

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, Software Engineering, Networks, Architecture

Languages/Tools: Python, Java, C++, JavaScript, C#, React, Django, Spring Boot, .NET, Azure, Git, Linux

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

CalTrack | *React-Native, JavaScript Django, Python, PyTorch, PostgreSQL*

March 2024

- Led a team of students in developing a mobile app that utilizes AI powered image detection to identify food items
- Used PyTorch to build and train a ML model with a dataset from Hugging Face, featuring 100k+ food images
- Created a RESTful backend with Django and PostgreSQL to manage user auth, predictions, and food tracking data

LEADERSHIP & ORGANIZATIONS

Traders@UGA | [Link](#) | *Founder & President*

December 2024 – 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*

August 2024 – Present

- Solve 5+ timed algorithmic problems weekly (DP, Greedy, Graphs, etc.) and placed in regional contests

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

Trading Competitions | Georgia Tech, UMich (5th Jane Street, 5th Citadel, 9th Optiver), MathDash (Finalist)