

SISUNG KIM

AI Application Developer | DevOps Developer | Automation Expert | Data Scientist | Physicist

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[GitHub](#) | [LinkedIn](#)



Professional Summary

Dedicated software developer with a strong foundation in Python and TypeScript, committed to advancing automation and clean code practices. Specializes in modular development methodologies, such as [Micro-Wise Development](#), with a focus on improving productivity, stability, and scalability in software systems. Driven by a goal to collaborate with teams and organizations to enhance reusability, efficiency, and maintainability in code, enabling robust and scalable solutions across projects.

Skills

- **Programming:** Python (Advanced), TypeScript (Intermediate), React, StoryBook
 - **Data Science:** Deep Learning, PyTorch, Machine Learning, LightGBM, Statistics
 - **AI & NLP:** LLM (Large Language Models), Prompt Engineering, HuggingFace, LangChain
 - **DevOps:** CI/CD, Git, PyPI publishing, TDD, Docker
 - **Cloud Services:** Google Cloud, Paperspace
 - **Web Development:** FastAPI, OpenAPI, MongoDB
 - **Others:** Linux, Ubuntu, Optics (Laser trapping, Fiber optics, Quantum optics)
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Work Experience

Senior Independent Developer and System Integrator

October 2023 - Present

- [Micro-Wise Development](#): Developed a methodology that encapsulates each module within independent repositories, facilitating seamless integration and offering extreme modularity. This approach provides significant independence for both developers and modules, particularly beneficial in team-based environments.
- Python-TypeScript Integration: Enabled Python-developed functionalities to be used seamlessly on the TypeScript frontend, allowing for convenient access to Python's capabilities within the TypeScript ecosystem.
- Development Automation: Automated processes from setup through to publishing, optimizing the Micro-Wise Development (MWD) workflow. Aimed at generalizing and

automating repetitive patterns in micro module development, maximizing efficiency and scalability.

- Published ~30 PyPI packages. [Link to all packages](#)
- Published ~5 npm packages. [Link to partial packages](#)
- Published 2 vscode packages. [Link to all packages](#)

Data Scientist (Student Assistant)

Fraunhofer Institute, Erlangen

April 2024 - Present

- Successfully completed a project involving the conversion of Torch to TensorFlow models in just two weeks by identifying and integrating the Nobuco module, a solution that provided advanced capabilities beyond what a 1-2 year internal development would likely achieve.
- Developed a Deep Learning-specific clean code tool with advanced type hinting capabilities to improve code readability and maintainability. [Executable-Types](#)
- Applied Micro-Wise Development principles to deep learning workflows, improving modularity and maintainability of the codebase.

Software Developer (Intern)

Method Park by UL, Erlangen

July 2022 - October 2022

- Developed data science applications for car battery data.
- Implemented WPF interfaces.

Engineer

Samsung Electro-Mechanics, Suwon, South Korea

January 2016 - August 2018

- Developed MLCC (Multi-Layer Ceramic Capacitor) manufacturing process.
- Conducted molding simulation for vehicle camera modules.
- Researched future technologies in a task force.

Student Assistant

Max-Planck-Institute for the Science of Light, Erlangen

December 2019 - August 2020

- Set up various optical experiments.
- Assisted in planning and executing optical experiments.
- Conducted literature reviews for ongoing research projects.

Education

Data Science Studies (Registered)

University of Erlangen-Nürnberg, Germany

April 2023 - Present

- Completed coursework in Deep Learning Implementation and Mathematics for Deep Learning.
- Participated in Kaggle Competitions, particularly in LLM-based challenges.
- Transitioned to independent research and development since October 2023.

M.Sc. in Physics

University of Erlangen-Nürnberg, Germany

October 2018 - October 2021

- **Specialization:** Laser and optics
- **GPA:** 1.90 (German grade)
- **Thesis:** Implemented laser trapping of ferrimagnetic material (YIG)
- Developed a Python module for Optical force calculation.
- Studied Laser Optics, Quantum Optics, Solid State.

B.Sc. in Physics

Korea University, Seoul, South Korea

March 2006 - February 2014

- **GPA:** 3.41/4.50
- Studied general physics such as, general and quantum mechanics, solid states, electromagnetics, statistical physics.
- Taught mathematics and physics to high school students as a private tutor.
- Participated in many student social clubs, including board member experiences.

Languages

- **English:** Fluent
- **German:** Conversational
- **Korean:** Native

