September 2025

- Championed ethical conduct on campus by promoting accountability and respect, leading to fewer code violations

Scouts of America, Eagle Scout

September 2015 – May 2021

- Spearheaded 100-hour service project, coordinating 20+ volunteers and fundraising to renovate local church trail