Ryang Sohn

ryangsohn [at] postech [dot] ac [dot] kr

Education

POSTECH (Pohang University of Science and Technology) *Feb 2022 – Ongoing*

Majoring in Computer Science and Engineering, double major in Mathematics (GPA 4.16/4.30)

Skills

Programming Languages	Python, Rust, C/C++, JavaScript, Java, Go
Tooling	Git/GitHub, Docker, Linux, CMake
Natural Languages	Korean (native), English (working proficiency)

Work Experience

Theori *Jan 2024 – Ongoing*

ChainLight WARD (Web3 Automated Risk Detection) Intern Researcher

- Skills used: Rust, Static Program Analysis, Solidity
- Worked on security-focused static analysis engine for web3 applications.
- Area of interest:
  - Translating Solidity code to intermediate representation suitable for data-flow analysis
  - Simplified memory model of Ethereum Virtual Machine
  - Vulnerability detection of smart contracts using data-flow analysis

PoApper Inc. *Jan 2022 – Mar 2023*

Part-time Backend Engineer

- Skills used: Python, Go
- Developed `fights.ai`, an environment for competitive game-playing agents
- Area of interest:
  - Developer-friendly Python API for game-playing agents
  - Server infrastructure based on message queue for competitive gameplay
  - Isolated per-agent environment for multiplayer games

Awards and Honors

POSTECH CSE Global Leadership Program 2024 Spring *Mar 2024*

A scholarship program for high-performing POSTECH CSE students.

POSTECH CSE Global Leadership Program 2023 Fall *Sep 2023*

A scholarship program for high-performing POSTECH CSE students.

Crypto Contest 2022, 2nd Prize *Oct 2022*

Cryptanalysis competition hosted by South Korean Ministry of Defense.

- Worked on:
  - Multi-threaded PoC code for attacking weak Bitcoin-like wallet scheme
  - Security anlaysis of Sponge-based hash function

POSTECH Programming Contest 2022, Freshman Prize *Sep 2022*

Coding competition for POSTECH students.

- Participated as Team 대줴패, ranked first among freshman students.

Artificial Intelligence Accelerator Design Competition, Encouragement Prize *Jun 2022*

Competition to design FPGA-based accelerator for neural networks.

– Worked on: 8-bit quantization algorithm of YOLOv3 neural network.

Personal Projects

`stapl` – Simple, Type-Annotated Programming Language

A compiler for imperative programming language with type annotations.

– Written in C++ and based on LLVM.

– Striving to follow best practices of modern C++ and software development (modularity, unit testing, documentations, etc.)

PintOS Implementation

Implementing PintOS, an educational operating system.

– Worked on threading, userspace programs, and vitual memory system similar to object-based reverse mapping of Linux.