

Education

Korea Advanced Institute of Science and Technology

South Korea

Bachelor of Science in Computer Science

Sep 2020 – Jan 2025

Coursework - Algorithms, Data Structures, Operating Systems, System Programming, Introduction to Database, Machine Learning, Basics of AI and Big Data, Linear Algebra, Discrete Mathematics, Statistical Machine Learning, Special Topics in Deep Learning, Intro to Software Engineering, Introduction to Computer Vision, AI-based Software Engineering

Experience

LooksRare

New York, US

Software Engineer, remote

Dec 2023 – Feb 2024

- Optimized Cloudinary resource usage by 75% through strategic caching, size constraints, and seamless integration of the Next Image Loader which significantly reduced the service cost.
- Implemented site-wide dynamic search feature, enabling seamless exploration of the whole service.
- Developed an email subscription feature to notify users about updates on their assets.

Software Security Lab

Daejeon, South Korea

Research Intern

July 2023 – Aug 2023

- Worked on B2R2 project by developing lifters and parsers for MIPS, RISC-V, and PA-RISC architectures— enabling reverse engineering and binary analysis through intermediate representation for those ISA.

Incento

Seoul, South Korea

Software Engineer

June 2022 – May 2023

- Engineered a robust server infrastructure to handle 3 million+ daily users, leveraging Django, Celery, and AWS, resulting in a resilient data management system for 30+ e-commerce shops.
- Optimized data querying, achieving a significant 80% reduction in response time:
 - * Redesigning Django models and optimizing server-side functions responsible for data retrieval and processing.
 - * Reducing database hits with optimizing raw SQL queries and partitioning.
 - * Implementing caching and multithreading to enhance performance and concurrency in handling client requests.
- Developed a real-time analytics [dashboard](#) for merchants, utilizing Typescript and Next.js to provide business insights and campaign automation.
- Implemented an extra project aimed at creating AI-based product recommendation system liked by 20k+ users and resulted in as much as 100k+ clicks within two weeks. Utilized Python, TensorFlow, and JavaScript for development.

AI-nomis

Seoul, South Korea

Software Engineer Intern

Dec 2021 – May 2022

- Designed and developed a scalable, distributed web crawler. It could crawl and download 50k+ images at once. It was mainly used for creating large image datasets for deep learning models. [Python, Celery, AWS, MongoDB, React]
- Built a high-performance web-based 2D labeling tool for semantic segmentation and object detection tasks with the support of keyboard shortcuts, mouse adjustment of the box coordinates, and navigation between different time frames of the data, demonstrating a 10x improvement in speed of data labeling compared to the prior coordinate-based approach.[Python, JavaScript, PyTorch]
- Individually redesigned and built [MBC mini](#) webpage and its [desktop](#) app using React, Redux, Electron, and Typescript.

Express24.uz

Tashkent, Uzbekistan

Software Engineer Intern

Dec 2020 – March 2021

- Refined real-time delivery tracking system, enabling dynamic courier location updates for customers, resulting in a ~30% reduction in customer service inquiries and leading to a 15% increase in repeat order rates.
- Implemented a dynamic ETA calculation engine, which utilizes real-time traffic data and driver behavior models to provide customers with more accurate delivery times, reducing average customer queries by 30%.

Awards

National Math Olympiad

Uzbekistan, 2017

- Achieved first place with a score of 92/100 among 300+ high school students in Uzbekistan's premier mathematics competition, marking the first gold medal in the field for my high school.

Summary

AI researcher and web developer with a passion for problem-solving and a strong desire to continuously learn and grow. With over 4 years of experience in coding and a current enrollment in the computer science program at KAIST.

Experience

Undergraduate Research Assistant

SMILE LAB, KAIST

Daejeon, S.Korea

June, 2023 - present

- Working on algorithm optimization for Hawkeye: a hectometer-range sub-centimeter localization product

Intern

SMART AND SUSTAINABLE ENVIRONMENT DESIGN LABORATORY (SSEL)

Daejeon, S.Korea

Feb. 2023 - present

- Developed a secure and efficient website to host large machine learning models
- Researched and implemented various algorithms for data pre-processing and cleanup

Undergraduate Researcher

USERS AND INFORMATION LAB

Daejeon, S.Korea

April, 2023 - May 2023

- Collaborated in a team to systematically evaluate ChatGPT's performance in low- to medium-resource languages.
- Gained valuable insights into the challenges and opportunities of working with language models in low-resource settings.

Projects

Harvest ROS: An Autonomous Fruit Harvester

JUNE, 2023

- Implemented a fruit harvesting robot utilizing turtlebot3 and the Robot Operating System (ROS).
- Utilized a fine-tuned YOLOv5 model to classify fruits into six ripeness levels.
- Leveraged a combination of 2D cameras and ultrasonic sensors for depth estimation of ripe fruits.

Development of a Multi-Functional Input Device: The Modichorder

DEC, 2022

- Designed and developed a Modichorder device, serving as a combination of computer mouse and keyboard.
- Utilized buttons, connecting wires, gyroscopes, Lego blocks, and a network module from the MODI kit to construct the device.
- Developed a Python program to communicate with the device.
- Incorporated an NLP model for real-time auto-completion capabilities.

Facial Expression Detection

JAN, 2022

- Designed and implemented a facial expression detection model using Pytorch.
- Model classified images of faces into one of 7 emotions with high accuracy.
- Utilized pre-trained weights for improved performance.

Checkout my GitHub page [here](#) for more projects

Extracurricular Activity

KAIST International Students Association

WEB DEVELOPER

Daejeon, S.Korea

Sep. 2021 - present

- Contributed to the development of the KAIST International Students Association (KISA) website as a web developer.
- Enhanced the website functionality by implementing new features and fixing bugs.

Skills

Python

Java

ROS

CSS

Matlab

Shell

Canva

Django

Git

TensorFlow

Pytorch

EDUCATION

Ulsan Institute of Science and Technology (UNIST)

South Korea

Bachelor of Science in Computer Science

Aug 2020 – Aug 2024

- Coursework — Computer Networks, Operating Systems, System Programming, Databases & Systems, Algorithms, Data Structures, Software Engineering, Programming Languages, Linear Algebra, Special Topics in Computer Science, Introduction to Algorithms, Principles of Programming Languages (in Scala), Introduction to AI I and II

EXPERIENCE

UNIST

South Korea

Software Engineering Intern

Jun 2021 – Sep 2021

- Served as a Teaching Assistant to Professor Bradley Tatar, contributing to the educational experience by providing support in various capacities.
- Developed an automatic scoring application for tests and overall future GPA.
- Introduced and implemented the ChatGPT API to augment the plagiarism-checking functionality. [Python, JavaScript]

UNIST

South Korea

Software Engineer Intern

Sep 2022 – December 2022

- Collaborated closely with Professor Christopher Lovins, actively contributing to academic initiatives.
- Designed and developed a Python Calculator aimed at analyzing student grades, providing a comprehensive tool for predicting expected final grades, and offering tailored insights on potential areas for improvement.
- This experience underscores dedication to leveraging technology to optimize educational outcomes and foster continuous improvement within the academic environment.. [Python, JS]

IlmNur

Uzbekistan

Software Engineer

Feb 2020 – Aug 2020

- Worked on migrating from Vue to React, developed mobile applications
- Secured over 50 contracts with government and private sectors on the development and deployment of fully functional, mobile-friendly React applications [React, JS, Web-Development, Git]

PROJECTS

MoshiMoshi

South Korea

Feb 2023

During my Software Engineering course at UNIST, I embarked on the development of a versatile audio control tool, designed to offer users greater control over audio playback and its flow. While the project is a continuous work in progress, it has been a valuable opportunity to apply software engineering concepts in a real-world context.

This tool remains an ongoing endeavor, representing my commitment to refining and enhancing its functionality. It serves as a testament to my passion for software engineering and my dedication to creating innovative solutions, even when challenges and complexities arise.

Sup!

mobile site link

South Korea

Nov 2023

- In collaboration with Azizbek Umidjonov, I am currently developing an application tailored for students seeking to enhance their learning experience in subjects like Physics, Chemistry, and Biology. Our project has reached an exciting milestone, with the completion of the front end and the implementation of essential functionalities on the platform. We are committed to delivering a valuable tool that empowers students in their educational journey.

AWARDS

Global Dream Scholarship

South Korea

Aug 2020

Issued by UNIST for excellence in studies includes full tuition fee, monthly stipend, student expenses

"The greatest glory in living lies not in never falling, but in rising every time we fall."

Education

KAIST (Korea Advanced Institute of Science and Technology)

B.S. IN COMPUTER SCIENCE AND BUSINESS (CURRENT GPA: 3.85)

- an Honours Student with a Full-ride Scholarship+Stipend

Daejeon, South Korea

Aug. 2020 - Ongoing

AAiT (Addis Ababa Institute of Technology)

ADDISCODER CODING CAMP (WWW.ADDISCODER.COM)

- a top 3 percent scorer.

Addis Ababa, Ethiopia

July 2019 - Aug. 2019

Experience

Calici (CEO: Prof. Jae Mun Choi)

SOFTWARE ENGINEERING INTERN (DJANGO, REACT)

- Worked mainly as a Back-end engineer using Django Framework.
- Wrote the back end of Calici's chatting system and integrated it.
- Sped-up response times using Redis caching.
- Made updates to the DB to be displayed in real-time using socket.
- Added a notification feature using FCM.

Daejeon, South Korea

Jun. 2023 - Dec. 2023

Undergraduate Intern, Software Security Lab (Prof. Sang Kil Cha)

RESEARCH AND DEVELOPMENT INTERN

- Ran various fuzzers on target programs and reproduced vulnerabilities and crashes.
- Identified suitable target programs for a research paper and fuzzed them.
- Built a complete Ocamlyacc-based parser and lexer program.
- Read and reviewed most of the important fuzzing papers published so far.
- Compared and analyzed the structural differences of various state-of-the-art fuzzers like SieveFuzz and Beacon.

Daejeon, South Korea

Jan. 2023 - April 2023

Skills

Programming Languages

JavaScript, Python, Java, C, Assembly x86-84, PHP, HTML/CSS, SQL, MongoDB

Frameworks and Knowledge

Django, Node.js, Solidity, Node-RED, React, unittest

Development and Database Tools

Linux, Git, MySQL, MongoDB

Projects

An Instagram-like Site

MERN FULL-STACK DEVELOPMENT

- Allows posting Images and Following Users
- Displays Posts of Following Users, and you can also checkout your Followers.
- Github Link: <https://github.com/hale2024/Hale-Insta>

Daejeon, South Korea

Sept. 2022 - PRESENT

Klatyn-Solidity Blockchain Development

CHARITY APPLICATION

- A Klatyn-based solidity blockchain app deployed on Netlify.
- An app for collecting charity for Ethiopian civil war victims.
- Github Link: <https://github.com/hale2024/Charity-Web3>
- Netlify Link: <https://playful-pasca-0fc5f0.netlify.app/>

Daejeon, South Korea

Apr. 2023

Conversation Starter with a Foreigner

Daejeon, South Korea

NODE-RED DEVELOPMENT

Nov. 2022

- I have used a total of 7 OpenAPIs, 1 Informative Website, 1 special node-red module, and 2 special node-red nodes for the successful implementation of this service. I integrated this APIs by feeding the output of one API as the Input of the other.
- As a foreigner studying in Korea, I and many of my foreign friends experience difficulty beginning a conversation with a fellow foreigner, especially during our initial days after coming. This mashup application exactly tries to solve this problem by assisting in brainstorming various conversation starting points with a foreigner.
- Github Link: <https://github.com/hale2024/Conversation-Starter-with-a-Foreigner>

Soccer Players Filtering Testing

Daejeon, South Korea

UNITTEST PYTHON MODULE

May 2022

- The input dataset will contain a list of soccer players and their information, including name, age, country, overall rating, and position. The source code retrieves relevant information from this dataset by making use of initially defined functions.
- The comprehensive tests I built will ensure that accurate information retrieval is done when the source code functions are called.
- Github Link: <https://github.com/hale2024/SE-Test-Case-Prep>

A ToDoList App

Daejeon, South Korea

EXPRESS/EJS/MONGODB

July 2022

- You can create a simple daily planner using this app and tick-off completed tasks. Deployed on Heroku and MongoDB
- Deployment Link: <https://floating-falls-46304.herokuapp.com/>

An Ocamlyacc Calculator

Daejeon, South Korea

OCAMLACC/PARSER/LEXER

Feb 2023

- You can perform any arithmetic operation using it.
- The lexer picks up the arithmetic tokens and the parser performs the necessary operations on the tokens.
- Deployment Link: <https://github.com/hale2024/Ocamlyacc-Calculator>

EDUCATION

Korea Advanced Institute of Science Technology (KAIST)

Bachelor of Science in Computer Science
Double Major in School of Business and Technology Management

2018-2022
Daejeon, South Korea

Nazarbayev Intellectual School of Physics and Mathematics

High School Diploma

2014-2018
Almaty, Kazakhstan

EXPERIENCE

DYPHI Inc.

Data Scientist Intern

Dec 2020 - Jan 2021
Daejeon, South Korea

- Developed an algorithm to visualize the human walking acceleration regions data obtained from clients
- Parsed CSV data and transformed it by applying smoothing techniques

Tech stack: Python, Django, NumPy, Matplotlib

Ceeya Inc.

Software Engineering Intern

Jun 2021 - Oct 2021
San Francisco, US

- Implemented a full-featured mobile application for the company from scratch
- Configured development and production environments on the Android platform
- Configured the Push Notifications for devices on the Android platform
- Developed functional mobile pages and corresponding design
- Deployed the app for initial distribution and testing on the Android platform by generating .APK file

Tech stack: React Native, TypeScript, AWS Cognito, Pinpoint

Fitness Labs (Hero's Journey)

Junior Software Engineer

Nov 2021 - Nov 2021
Almaty, Kazakhstan

- Improved program description page by adding booking page by date and time
- Implemented a weight description page with corresponding graphs for each training set

Tech stack: React Native, JavaScript

Treasurer Co.

Junior Software Engineer

Nov 2021 - Nov 2022
Seoul, South Korea

- Implemented APIs for order book of Treasurer items
- Designed the order book of items page on the admin website of the Treasurer
- Implemented Slack bot which gives the report of daily, weekly, and monthly core activities of the Treasurer
- Maintaining the business process of Treasurer by analyzing and processing crawled data from trading platforms
- Implemented a crawler to parse and analyze data on luxury watches and wines from different platforms
- Maintaining a crawler and script to run every day for getting, cleaning, and updating data every day for our database and platform <https://watch.treasurer.co.kr/en/main>
- Implemented an API for getting market depth of wines from Liv-ex with different vintage years

Tech stack: Node.js, JavaScript, React, Python, Nest.js

Listly.io

Software Engineer

Nov 2022 - Nov 2023
Daejeon, South Korea

- Implemented the Listly Whole and Part Multiple tabs feature, empowering users to extract data seamlessly from all open tabs
- Implemented the capability for multiple tabs data extraction, providing a streamlined process that organizes extracted data into a designated folder
- Successfully deployed the Listly Part Tabs feature to end users, incorporating a redesigned extension page for an enhanced user experience.
- Developed API Views to efficiently manage and handle requests originating from the Chrome extension, ensuring seamless communication and functionality

Tech stack: JavaScript, JQuery, Python, Django

Heroworks

Software Engineer

Nov 2023 - Current

Busan, South Korea

- Led a two-person team in implementing a Heroworks hotel price and review crawler, scheduling automated runs every hour, day, and month
- Developed the backend for the Heroworks Revie project, ensuring a solid foundation for core functionalities
- Deployed OTAs crawlers on AWS EC2 instances, optimizing scalability and performance
- Collaborated with Kabuk, a Japanese company, to troubleshoot and resolve critical issues in the price crawler

Tech stack: Python, Nest.js, AWS, Celery, RabbitMQ

PROJECTS

Web Application 'World Capital Quiz Game'

Apr 2021

- Developed an interactive quiz game with a database for storing results
- Implemented a full-featured website for guessing the capitals of countries
- Developed one-page website with data entries and map location of capital and country

Tech Stack: HTML/CSS, JavaScript, jQuery, Firebase

 [GitHub repository](#)

Web Application 'Easy Korea'

Apr 2021 - May 2021

- Implemented a full-featured website to help foreigners get comfortable in Korea
- Developed 4 pages website with a 4 people team. Forum, Emergency, Guides, and Home pages.
- Contributed in implementing Forum, Authentication, and Home pages using React, Firebase, and React Hooks

Tech Stack: React.js, React Hooks, HTML/CSS, JavaScript, jQuery, Firebase

 [GitHub repository](#)

AWARDS

ACM ICPC Semifinal, Korea 2019

17th place out of 650+ teams

KAIST International Futsal Cup, Korea 2018

1st place out of 13 teams

EDUCATION

Korea Advanced Institute of Science and Technology (KAIST)	Daejeon, South Korea
Double Major	
Bachelor of Science in Computer Science	Aug 2020 -
Bachelor of Science in Business and Technology Management	Aug 2020 -
Relevant Coursework: Data Structures, Algorithms, Web Security, System Programming, OS	

EXPERIENCE

Gudo Investment Advisory	Seoul, South Korea
<i>Software Developer Intern</i>	June 2023 - August 2023
<ul style="list-style-type: none">Refactored, optimized and migrated software tools into new web application. [Python]Designed and implemented software modules for data crawling, fetching and processing of millions of rows of data. [Python, pandas, Postman]Built high-impact, resilient full-stack components for an internal web application used to make decisions for transactions in the \$1~2 millions. [Flask, MySQL, AWS]	
Gudo Investment Advisory	Seoul, South Korea
<i>Python Intern</i>	June 2022 - August 2022
<ul style="list-style-type: none">Wrote scripts to scrape and process data insights using NLP techniques, optimized to decrease default run-times by 250%. [Python, pandas, scipy]Designed database models and built back-end APIs along with frontend to integrate NLP and data analytics into sophisticated Flask web application [Flask, JavaScript, MySQL, AWS]	
KAIST International Student Association (KISA)	Daejeon, South Korea
<i>Web Division Leader (Full Stack Developer)</i>	March 2020 - Present
KISA is a student-led organization tasked by KAIST to curate relevant information, plan events and offer assistance to the international community in KAIST.	
<ul style="list-style-type: none">Spearheaded new initiatives as the division leader.Developed several apps for the website used regularly by a community of 900+ students. [Python, Django, JavaScript]Built and deployed a CI/CD pipeline to the Apache server, increasing deployment frequency by 400%. [Docker, Drone CI, Linux, Bash, Apache2]	

PROJECTS

[HTTPS://GITHUB.COM/SHAMSOW](https://github.com/shamsow)

Homemaker <i>React, Django, Python</i>	https://github.com/shamsow/django-react-homemaker
A web application which is a one stop solution to managing food stocks, recipes and meal planning.	
<ul style="list-style-type: none">Django back-end built as a REST API.React front-end utilizes Material-UI for a clean and polished look.User authentication implemented using JWT.Complete build with error highlighting on all forms with relevant messages.	
Twrends <i>Python, Flask, Javascript, jQuery</i>	https://github.com/shamsow/twrends
Twrends (Twitter Trends) is a web application which allows exploration of trending topics from any region. Seamlessly communicates with the Twitter API and utilizes web scraping to fetch tweets pertaining to trending topics from various countries around the world. Brings Geo-locked content to the user's fingertips. Completely bypasses Twitter's strict API rate limiting.	
Flack <i>Python, Flask, JavaScript, Sockets-IO</i>	https://github.com/shamsow/flask-flack
A browser based chat application akin to Slack. Features chat channels, real-time messaging and was built from scratch.	

SKILLS

Programming Languages:	Python, C, C++, Rust, JavaScript, HTML, CSS
Frameworks/Technologies:	Django, Flask, NodeJS, ReactJS, ExpressJS, Next.js, jQuery, git
Databases:	MySQL, SQLite3, MongoDB
Familiar with:	Docker, Linux, Bash