

SEUNGHAN, LEE

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EDUCATION

Northeastern University

Master of Science, Computer Science

- Activities: **Teaching Assistant** (Natural Language Processing, Discrete and Data Structure)

Expected: May 2025

Boston, MA

Yonsei University

Bachelor of Science, Economics

- Activities: Mentor's Club (Leadership), Tutor (Mathematics), I Café (Cultural Ambassador)

Graduated: February 2020

Seoul, South Korea

Coursework: NLP, Distributed Systems, Data Structures, Algorithms, Object Oriented Programming, Database, Networking

PROFESSIONAL EXPERIENCE

AI Engineer

BCG X

Jun 2024 – Aug 2024

Los Angeles, CA

- Boosted efficiency of team by **20%** through developing 2 layer **RAG-based GenAI Chatbot** App using **Llama Index**.
- Designed the architecture of **AWS** services including **ECR**, **ECS**, and **S3**, and deployed the chatbot application.
- Developed an interactive graph **visualization module** for **data lineage** for **100+** schemas and their relationship in attribute level.

Software Development Engineer Intern

NU WiNS Lab

May 2023 – August 2023

Boston, MA

- Achieved** significant improvement in bandwidth by **90%** and latency by **50%** for the **live video streaming** application.
- Developed **Python Script** to automate capturing of **1M+ UDP** packets and visualizing network performance using **Tcpdump**, reducing manual effort by **95%** and accelerating efficiency in network monitoring.
- Spearheaded architecture and development of both the **backend** and **frontend** of **web app**, integrating with **Android** Application.
- Leveraged **Firebase** as hosting and Firestore database that works as a signaling server for SDP and ICE candidate negotiation.
- Refactored extensively video capturing program written with Video For **Linux 2** library in **C++**.

Computer Science Instructor

Microsoft

July 2023 – February 2024

Boston, MA

- Taught **Java** Language to **30+** underrepresented high school students, improving their access to computer science education.
- Collaborated** with teachers to develop homework, automated **tests**, and provided support in addressing questions.
- Successfully articulate intricate concepts in a simplified manner, resulting in **100% participation rate** for the class.

Consultant

KPMG

September 2020 – December 2022

Seoul, South Korea

- Increased efficiency** by **80%** through implementing **Python** script to **automate** file categorization for pdf files.
- Led a team to develop tax computation templates for the newly stipulated cross-border e-commerce taxation.
- Efficiently communicated financial risk exposures to its stakeholders during **buy-side M&A Due Diligence**.

PROJECTS

Distributed Systems using Raft Consensus Algorithm | C++, Distributed System

January 2024 – March 2024

Reliable and replicated key-value store system developed in C++

- Optimized **multithreaded** server, **reducing latency by 30%** through efficient **synchronization** technique and thread pools.
- Developed highly **reliable** and failure-tolerant **replicated server** and **client** using **Raft Consensus Algorithm** in **C++**.
- Implemented **RPC interface** to enable communication between servers and to allow recovery of the failed servers.

Generative Dungeon Game | Backend Development, Java, AWS, OOP, Algorithm

February 2023 – May 2023

Java Game with interactive GUI and efficient Backend Design

- Developed **backend system** for a randomly generated 8-bit dungeon crawling game following **OO Design**, **test-driven development** and **MVC** software development pattern in **Java**. Deployed the program to an **AWS EC2** instance.
- Implemented **Graph algorithms** to randomly generate rooms connected with hallways in the Minimum Spanning Tree and to move enemies in Shortest Path to the player.

SKILLS & ACHIEVEMENTS

Programming Languages – Java, Python, C++, C, C#, TypeScript, JavaScript, HTML, CSS, SQL, Kotlin

Tools & Frameworks – Git, Linux, Node.js, Next.js, React, Django, Spring Boot, Android Studio, Unity, Wireshark, TensorFlow

Cloud & Databases – AWS, Google Cloud, Firebase, Docker, Kubernetes, MongoDB, MySQL, PostgreSQL, GraphQL