# Bereket Faltamo

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#### EDUCATION

## Northeastern University

Boston, MA

Master of Science in Computer Science(Co-op), GPA: 4.0

May 2025 (Expected)

### Korea Advanced Institute of Science and Technology (KAIST)

Bachelor of Science in Mechanical & Electrical Engineering(Double Major)

Daejeon, Korea Feb 2017 – Dec 2021

Relevant Coursework: Data Structures, Algorithms, Object-Oriented Design(Java), Operating Systems(C), Machine Learning, Computer Vision, Web Development(Audit)

## TECHNICAL SKILLS

Languages: Java, Python, C/C++, JavaScript, HTML/CSS, MATLAB

Frameworks: Bootstrap, jQuery, React, Node.js, Express, NoSQL(MongoDB), REST API, JUnit, ROS

Developer Tools: Git, Unix Shell, UML, VS Code, IntelliJ

Libraries: OpenCV, PyTorch, NumPy, Matplotlib

## EXPERIENCE

**Teaching Assistant** | CS 5002: Discrete and Data Structures

Dec 2022 - Present

Boston, MA

Northeastern University Khoury College of Computer Sciences

- $\bullet$  Held office hours for 80+ students to review course content and problem sets
- $\bullet$  Conducted one-on-one tutoring sessions for students repeating the class, resulting in a 100% pass rate

#### Summer Research Fellow

 $July\ 2023 - Aug\ 2023$ 

Massachusetts Institute of Technology (MIT)

Boston, MA

- Evaluated various random meshing strategies and assessed their effectiveness using the Heat Method
- Developed a C++ tool using libigl library to automate 3D object segmentation into developable surfaces
- Implemented Iterative Closest Point algorithm using Hausdorff distance for shape correspondence

## Robotics Software Engineer

Apr 2022 - Aug 2022

Seoul. Korea

- Designed and implemented docking algorithm for autonomous service robots using ROS move\_base stack and a V-shaped charging station, reducing docking time by 20%
- Integrated RTAB-Map SLAM algorithm to the robot's perception system using RGB-D camera

#### Projects

DOGU Co., Ltd

NU-foundit! | JavaScript, Bootstrap, React, Redux, Node.js, Express.js, MongoDB, Git

- Developed a lost and found web application in JavaScript for Northeastern University students
- Engineered a RESTful API with Node.js and Express, connecting to MongoDB to manage lost and found item records and user interactions securely
- Designed a user-friendly Single Page Application (SPA) using React and Redux, integrating Bootstrap for responsive and intuitive web pages

Tux Shell | C, Unix, Perl, Git

- Architected and implemented a Unix command-line interface that parses and executes user input commands
- Utilized system calls to execute shell commands, providing users with access to basic file management and process control functionality
- Thoroughly tested the implementation using Perl script

#### Shapes Album | Java, Swing, HTML/CSS, JUnit, Git

- Implemented a custom photo album using Model-View-Controller(MVC) architecture and OOP principles
- Designed user-friendly graphic and web viewers using Java Swing and HTML/CSS
- Ensured robust functionality via comprehensive JUnit testing