

Zach Norman

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Experience

Application Engineer, Vanguard – Malvern, PA May 2023 - Present

- Built the foundational infrastructure for a full-stack internal analytics platform (React/AG-Grid UI, Okta-secured API Gateway, PostgreSQL/Athena backend) and new Tableau dashboards, replacing manual Excel-based reporting for analysts across Equity and Fixed Income.
- Lead the team's reporting automation initiative, ramping up independently on unfamiliar systems to own prioritization, roadmap, and code reviews for a Playwright/UIPath suite recovering an estimated 25-30+ hours of analyst time daily.
- Architected serverless ETL pipelines in AWS Glue, Lambda, and S3 processing data across 50,000+ funds for downstream Risk Analytics and Performance Reporting, serving as the team's go-to resource for data troubleshooting and query support.
- Led legacy infrastructure retirement and security remediation as a Level 2 Security Champion, decommissioning deprecated systems and resolving vulnerability findings across the team.
- Proposed and built a time-zone-aware job scheduler that eliminated manual daylight saving updates, authored a shared Python library for common database and AWS functionality across the team's Glue and Lambda jobs, and led CI/CD migration from Bamboo to GitHub.

Contracted Developer, Orita – Remote Feb 2022 - Nov 2022

- Developed a Svelte application with user authentication and third-party integrations (Klaviyo, Shopify) enabling businesses to connect e-commerce data for analysis.
- Automated business analytics report generation from JSON data using Django templates and CSS for consistent, reusable design.

Developer Co-op, Baltimore Orioles – Baltimore, MD Jan 2022 - Sep 2022

- Designed a full-stack dashboard using Django and React to aggregate and filter data for 32,000+ draft-eligible players, directly improving scouting efficiency and amateur draft decision-making.
- Introduced advanced pitch-by-pitch editing features (add, delete, reorder, and mass-update) used by coaches and analysts to maintain accurate game records.
- Optimized AWS Lambda functions for data retrieval, calculation, and population, ensuring accurate and reliable storage of game and player records.

Projects

Custom Discord Bot github.com/zachnorman02/BradBot Aug 2025 - Present

- Built and maintain a production Python bot hosted on AWS Lightsail, serving a 400+ member community with slash-commands for role management, content moderation, and event triggers.

Education

Villanova University, MS in Applied Statistics and Data Science Aug 2023 - Aug 2025
Villanova, PA GPA: 3.8/4.0

Northeastern University, BS in Computer Science and Mathematics Sep 2020 - Apr 2023
Boston, MA GPA: 3.4/4.0

Technical Skills & Certifications

Languages: Python, R, JavaScript/TypeScript, Java, SQL, HTML, CSS

Frameworks/Libraries: pandas, tidyverse, React, Svelte, Django, Flask, Plotly/Dash, D3

Tools: Git, AWS, Docker, dbt, Tableau

Certifications: dbt Fundamentals, Google UX Design Specialization