

Aspen Johnson

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EDUCATION

Valdosta State University

B.S in Data Science: Computational Sci. & Eng. Track, Minors in Physics and Math

Expected: 2027, GPA: N/A

Palm Beach State College

A.A in STEM: Mechanical/ Aerospace Engineering Track

Expected: Summer 2026, GPA: 3.5

PUBLICATIONS

An empirical application of improved gradient scaling for score-driven volatility filters

- *Applied Economics Letters*, Taylor & Francis (2025) | Co-authored with **Szabolcs Blazsek** (Mercer University) and **Adam Kobor** (New York University Investment Office).
- Contributed to conceptualization, data curation, formal analysis, methodology, software implementation, validation, visualization, and manuscript preparation for empirical testing of the Hessian-filter scaled Beta-t-EGARCH volatility model across Bitcoin, S&P 500, Gold, U.S. REITs, and CHF/JPY over the period 2010–2025.

EXPERIENCE

Econometrics Researcher

Mercer University

Jan 2025 – Dec 2025

On-Site/Remote

- Sourced and structured raw financial data from the Bloomberg Terminal across a broad universe of candidate assets, computing return series and descriptive statistics (min, Q1, median, Q3, max) in Excel prior to formal statistical modeling.
- Implemented and benchmarked volatility models in R and GAUSS including gjrGARCH, sGARCH (normal and standard deviation variants), and score-driven models from Creal, Newton, and Harvey, systematically omitting assets that failed data sufficiency or model fit criteria.
- Assisted in code execution, syntax troubleshooting, and debugging across R and GAUSS environments; documented compilation errors and misaligned outputs from terminal logs, preparing structured email writeups with line-level annotations for weekly faculty review meetings.
- Contributed to manuscript preparation in L^AT_EX, including figure formatting, results validation, and the in-sample vs. out-of-sample analysis decision for the final publication submission.

Financial Analyst Intern

Zinzino USA

May 2025 – Dec 2025

Remote

- Reduced chargeback processing time by 87% through workflow digitization and documentation streamlining.
- Refined the charge back process within a few weeks of arrival, and curated a reference guide to aid future onboarding employees.
- Created clear documentation that enabled cross-departmental collaboration and made Finance operations easy for shareholders and upline leaders to understand.

PROJECTS

CC-Me-Planner — (In Progress) | HTML, CSS, and JS

- Developing a full-stack academic planning web application designed to simplify semester, AA, and bachelor's degree scheduling for community college students.
- Designing with accessibility at the forefront, addressing barriers faced by returning adults, first-generation students, and transfer-track students.

Physics Practice Platform — (In Progress) | HTML, CSS, and JS

- Building a comprehensive physics research and learning platform designed to serve undergraduate and graduate physics education.
- Conducting active community-driven user research by engaging physics, mathematics, and computer science student communities.
- Learning the following libraries for data visualization: Manim and ManimGL for embedded visualizations.
 - * ManimCE - Community Edition
 - * ManimGL - 3Blue1Brown Ver.

Name TBD — Personal Study Dashboard | HTML, CSS, and JS

- Building a personal productivity and study dashboard integrating third-party APIs from tools that I utilize daily.

- Implementing a Pomodoro focus timer with session logging and tags to keep track of daily, weekly, monthly, and annual time allocation separated by subject.
- Designing a digital habit and goal tracking module to track consistent positive habits.
- Integrating APIs including [Google Calendar](#), [GitHub](#), [YouTube Music API \(ytmusicapi\)](#), [Zotero](#), and [Canvas LMS](#).

Polarity Predictor Tool | HTML, CSS, JavaScript, and YAML

- Designed and developed a full-stack chemistry quiz application in HTML, CSS, and JavaScript to reinforce undergraduate Chemistry II concepts in molecular bond polarity and intermolecular forces.
- Architected a modular, multi-file application across 5 independent question modules, 5 corresponding HTML question pages, and a dedicated JS results engine.
- Implemented dynamic input handling and response logic in vanilla JavaScript, routing user answers across interconnected question modules and surfacing personalized results on the final page.
- Created hand-drawn molecular imagery and partial charge assets to build a visually grounded learning interface

LEADERSHIP, COMMUNITY ENGAGEMENT & EXTRACURRICULARS

Read2Succeed | *Tutoring young students at the local elementary schools to aid in building literary confidence*

Division 2 Women's College Basketball Player | *Valdosta State University*

Youth Sports Volunteer | *Assisted young athletes K-12 in a variety of sports to gain skill and*

Weekly Physics Study Group Member | *Going through Helliwell's Modern Classical Mechanics text*

Book Club Fellow | *Selected as one of ten students to participate through Mercer Universities Economics Department*

Content Creation | *Streamed myself doing psets and projects on youtube*

AWS Campus Prep Series Participant | *Completed a Summer-long series of webinars regarding Amazon Careers and Cloud Services*

TECHNICAL SKILLS

Languages in order of proficiency: Python, Java, LaTeX, HTML/CSS, R, Gauss, C/C++, JavaScript, Octave

Developer Tools: Git, CLI, VSCode

OTHER

Clubs/Organizations: NSBE, SWE, and
Codecademy's Women in Tech