

Sangho Kang

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EDUCATION

Imperial College London

Computing (AI and Machine Learning) | GPA: A

London, UK

October 2022 – June 2025

Shanghai High School International Division

International Baccalaureate Diploma | 43/45

Shanghai, China

January 2016 – July 2022

TECHNICAL SKILLS & EXPERIENCES

- Languages: Python, Java, Kotlin, JavaScript, C, Haskell, Scala, SQL
- Frameworks & Tools: Spring Boot, Android Studio, Swift (iOS), WeChat Mini Programs, MySQL
- Machine Learning: PyTorch, Scikit-learn
- Systems & Compilers: OS development in C (Pintos), compiler construction in Scala (WACC)

INTERNSHIPS

Guardian AI

AI Researcher Intern

Icheon, Korea

June 2025 - Present

- Assisted in writing Nvidia tech blog articles and performed technical AI research to identify and propose advanced solutions for company integration.

Dunamu

Software Development Intern

Seoul, Korea

September 2023 - May 2024

- Built an LSTM-based Seq2Seq model to transliterate English names into probable Korean counterparts, enabling effective identification of blacklisted users from partial data and strengthening KYC/AML compliance for one of Asia's leading cryptocurrency exchanges.
- Developed a Kotlin Spring Boot API to detect potentially malicious accounts, surpassing a legacy Soundex-based system in accuracy and flagging 8,000+ suspicious entries – bolstering user verification and regulatory compliance in a high security fintech environment.

KCGI Co., Ltd.

Global Management Intern

Seoul, Korea

August 2023 – September 2023

- Built a Python application to analyze 10 years of KOSDAQ 150 and KOSPI 200 data, identifying statistically significant mean reversion patterns using a 12-month lookback.
- Simulated and evaluated multiple algorithmic trading strategies—including momentum, mean reversion, and Google Trends-based models—using historical market data for comparative performance analysis.
- Engineered an automated pipeline to scrape and visualize hedge fund holdings from SEC Edgar Form 13F filings, enabling insights into institutional investment trends.
- Designed a Python-based ETF simulator replicating hedge fund portfolios via 13F data, assessing performance through return metrics, turnover rate, Sharpe ratio, and tracking error.

Seoul National University AI Lab

Software Development Intern

Seoul, Korea

March 2023 – April 2023

- Contributed to Waffle Hub, a Python-based machine learning library used in industrial visual inspection systems.
- Developed a synthetic image generation tool to enhance model performance in low-data environments, supporting deployment in sectors like automotive and manufacturing.

RESEARCH & PROJECTS

Self-Alignment in Agents | Independent Research

August 2025

- Researched cyclic synchronization behaviors in deterministic multi-agent systems; formalized the “Box Workers” bottleneck problem using deterministic finite transition systems and proved that finite-state synchronized agents inevitably enter cycles.
- Extended the DFSMAS framework to explain cyclic patterns in random number generation and simulation theory, proposing a deterministic yet non-cyclic RNG method using unsynchronized clocks.

Guitar Tone Style Transfer

December 2024 – Present

- Building a zero-shot, one-to-many guitar tone modeling system using machine learning. Inspired by research in amplifier and voice style transfer; focuses on tone embedding control for real-time audio transformation.

Military Equipment AI Assistant

March 2025 - June 2025

- Designed a prototype AI assistant for military equipment maintenance, integrating RAG (LlamaIndex) with LLaMA3 to provide real-time troubleshooting and repair guidance based on technical manuals.

Optical Distance Measurement

November 2021 – April 2022

- Designed a low-cost distance measurement method using optical triangulation and image processing. Aimed at applications in hardware-constrained environments.

Graduation Hat Image Generator

November 2021 – April 2022

- Developed a Python application using face recognition to generate graduation hat images. Produced 250+ outputs used in the yearbook and graduation ceremony.

WeChat Student Body App

April 2019 – June 2022

- Built and maintained a WeChat in-app tool for Shanghai High School's student body. Enabled event promotion, charity merchandise sales, and student-wide communication with 800+ users by 2021.

VOLUNTEERS**Purun Gongbubang Community Child Care Center** | *Government-registered Child Welfare Center*

Seoul, Korea

- Taught programming and mathematics to elementary and middle school students after earning Level 1 Coding Instructor Certification from the Korea Institute for Qualification.

LANGUAGE PROFICIENCY

- Korean (Native), English (Native), Chinese (Fluent), Japanese (Fluent)