Tristan Van

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EDUCATION

Vanderbilt University   Nashville, TN
Master of Science in Computer Science (Accelerated BS/MS Program) | GPA: 3.95   *Expected May 2026*
Bachelor of Science in Computer Science | GPA: 3.72   *Expected May 2026*
- **Relevant Coursework**: Data Structures, Algorithms, Computer Architecture, Software Design, Programming Languages, Discrete Structures, Data Science, Machine Learning, Web Development, UI/UX Design

EXPERIENCE

Software Engineer Intern   June 2025 – August 2025
Capital One   *McLean, VA*
- Developed an internal tool to automate back end API testing, reducing manual debugging by 30+ developer hours monthly and supporting 400+ marketing campaigns.
- Built an Angular front-end dashboard integrated with Snowflake to visualize offer qualification data, improving data accessibility for over 10 partner teams and streamlining troubleshooting.
- Led intern team to accelerate summer project completion ahead of schedule, troubleshoot Jenkins CI/CD pipeline failures, boost unit test coverage to 90% with complex test cases, and write detailed technical documentation.
- Presented technical designs to leadership and stakeholders, integrating their input to enhance functionality.

UI/UX Developer   August 2024 – May 2025
Open Ended Learning Environments Lab, Vanderbilt University   *Nashville, TN*
- Partnered with 6 developers and researchers to revamp the Redforest research platform, adding gamified features like a Three.js-based avatar editor and virtual store to enrich the learning experience.
- Implemented responsive web pages using TypeScript, Next.js, and Tailwind CSS, improving platform functionality.
- Conducted 5 in-depth interviews with 50+ students and teachers, gathering insights that generate actionable feedback to improve usability and guide platform enhancements.
- Designed interactive Figma prototypes, conducting co-design sessions and school-based studies to evaluate the effectiveness of gamification features.

Software Developer   October 2023 – May 2024
Change++   *Nashville, TN*
- Developed a full-stack loan management system for a nonprofit client through Vanderbilt's Change++ organization, enabling the processing of 2,100+ revolving loans and disbursement of $29,700.
- Collaborated with a team of 6 in an Agile environment to develop RESTful back end endpoints using Node.js/Express and integrate them with a React front end connected to a MongoDB database.
- Engineered middleware for authentication and role-based access control, reducing unauthorized access attempts and ensuring compliant data handling.
- Designed and deployed an intuitive admin dashboard and user-facing pages in React, resulting in enhanced user experience and increased operational efficiency.

PROJECTS

Google Earth Kart | *React, Node.js, Express, Socket.IO, Three.js, Cannon.js, Firebase, Google Maps API*
- Built a multiplayer racing game with React and Socket.IO, featuring synced movement, minimap, and leaderboard.
- Rendered Vanderbilt's campus in 3D using Google Maps API and Three.js with custom physics via Cannon.js.
- Implemented collision detection optimizations and rendering improvements, improving frame rates by 50%.
- Won 3rd place out of 50+ projects at Vanderbilt's CS Immersion Showcase for innovation and technical execution.

Rollercoaster Ranking | *React, JavaScript, HTML/CSS, REST API, Firebase, PostgreSQL, Docker, AWS EC2*
- Developed a full-stack web app using React to allow users to rank rollercoasters based on personal experiences.
- Built back end and REST API using Node.js, Express, and PostgreSQL for profiles, rankings, and secure storage.
- Improved UX with Firebase authentication and cookies for seamless login/registration, ensuring data privacy.
- Deployed the web app to cloud infrastructure using Docker and AWS EC2 for scalable hosting.

TECHNICAL SKILLS

Languages: Python, Java, C++, R, SQL, JavaScript/TypeScript, HTML/CSS
Frameworks & Tools: React, Next.js, Express, Node.js, Git, Docker, Snowflake, Firebase, PostgreSQL, MongoDB, AWS