Aspen Johnson

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github.com/DormantBillionaire

Education

Mercer University, BA in Mathematics & Finance   June 2022 – May 2027
- **Minor:** Physics
- **Coursework (Taken/Will Be Completed Prior To Internship):** Market Analysis & Portfolio Management., Int' Finance, Linear Algebra, Differential Equations, Calculus I-III

Professional Experience

Financial Analyst, Zinzino USA – West Palm Beach, Florida   May 2025 - August 2025
- Reduced time to process charge backs by 87%, digitizing workflows and simplifying documentation.
- Refined the charge back process within a few weeks of my arrival, and curated a reference guide to aid future on boarding employees.
- Collaborated and built relationships with the Finance and Customer Support teams to resolve complex issues and streamline operations.
- Quickly learned and utilized platforms like Slack, Exigo, and Authorize.net to improve efficiency during onboarding.

Undergraduate Research

Projectile Motion Analysis – Math Department w/ Hope McIlwain   Est. Fall 2026 Semester
- Modeling basketball trajectories as parabolas based on an angle, release point, and basket constraints.
- Deriving equations to examine vertex height and shot range from various angles.

Econometrics Portfolio Optimization, Econ Department W/ Szabolcs Blazsek   Jan 2025 - Present
- Co-authored and empirically tested the Hessian-filter scaled Beta-t-EGARCH volatility model, improving traditional score driven filters with newton-Type gradient scaling.
- Analyzed log return of high in-demand and volatile assets such as Bitcoin, S&P500 (IVV), Gold(IAU), U.S REITs, and the CHF/JPY for the period 2010-2025.
- Proved model robustness through major volatility shock events (COVID-19, 2022 Ukrain Invasion, 2023 Gaza conflict, and a 2025 Presidential transition).

Extracurricular Activities

- Division 1 Women's Basketball Player (2022-2025)
- Member of **NSBE**, **SWE**, and **Codecademy's Women In Tech** organization.
- Completed **Amazon Campus Prep Series** Program (Summer 2025)
- **Current Interests/ Studying:** Collatz Conjecture, Thermodynamics & Heat Transfer In F1 Racing, AWS Quantum Cloud Computing For Modelling Simulations, and Classical Mechanics

Manuscripts In Progress

A Hessian-filter scaled Beta-t-EGARCH volatility model   August 2025
Szabolcs Blaszek, *Aspen Johnson*, Adam Kobor

Technologies & Skills

Languages: R, Java, Python, GAUSS, Git & GitHub, AWS Cloud

Developer Tools + Libraries (Learning): Data Cleaning, Collaborative Project Management, Clear Written Technical Documentation, and Quantitative Research