Nathanael Tesfaye

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EDUCATION

Vanderbilt University, School of Engineering - *Cumulative GPA: 3.57* — Nashville, TN
Bachelor of Science in Computer Science and Mathematics — Expected: May 2026
Relevant Coursework: Data Structures and Algorithms, Programming Languages, Operating Systems, Linear Algebra

TECHNICAL SKILLS

- **Languages:** Java, Python, Swift, C++, C, JavaScript, Kotlin, Racket, Prolog, Ruby, SQL, Bash
- **Frameworks/Libraries:** React.js, Angular, Next.js, CoreML, PyTorch, NumPy, Linux, Confluence, JIRA, TKinter
- **Certifications:** Back-End Development and APIs w/ FreeCodeCamp, Software Engineering Simulation w/ JPMorgan

EXPERIENCE

Trane Technologies | *C, Ruby, Python, JavaScript, Selenium* — Tyler, TX
Software Engineering Intern — May 2024 – Aug. 2024

- Created an application that allows employees to automatically upgrade and downgrade multiple indoor/outdoor units to any version simultaneously cutting time spent on manual labor in half
- Developed a log management system and unit test cases to ensure the application works as intended and is now being used by the current Systems Tests Engineers
- Implemented automation scripts using Python to enhance and test system efficiencies in the "Technician App", reducing manual input time by more than 50% and improving system response times by 25%
- Researched and designed the integration of the next-generation user interface framework by analyzing alternatives to help save the company over $1,000,000/annually in revenue

PROJECTS

Postman Clone | *Next.js, Google Auth, Tailwind CSS, MongoDB* — Github | View Project

- Developed a Postman-like API testing web application using Next.js, enabling users to view real-time API responses
- Optimized API response viewer to display formatted JSON/XML data, response metadata, and error handling
- Integrated MongoDB for dynamic storage of API requests and Google Auth for secure authentication/streamlined login

Tic-Tac-Toe AI | *Swift, CoreML, PyTorch, NumPy, AVFoundation, Core Data* — Github | View Demo

- Developed a Swift based Tic-Tac-Toe Application allowing the user to play against a friend or the robot
- Utilized PyTorch to generate over 19,000 data points used for the TicTacToeAI Model via CreateML Tabular Classifier
- Implemented the MiniMax Algorithm to generate accurate data points and the RandomForest Algorithm for training
- Currently working on storing data via Core Data to help gather more data points as players play the game

LEADERSHIP

National Society of Black Engineers — Nashville, TN
Vice-President — Apr. 2024 – Present

- Led the development and implementation of the chapter's strategic plan, resulting in a 25% increase in membership and a 15% increase in active member participation over the past academic year.
- Coordinated with university administration and external partners to secure $20,000 in sponsorships and grants, funding various chapter activities such as workshops, networking events, and community outreach programs.

Google Developer Student Group — Nashville, TN
Social Media Lead — Sept. 2022 – Apr. 2023

- Managed the Google Developer Student Group's Instagram account and GroupMe platform, delivering timely and engaging updates for all events, resulting in a 30% increase in member participation over eight months.
- Spearheaded event promotion efforts by designing over 15 visually compelling electronic posters.

Management Leadership for Tomorrow (MLT) — Washington, DC
Software Engineering Career Prep Fellow '26 — Jan. 2024 – Present

- Accepted into a selective 18-month professional development program for high-achieving diverse talent in Technology.