

Junseok Oh

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Education

University of Waterloo

Sep 2020 - Dec 2024

Bachelor of Mathematics, Information Technology Management

- President's **Scholarship** of Distinction (\$2000)

Skills

- **Languages:** C, C++, Python, Bash, Assembly, JavaScript, HTML, CSS, R
- **Environments:** Linux, AWS, Node.js, Express.js, React.js, jQuery, MySQL, PostgreSQL
- **Tools:** Visual Studio, Git, REST, APIs | security frameworks, SIEM, IDS, packet sniffers

Personal Projects

AntQuAnt | Stock Automated Trading System

Oct 2023 - Present

Python, Git, MySQL, AWS, APIs, HTML

- Designed and set up the development environment by applying the securities firm **web API** and managed the database structure using **MySQL** from **AWS**.
- Leveraged **web crawling** techniques to systematically gather relevant information and conducted real-time trading with **quantitative** investment strategies.
- Real-time trading data prediction accuracy was increased by **20%**, securing **3rd** place in a simulated investment competition in Korea.

Chess-Game | Object-Oriented Software Development

Nov 2022 - Jan 2023

Linux, C++, Git, Architectures

- Designed a chess engine (**UML**) integrating with a graphical user interface (GUI) using **C++** programming and **algorithms**.
- Executed test suits for unit testing in shell environments using **Bash** and updated code by **Make**.
- Adopted the knowledge of inheritance and **design patterns** (observer, decorator, factory, and template).

FTZ | System Attack Simulation and Analysis

Jul 2022 - Oct 2022

Cyber Security, Linux, Assembly, Python, Git

- Built a local server FTZ and utilized **BOF** and **FSB** attack techniques, creating a local lightweight **shell code**.
- Analyzed source code through reversing used **gdb**, **IDAPro** and **x64dbg** and the principles of **backdoors**.
- Participated in the **CTF competitions**, placed in 9th UW CTF.

Predictive Analytics for Securities Firm | A Comprehensive Approach

Dec 2021 - Feb 2022

Machine Learning Methodology

- Conducted an analysis of financial ratio data from KOSDAQ Market's Stock companies in the Korea Exchange Information Data System to ultimately empower investors' information rights.

- Clustered the financial metrics of firms under scrutiny assessing the ROE prediction, current ratio, and sales growth rate by employing the **K-means**, **hierarchical** and **DVSCAN algorithms**.
- Implemented the predictive modelling of the **Random Forest algorithm** to identify the potential areas of fraud or high-risk activities in key variables.

Work Experience

AI CROWDSOURCING PROGRAM

TELUS AI

Waterloo, ON

Jul 2022 – Dec 2022

- Contributed to the development of a scalable data validation framework that became a benchmark for similar projects within the organization.
- Conducted comprehensive validation of AI training datasets to ensure the accuracy, completeness, and consistency in alignment with model outcomes.

PRIVATE EDUCATIONAL INSTITUTE INSTRUCTOR

Smart Edu

Seoul, South Korea

May 2020 – Dec 2021

- Facilitated hands-on coding sessions to reinforce theoretical knowledge and promote practical application of data structures in **Python** to **50+** students.
- Recorded regular one-on-one monitoring sessions using **Excel** to address individual learning needs and offer appropriate feedback.

SERGEANT-AT-ARMY

Republic of Korea Army

Seoul, South Korea

Aug 2018 – Apr 2020

- Led and managed 30+ soldiers in various tactical plans such as diverse combat scenarios, field maneuvers and weapon handling as a **squad leader**.
- Completed specialized training in defensive driving and vehicle maintenance ensuring the timely and secure transportation of personnel and supplies.

Certificate & Others

Certified Google Cybersecurity Professional

Google

Feb 2024

Cybersecurity & Privacy Institute Student Membership

University of Waterloo

Jan 2024 - Present