Brennan Davenport

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Education

University of Georgia Athens, GA
B.S. in Computer Science & B.S. in Mathematics, GPA 3.73/4.00 *Expected Graduation: May 2027*

Technical Skills

Coursework: Algorithms, Data Structures, Systems Programming, Discrete Math, Networks, Architecture
Languages/Tools: Python, Java, C++, JavaScript, C#, React, Django, Spring Boot, .NET, Azure, Git, Linux
Trading Competitions: 8th Georgia Tech, UMich (5th Jane Street, 5th Citadel, 9th Optiver), MathDash (Finalist)

Experience

Software Engineer Intern May 2025 – August 2025
Western Alliance Bank *Dallas, TX*

- Migrated FOREX trading services from Finzly to ION, yielding low-latency (less than 100ms), 99.9% uptime, and full regulatory compliance to support high-volume financial transactions and real-time data
- Identified bottlenecks in reading JSON files in Azure and built a scalable SQL Server database with a C# API pipeline processing 10,000+ records/month, eliminating delays and accelerating team throughput
- Engineered a CLEAN-architecture server template with 6 JWT-authenticated endpoints, adopted as the foundation for 14+ new services, standardizing secure, production-ready backend development across the team

Software Engineer Intern June 2024 – September 2024
Category Creations *Athens, GA*

- Developed a scalable routing solution using Google Apps Script to optimize routes for over 300 stores
- Increased routing accuracy by 20% through integration of K-nearest neighbor, two-opt, and three-opt algorithms
- Created a fully automated system that routes new store addresses instantly, handling all geocoding, distance math, and optimization; eliminating manual input and saving 50+ hours per month

Projects

DeepBermuda: Neural Network LSM for Exotic Option Pricing | *Python, PyTorch* March 2025

- Developed DeepBermuda, a neural network-augmented Longstaff-Schwartz Monte Carlo (LSM) algorithm for pricing Bermudan, American, and European options, targeting complex multi-asset OTC derivatives
- Replaced traditional poly regression with a FNN to better approximate continuation values in high-dim options
- Benchmarked pricing accuracy against standard LSM using mean squared error and performance across varying volatility, moneyness, and dimensions (1D-10D)

Texas Hold'em Poker Engine | *Python, Game Theory, Machine Learning* January 2025

- Built a full-featured Texas Hold'em poker engine supporting multi-player gameplay and real-time gameplay logic
- Designed the system architecture to support future integration of reinforcement learning agents (DQN, PPO), enabling adversarial self-play and strategy optimization

Momentum Trading System | *Java, WebSockets, REST APIs* July 2023

- Built an autotrader application in Java using Tradovate's WebSocket API to process real-time market data that implemented a momentum-based trading strategy and execute trades on ESZ2, ESH3, and ESM3 futures contracts
- Exploited mean-reversion patterns following Jerome Powell's FOMC speeches, capturing 3-5% average price corrections within 30 minutes, generating simulated returns of 12% over 3 months in backtesting

Leadership & Organizations

Traders@UGA [Link] | *Founder & President* January 2025 – Present

- Founded Traders@UGA, a quant trading club focused on projects, trading comps, and industry events with DRW
- Managed recruitment of 200+ applicants with a selective 5.5% acceptance rate and accepting 11 members

ICPC@UGA | *Member, Codeforces Rating - 1458* January 2025 – Present

- Placed 4th in ICPC North American Southeast Division 2025 - Division 1
- Placed 10th in ICPC North American Regional Qualifier 2025 - Division 1

Honors & Activities | Corsair Society, Eagle Scout, Resident Assistant, Dean's/President's List (4x), ChessDawgs