

# 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<sup>A</sup>T<sub>E</sub>X, 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

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**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

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**Languages in order of proficiency:** Python, Java, LaTeX, HTML/CSS, R, Gauss, C/C++, JavaScript, Octave  
**Developer Tools:** Git, CLI, VSCode

## OTHER

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