



# Jinho Ko

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*I majored in Convergence IT Engineering, focusing on computer systems and AI, at POSTECH. Currently, I am studying in the graduate school of the same university, specializing in the field of data systems. I have a passion and expertise in designing and implementing large-scale data systems, and I also have a keen interest in data-driven interdisciplinary fields. Through continuous project work, I am enhancing my skills in solving real-world problems.*

## Education

### Pohang University of Science and Technology (POSTECH)

INTEGRATED M.S. · PH.D. PROGRAM, GRADUATE SCHOOL OF AI (GSAI)

- Research on data systems and graph processing engines

Pohang, South Korea

Sep 2022 - PRESENT

### Pohang University of Science and Technology (POSTECH)

B.SC. CONVERGENCE IT ENGINEERING

- Full-ride and exchange student scholarship (IT Consilience Creative Program - \$50k)
- Have focused on two tracks, computer systems and AI, and have also taken interdisciplinary courses including numerical analysis and bioinformatics
- UC Berkeley, CA, United States — Semester Abroad Fall 2018
- Rhode Island School of Design, RI, United States — Semester Abroad Summer 2018

Pohang, South Korea

Mar 2018 - Aug 2022

### Daegu Science High School

SCHOOL FOR THE GIFTED

- Computer Science Track

Daegu, South Korea

Mar 2015 - Feb 2018

## Professional Experience

### Republic of Korea Army

MILITARY SCIENCE AND TECHNOLOGY SOLDIER

- Research Engineer specializing in big data analysis. Fulfilling mandatory military service (ends Aug 2025)

Feb 2024 - PRESENT

### Data Originals Co.

FOUNDER

- Founded a company that discovers new values in various fields based on data technology, and is currently developing items in the financial field.
- Homepage: [www.dataoriginals.com](http://www.dataoriginals.com)

Jun 2023 - PRESENT

### AIMento Inc.

AI ENGINEER

- Creation and quality improvement of Korean language education content using large-scale AI models

Sep 2023 - Jan 2024

### Data Systems Lab, POSTECH

GRADUATE STUDENT

- Research and design/development of schemaless property graph query processing engine and query compiler technology
- GPU server maintenance

Sep 2022 - Jun 2023

### Samsung Electronics Co., Ltd

TEACHING ASSISTANT FOR LECTURES FOR THE EMPLOYEES

- Lab sessions and programming lectures on big data systems and machine learning techniques such as Apache Spark, Hadoop, Kafka, Zeppelin and SQL
- Designed project lectures related to job duties

Jun 2019 - Sep 2020

### Data Systems Lab, POSTECH

UNDERGRADUATE RESEARCH INTERN

- Study on graph partitioning techniques for efficient query processing in distributed environment — Summer 2021
- Construction of a multi-node GPU Job Scheduler using Kubernetes — Fall 2020
- Research and development of parallelization of Frequent Itemset Mining Algorithm based on Apache Spark — Summer 2020
- Research on technology that translates natural language into SQL(NL2SQL) using deep learning — Winter 2018

Dec 2018 - Sep 2022

## Projects

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### Explainable Stock Price Analysis System

- Developed a technique to explore and analyze factors that affect stock prices over time by introducing a Factor Graph Model to multiple time series data
- A comprehensive system that visualizes stock price data collection, preprocessing, and analysis results in graphs and describes them in template-based natural language sentences

### Indoor Infection Safety System

- Developed an indoor positioning and infection probability prediction system based on BLE technology to deal with the indoor infection of COVID-19
- Awarded an excellence award for outstanding result in the Creative IT Design Competition
- Suggested an idea for building a decentralized interaction database by incorporating a blockchain that generates transactions on contact

### DPSort

- Developed a system in pure Scala language to sort large-scale data distributed across multiple machines in parallel (4K LOC)
- Implemented by combining object-oriented and functional programming, and applying techniques such as documentation, testing, and design patterns.

### Potion

- Implemented a graph-based note app prototype with a personal knowledge base as a motif
- Used Node.js, React, and Python backends

## Skills / Languages

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With extensive experience in developing and utilizing data system frameworks, I bring strong skills in system design, implementation, and systemic thinking. I have a proactive approach to understanding the fundamentals of various subjects, enabling me to quickly adapt and learn new concepts. I prioritize efficiency in my work and have a keen interest in applying effective project management methods.

Below are the technology toolkits in which I specialize:

<b>Language</b>	Korean(Native), English(C1;Advanced)
<b>Programming Lang.</b>	C, C++, Python, Scala, Golang
<b>Frameworks / Systems</b>	RDBMS, GDBMS, Linux, Docker, Apache Spark, Apache Hadoop, Kubernetes, AWS
<b>AI</b>	PyTorch, LangChain
<b>Web Development</b>	React.js, Bootstrap, Node.js
<b>Testing, VCS, CI/CD</b>	Git, Catch2, Jenkins

## Certifications

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**Languages** ETS TOEIC 980/990 (2023), IBT TOEFL 94/120 (2018; Expired)

## Honors and Awards

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### The 5th Future Finance AI Challenge

*KB Kookmin Bank*

AWARDED EXCELLENCE AWARD (3RD PLACE) | TEAM ATHENA

*31 Aug 2023*

- Implemented a human-in-the-loop system that creates customized generative AI advertisements using advertisement and user databases

## Area of Interests

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- Designing and developing Big Data Systems
- Graph Query Processing Engines and its Applications
- Knowledge-driven AI and Natural Language Processing
- Hardware-Optimized Data Systems
- Interdisciplinary fields based on data technology (Fintech, Cognitive Informatics, Bioinformatics, etc.)

## Additional Information

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- **Experiences** — Provided technical advisory for data pipelines and processing technologies to several domestic startups
- **Personality** — Am always goal-oriented and thoroughly planned. Like to walk a different path than others. Have a habit of organizing everything (Personal blog: [blog.jinhoko.com](http://blog.jinhoko.com))

- **Hobbies**— Enjoy dynamic sports activities such as riding, skiing and surfing, and enjoys watching baseball games. Also enjoy gourmet food, and like to take pictures