



Ilhan Yu

Address: 111-1401,11, Suamcheon-ro, Sapgyo-eup, Yesan-gun, Chungcheongnam-do, Korea

Phone: 010-2054-4243

Email: yih5025@gmail.com

Date of birth: April/11/2000

Available to start work: from February 2025

Github: <https://github.com/yih5025>

Tech Blog: <https://dont-make-excuses.tistory.com>

Work Experience

Undergraduate Lab intern | Ubiquitous Computing Lab (Asan, Korea)

03/2022 ~ 08/2024

- **Research:** Conducted research on big data analysis with Spark and Hadoop clusters on low-cost IoT devices (Low-cost Big Data Analysis Scenarios in IoT Environments, Korea Computer Congress 2024 Jeju)
- **Healthcare:** Participated in a research project to build an AIoT healthcare system using smartwatches and was responsible for periodically storing accelerometer, gyroscope, and heart rate data from 300 participants on a oneM2M-based IoT platform server (Mobius) via REST APIs
- **Data Visualization:** Developed a webpage to visualize ultra-fine dust data collected from the lab's air quality monitoring device using Java Spring, InfluxDB, and Grafana, supporting lab members' research

Jeulgeoungam Inc. Intern | E-commerce Company (Asan, Korea)

06/2022 ~ 08/2022

- **Business Development:** Analyzed consumer preferences based on search volume, product availability, and competition intensity to find the Pokémon sticker album as a high-potential product. Strongly advocated for its sale, which led to regular sales and distribution to other retailers, contributing to over \$40,000 in revenue within two months

Projects

Cryptocurrency investment web game | Team Leader

10/2024 ~ 01/2025

- **Project Management:** Identified the growing popularity of cryptocurrency investment and planned a game that allows beginners to easily practice investing, then recruited team members
- **Data Pipelining:** Designed the data Pipeline architecture to ensure frontend and deep learning team members could understand the data flow, collected data from Upbit, used Kafka Streams to load real-time data 30,000 records per minute into AWS DynamoDB, and analyzed users click stream data used AWS Kinesis with Spark
- **Server Engineering:** Built an on-premises cluster and implemented Apache Kafka and Spark for real-time data processing, and developed a serverless backend using AWS Lambda with API Gateway
- **Cost Reduction:** Replaced AWS EMR with an on-premises distributed computing environment, reducing server costs by 94%
- **Game Launching:** Proposed and organized a game exhibition, achieving 164 participants in two days, Updated the game and launched it on the website: <https://www.coinking.site>

Research on big data analysis with Spark and Hadoop clusters on low-cost IoT devices

12/2023 ~ 06/2024

- Built a low-cost Hadoop and Spark cluster using IoT devices (Raspberry Pi 5)
- Conducted a performance comparison between Spark DataFrame and Pandas DataFrame for data analysis
- Executed a machine learning model using Spark ML on the Raspberry Pi cluster to predict fine particulate matter (PM2.5) characteristics, and compared its performance with Scikit-learn
- Demonstrated that large-scale data analysis and ML are feasible using Spark, and Hadoop on a low-cost Raspberry Pi cluster
- Awarded Best Student Paper at the 2024 Korea Computer Congress

User Monitoring App for "\$1 Breakfast" Service | Team Leader

06/2024 ~ 06/2024

- **Problem Solving:** Identified inefficiencies in the "\$1 Breakfast" service and proposed an app-based solution. Conducted a survey with 164 students, revealing that over 92% experienced inconvenience and expressed interest in using the service. Developed a real-time monitoring feature to enhance the user experience of the "\$1 Breakfast" service
- **Leadership:** Led the team as a project manager under a tight 14-hour deadline and developed the app within the hackathon, Awarded top prize in the App Development Contest

Assistive Device for the Visually Impaired Using NFC and OCR | Team Leader

09/2023 ~ 09/2024

- **Problem Solving:** Identified the difficulties visually impaired people experience when using objects. To address this, developed an application utilizing Optical Character Recognition and Object Detection to recognize text on objects and read it aloud. Built a Raspberry Pi-based device with an NFC module, enabling users to record voice messages on NFC stickers
- **Leadership:** Performed project planning, task allocation, development, and the final presentation as the team leader. Led the team over a year to complete the project and received an award at the university's academic competition

Visualization of Korea Air Pollution Data

08/2023 ~ 10/2023

- **Data Visualization:** As part of a Web Programming course assignment, developed a webpage that collects air pollution data in South Korea using Open API and visualized using InfluxDB and Grafana
- **Recognition:** The professor requested a detailed explanation of the project, prepared a report, and presented it. Later, the course selected a web project using air pollution data as the final exam assignment for the course

Summary of Qualification

- Level of Skills

Spark	●●●●●●	Hadoop	●●●●●●	Kafka	●●●●●●
Python	●●●●●○	AWS	●●●●●○	DE	●●●●●○
Java	●●●●○○	Spring	●●●●●○	ML	●●●●○○
SQL	●●●●○○	JavaScript	●●●●○○	HTML	●●●●●○
CSS	●●●●●○	GCP	●●●○○○	English	●●●●○○
PowerPoint	●●●●○○	Excel	●●●○○○	Word	●●●●○○

Education

Soonchunhyang University (Asan, Korea)

03/2019 ~ 02/2025

- Earned a bachelor's degree in Internet of Things
- Graduated from Soonchunhyang University in February 2025
- Completed subjects related to the desired internship

Introduction to the Internet of Things, Computational thinking and problem-solving, Java Programming, Data structure, electrical and electronic circuits, Internet of Things Platform, Network Programming, Operation System, Computer Network, C Programming, Logic Circuit, Algorithm, Opensource SW, C++ Programming, Web Programming, IoT Networks, Basics of Data Analysis, Embedder system Fundamentals, Machine Learning, Deep Learning, Capstone Design, Information Security

Award & Certificate

- 11/2024 Advanced Data Analytics Semi-Professional Nationally Recognized certification
- 11/2024 SW Program App Development Contest "1\$ Breakfast Real-Time Monitoring App Service" – Top prize
- 11/2024 SW Program Game Development Contest "Crypto mock investment game" – Top prize
- 11/2024 SW Venture Startup Academy Program Idea Contest – Grand prize
- 09/2024 SW Venture Startup Academy Program Coding Contest – Excellence prize
- 09/2024 SQL Developer Nationally Recognized certification
- 08/2024 Best Project Planning Award at the Software Workshop – Top prize
- 06/2024 Best Student Paper at the 2024 Korea Computer Congress
- 12/2023 Cultural exchange and Virtual campus build – Top prize
- 09/2023 Big Data Analysis and Development Contest – Excellence prize
- 08/2018 Internet of Things knowledgeability verification certificate

Activities

11/2024 ~ current	Cryptocurrency Game	Launching a Cryptocurrency game within the department
12/2023 ~ 12/2024	Volunteer Mentoring	Multicultural elementary school mentoring
08/2024 ~ 08/2024	Venture Hackathon	Developed a Real-Time User Monitoring App for "1\$ Breakfast" Service
08/2024 ~ 08/2024	Software Workshop	Networking, businesses, and project planning on SW Venture Startup Academy
06/2024 ~ 06/2024	Presentation of Paper	Presentation of paper at KCC2024 Conference
12/2023 ~ 02/2024	Prototype development	Ultrafine dust measurement device Prototype development activities
09/2023 ~ 11/2023	Hackathon management	Operation the SCH Hackathon Web project
05/2022 ~ 08/2022	GIST Hackathon	Developed a pill auto dispenser
03/2022 ~ 04/2024	Weight training Club	With classmates, go to the gym and weight training

Additional Information

- **Military Service:** Completed military service as a Sergeant, serving as a border security guard at the frontline GOP
- **Volunteering:** Participated in a multicultural mentoring program for 1 year, tutoring a mentee in mathematics and helping improve their score by 40 points
- **Team Sports:** Played basketball since middle school, enjoying strategic planning and teamwork regardless of the outcome
- **Hobby:** Enjoy watching NBA LA Lakers games and supporting LeBron James and Austin Reaves