

# Zach Norman

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## Experience

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- Application Engineer**, Vanguard – Malvern, PA May 2023 - Present
- Build out AWS Lambda functions to extract data on 50,000+ funds, benchmarks, and portfolios from internal data lakes, APIs, and third-party platforms, transform, and load data into internal and external platforms.
  - Communicate with business clients on building and enhancing data pipelines by gathering requirements, translating them into technical specifications, and creating detailed documentation for future reference.
  - Design data visualizations using Plotly to monitor and track the success rates of 20+ daily business-critical reports to provide insights into common failures and areas for improvement and future development roadmap.
- Contracted Developer**, Orita – Remote Feb 2022 - Nov 2022
- Developed a Python program using Django to automate the generation of business analytics reports from JSON data, leveraging CSS and templates for cohesive and reusable report design.
  - Implemented a front-end interface using Svelte, allowing companies to upload their data and connect with third-party e-commerce platforms, allowing their data to be analyzed for improved decision-making.
- Developer Co-op**, Baltimore Orioles – Baltimore, MD Jan 2022 - Sep 2022
- Created data retrieval, aggregation, and the user interface for an amateur baseball player dashboard page using Django and React that allowed for viewing and filtering data on 32,000+ draft-eligible players, improving scouting efficiency and decision-making for drafts.
  - Introduced advanced editing features for pitch-by-pitch game audit pages, enabling coaches and analysts to add, delete, reorder, and mass-update pitch data, resulting in improved data accuracy and usability.
  - Updated multiple AWS Lambda functions responsible for data retrieval, calculation, and population to ensure storage of accurate game and player data.

## Projects

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- NBA Betting Visualization** [GitHub](#), [Website](#) Feb 2023 - Apr 2023
- Collaborated on building interactive D3 visualizations to compare betting odds across multiple sportsbooks for NBA games, leveraging data from The Odds API.
- Generate Website** [GitHub](#) Jan 2023 - Apr 2023
- Contributed to the React-based website for Generate, a student-led product development organization at Northeastern University, by introducing mobile responsiveness across the site to improve usability for current and prospective members and companies.
- Image Processor** [GitHub](#), [Website](#) Nov 2022 - Dec 2022
- Created a WebGL-based application that allows users to upload images and apply custom kernel-based filters, enabling real-time image processing in the browser.

## Education

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- Villanova University**, MS in Applied Statistics and Data Science Aug 2023 - Aug 2025  
Villanova, PA GPA: 3.6/4.0
- Northeastern University**, BS in Computer Science and Mathematics Sep 2020 - Apr 2023  
Boston, MA GPA: 3.4/4.0

## Technical Skills

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**Languages:** Python, R, JavaScript/TypeScript, Java, SQL, HTML, CSS  
**Frameworks/Libraries:** React, Svelte, Django, Pandas, Plotly, D3, Tidyverse, WebGL  
**Tools:** Git, AWS (Glue, Lambda, IAM, S3, Cloudformation), Docker, Figma