

Brett Bono

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Education

James Madison University, B.S. in Mathematics, Minor in Computational Analytics *Aug 2021 – May 2025*

Relevant Coursework: Data Structures & Algorithms, Real Analysis, Topology, Numerical Analysis, Operations Research, Complex Analysis

Technical Projects

Get Out Official — Event Management App *React Native, Python, Firebase, Zustand*

- Created a micro-event discovery app to boost local event engagement and competitiveness.
- Built interactive map UI based on user preferences and real-time data.

Web Scraping Tool for Arbitrage Detection *Java*

- Scraped Craigslist, eBay, Amazon, and Facebook Marketplace to identify arbitrage opportunities.
- Project discontinued due to legal considerations after initial success.

Root-Finding Algorithms *Python*

- Implemented Newton's Method, Secant Method, Bisection, and Fixed-Point Iteration.
- Analyzed efficiency and convergence under varying conditions.

Numerical Algorithms and Applications *Python*

- Applied SVD for image compression, watermarking, and cancer dataset analysis.
- Built polynomial interpolators using Chebyshev points; implemented least squares with QR and normal equations.
- Implemented Google PageRank and various eigenvalue algorithms: Power, Inverse, Rayleigh Quotient, and QR Iteration.

Technical Skills

Proficient: Python, Java, JavaScript, React, React Native, Excel, MATLAB, Maxima, LaTeX

Familiar: C, C++, Go (gRPC)

Campus Involvement

JMU Esports *2021 – 2024*

- Varsity CS:GO and CS2 player; awarded scholarship in 2023 for team performance.

Video Adventure Club (VAC) *2022 – Present*

- Participated in outdoor trips and videography projects; declined exec roles due to academic load.

Competitive Programming Club *2024 – Present*

- Practiced timed problem-solving and algorithmic thinking.

Blockchain Club *2024 – 2025*

- Regular discussions on crypto news and blockchain debates; attended expert-led events.
- Won a startup pitch competition with a blockchain-based professional network platform.

Technical Presentation – GMRES Method *2025*

- Delivered a talk on GMRES covering Krylov subspaces, Arnoldi iteration, and computational complexity.
- Authored accompanying academic report on algorithm performance and accuracy.