



TRAN DUC MANH

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EDUCATION

Northeastern University, Boston, MA Sept 2021 – May 2025
Bachelor of Science in Computer Sciences – Honors Program
• GPA: 3.8/4.0 | Dean’s List Fall 2021, Spring 2022, Spring 2024
• Related Courses: Object-Oriented Design, Algorithms and Data, Theory of Computation, Computer Systems, Network and Distributed Systems, Fundamentals of Software Engineering, System Security

WORK EXPERIENCE

Software Engineer Intern June 2024 – Sept 2024
HIDECC, Hanoi, Vietnam
• Migrated key Hospital Information System components to microservices by developing appointment and patient record services using MERN stack, improving communication efficiency, improving communication efficiency
• Redesigned internal system to utilize Docker containers and a RabbitMQ message broker to distribute background tasks, improving deployment flexibility and scalability by 20%

Quality Assurance Automation Co-op
MFS Investment Management, Boston, Massachusetts, USA Jan 2023 – June 2023
• Delivered 3 full-scale projects in 6 months, exceeding the typical project load for an intern cycle (medium 2)
• Automated end-to-end UI/UX testing for 3 flagship applications by developing 62 Test Complete scripts, reduced the need for manual testing by 25% and increased test coverage to 98%
• Supervised and documented API with Postman and automated Jenkin jobs, which run 15 test suites weekly enhanced robustness by 15%
• Supported Agile project delivery by participating in weekly Kanban sprints, helping to close 54 tickets through validation of new working test suites for internal financial application

PROJECTS

Key Value Database | [Github repo](#) March 2024 – May 2024
• Implemented a distributed, strongly consistent key-value store using the Raft consensus protocol, ensuring safe replication and leader election across multiple nodes
• Designed a Raft-based log replication mechanism to ensure data consistency across crash-prone replicas, handling client put() and get() requests with correctness and low latency

Grocery Store | [Github repo](#) February – April 2024
• Led a 4-person team to deliver a full project, ensuring quality delivery across all phases of development
• Enhanced Covey Town, a NodeJS-based social platform by designing and integrating a new Grocery Store feature employing Typescript on the backend, leveraging Supabase database API to monitor users’ information
• Architected automated testing solution using Jest to control integration failure and achieve 95% test coverage, combined with GitHub CI/CD pipeline to monitor project status
• Designed front-end components and user interactions with ReactJS and Phaser APIs, a HTML5 framework

TECHNICAL SKILLS

Frameworks and Tools: Docker, RabbitMQ, Node.js, Jest, Git, Jira, Test Complete
Languages: Java, TypeScript, Python, JavaScript, C