# TRANG NGO

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## EDUCATION

**Northeastern University**, Boston, MA                                     Sep 2022- May 2025 (Expected)
*Master of Science in Computer Science*                                                    **GPA:** 4.0/4.0
**Coursework**     Web Development, Database Management Systems, Scalable Distributed Systems, Operating System

**Tufts University**, Medford, MA                                                   Sep 2015 - May 2019
*Bachelor of Science in Chemical Engineering*, Summa Cum Laude                            **GPA:** 3.95/4.0

## TECHNICAL SKILLS

| | |
|---|---|
| **Languages** | Python, Java, JavaScript, C++/C, SQL, HTML5, CSS3, Bash Script |
| **Databases** | MySQL, MongoDB, AWS DynamoDB, Redis |
| **Web Frameworks** | React, Redux, Bootstrap, Flask, Spring Boot, D3.js, Node.js, Express.js, Selenium |
| **Developer Tools** | Git, Docker, Amazon Web Services (AWS SDK), Linux, Postman, GitHub Actions, PyCharm |

## WORK EXPERIENCES

**Software Engineering Intern**                                                    May 2023 – Aug 2023
*H2Ok Innovations*                                                                   *Somerville, MA*
- Developed a single page application using **React**, **Bootstrap**, and **D3.js** to visualize real-time IoT sensor data and enable device controls, reducing daily reporting time by over 20 minutes for technicians
- Built RESTful APIs in **Python Flask** back-end to retrieve and transform data from **MySQL**, **AWS DynamoDB**, and **JSON** files for analysis, utilizing a **Redis** cache to reduce database load by 2/3
- Automated dashboard unit testing with **Docker** containers, **pytest** and **Selenium**, achieving 96% code coverage
- Accelerated firmware updates by 65% through **AWS** automation (S3, CloudFront) and a custom transfer protocol

**Graduate Teaching Assistant**                                                    Jan 2023 – May 2023
*Northeastern University*                                                               *Boston, MA*
- Instructed 24 graduate students on Object-Oriented Programming principles through **Java** coding labs
- Mentored 80+ students in software design and testing through office hours, tutoring, and project feedback

**Chemical Engineer II**                                                           May 2019 - Jul 2022
*ZwitterCo, Inc.*                                                                      *Woburn, MA*
- Led cross-functional teams on 3 water treatment pilots and drove sales of over $1.4 million by designing large-scale systems, managing customer relations, analyzing data, and resolving technical issues
- Engineered hardware and LabVIEW software for automated filtration systems, streamlining 40% of manual tasks

## PROJECTS

**Gomoku Game Web Application** | five-in-a-row-react-client.s3-website-us-east-1.amazonaws.com
- Built a multi-player game platform with a responsive **React** UI, leveraging **AWS** (EC2, S3) for cloud infrastructure
- Implemented a game engine and an AI player bot with a 75% win rate using **Java** objects and interfaces
- Created WebSocket and RESTful APIs using **Spring Boot** for authentication, game creation and real-time update

**Full Stack E-learning Web Application** | github.com/TNGO04/E-Learning-Web-App
- Created a learning platform using **React** and **Redux** for UI, enabling users to view courses and take quizzes
- Programmed RESTful APIs with **Node.js** and **Express.js** to manage user, course, and quiz data stored in **MongoDB**

**Photo Book Application** | github.com/TNGO04/Photo-Book
- Developed a **Java** MVC application to generate and display 2D graphics based on instructions from text files
- Designed a Swing GUI for image browsing and tested 100% of functionalities with **JUnit** and **Mockito**

**Mayhem Open-Source Software (OSS) Contributor** | github.com/TNGO04/mayhem-heroes-repos
- Automated fuzz testing for 15 OSS projects by containerizing apps with **Docker** and generating tests with **Mayhem**
- Incorporated test workflows into continuous integration pipelines with **GitHub Actions**, earning a $3700 reward