

# DUKE NGUYEN

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## EDUCATION

### University of Virginia

Aug. 2023 – May 2026

Bachelor of Arts in Computer Science

Charlottesville, VA

**Relevant Coursework:** Software Engineering, Data Structures and Algorithms, Internet Scale Applications, Computer Architecture, Human-Computer Interaction in Software Development, Discrete Math, Linear Algebra, Statistics

## EXPERIENCE

### Software Engineering Intern

May 2024 – Aug. 2025

Torrential Data Solutions

Virginia Beach, VA

- Constructed and deployed a Vue.js web interface for a security manager application, streamlining internal workflows through a cleaner layout and more intuitive navigation.
- Implemented a Vue.js file-tagging system with Pinia, enabling users to organize 1,000+ files simultaneously.
- Addressed deprecations for 15+ components during frontend migration from Vue 2 to Vue 3, resolving 20+ compatibility issues and ensuring zero-downtime deployment with comprehensive backwards compatibility testing.
- Performed end-to-end testing on completed frontend build, identifying and fixing 10 critical bugs.
- Engineered 50+ automated test scripts for backend OData API endpoints, addressing compatibility issues and catching 3 critical edge cases before production.

## PROJECTS

### MovieBook | PHP, MySQL, MariaDB, Google Cloud | [GitHub](#)

Nov. 2025

- Architected and deployed a full-stack PHP/MySQL movie review platform with authentication, search, and personalized profiles alongside a team of four.
- Designed normalized relational database schema with user, movie, and review tables; implemented constraint enforcement preventing duplicate reviews per user-movie pair.

### DukeDollars - Blockchain Simulation | Python, Bash, CLI | [GitHub](#)

Sep. 2025

- Developed educational cryptocurrency in Python implementing RSA digital signatures, SHA-256 proof-of-work mining, and blockchain validation with wallet generation and transaction verification.
- Created automated tests and CLI tooling in Bash, and documented full system architecture and usage for educational deployment and usability testing.

### Music Production Project Management App | Python, Bootstrap, Heroku, Postgres, AWS S3 | [GitHub](#)

Dec. 2024

- Led a team of 5 as Scrum Master to deliver a collaborative project management app with file sharing, task tracking, and real-time collaboration across 15+ user stories.
- Resolved complex Heroku deployment pipeline issues involving 10+ database migrations and AWS S3 integration.
- Designed and implemented 20+ responsive UI components including dashboard, project timeline, and file management interfaces using Bootstrap.

### Course Reviews App | Java, JavaFX, Hibernate, SQLite, Git

May 2024

- Developed JavaFX desktop application enabling UVA students to create, read, update, and delete course reviews with 10+ responsive UI scenes and integrated with Hibernate ORM.
- Authored 30+ JUnit tests achieving 85% code coverage and ensuring data integrity across CRUD operations.

## TECHNICAL SKILLS

**Languages:** Java, Python, JavaScript, TypeScript, SQL

**Frameworks:** Vue (2 & 3), React, Bootstrap, Django

**Tools:** Git, Docker, Node, AWS (S3), Heroku, Kubernetes, Google Cloud

**Databases:** PostgreSQL, SQLite, MySQL, MariaDB

## LEADERSHIP AND ACTIVITIES

**Eagle Scout** | Boy Scouts of America - Troop 1845

**Captain** | Vietnamese Student Association Volleyball Team

**Middle Blocker** | UVA Club Volleyball Team