

Cyril Melvin Vincent

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Education

North Carolina State University

Master of Computer Science

May 2026

4.00/4.00 GPA

Coursework: Algorithms, Operating Systems, Software Security, Computer Graphics, Neural Networks, Artificial Intelligence

Anna University

Bachelor of Engineering in Computer Science

May 2024

8.53/10.00 GPA

Coursework: Data Structures, Operating Systems, Compilers, Database Systems, Cloud Computing, Intro to AI and ML

Experience

MathWorks

Software Engineer

May 2026 - Present

Natick, MA

- Engineer in Engineering Development Group (EDG)

MathWorks

Software Engineer Intern | Node.js, MySQL, Vue.js, JavaScript

May 2025 - August 2025

Natick, MA

- Reduced API response times by **86%** (1.5s to 200ms) by engineering a cursor-based pagination API with filters & sorting
- Rewrote legacy infrastructure from scratch for **3,000+ engineers**, ensuring feature parity and better performance
- Optimized page load times via code splitting, caching strategies, and reduced reliance on bulky third-party libraries

Rocketlane

Software Engineer Intern | Spring Boot, PostgreSQL, Java, React.js, TypeScript

January 2024 - June 2024

Chennai, India

- Reduced security vulnerabilities by **92.5%** (400 to 30) by engineering a custom Log4j input sanitization wrapper
- Increased user reviews by **40%** in 2 weeks by designing and launching an automated in-app G2 review system
- Enhanced observability for 10+ daily deployments by integrating CalVer versioning with Datadog and GitHub Actions

Rocketlane

Software Engineer Intern | React.js, TypeScript, Spring Boot, Java

June 2023 - August 2023

Chennai, India

- Automated validation for **50+ daily PR merges** by linking CI/CD branch merge rules to the ticketing system
- Ensured HIPAA compliance for 10+ enterprise clients by engineering account-level data transmission flags
- Reduced support resolution time by $\approx 80\%$ by deploying internal Retool endpoints to automate data requests

Projects

Invite Management Discord Bot | Node.js, Docker, PostgreSQL, Rust, Redis, React.js

- Currently serving over **65 million users** across **120,000** Discord groups by tracking over **1.2 million** unique invite links
- Developed a Discord bot to manage server invites, track invite links, featuring 35+ useful utility commands
- Achieved **99.95% uptime** for the Discord bot, limiting total downtime to under 4 hours in 2024
- Enhanced bot scalability via multi-cluster sharding, enabling each shard to manage ≈ 1500 Discord groups efficiently
- Introduced a white-label system for the bot, generating revenue to cover server costs and yielding consistent cash profit

Game Engine | C++, SDL2, ZeroMQ, CMake

- Built a 2D event-driven game engine from scratch with features such as a physics system, multiplayer support, input handling, side-scrolling, replay system, customizable frame rates and timeline speeds
- Created three playable games: multiplayer platformer, snake, and brick breaker to validate engine capabilities

IoT Smart Lock | Python, Node.js, Next.js

- Engineered a smart lock system to prevent theft in freight trucks with internal funding from undergraduate institution
- Utilized GPS and Bluetooth to allow drivers to unlock the truck only when in proximity to predefined locations
- Implemented features such as dynamic route updates, automatic door locks, and 2-way handshake protocol for security

Technical Skills

Programming Languages: Java, Python, TypeScript, JavaScript, HTML, CSS, SQL, Bash, MATLAB

Technologies: Spring Boot, Node.js, PostgreSQL, MySQL, Docker, Redis, AWS, React.js, Next.js, Cloudflare, Git, Linux