

Pia Park

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Skills

Programming: Rust, Python, C/C++, JavaScript, Solidity

Server and Performance: Linux, Docker, profiling, Prometheus, Grafana, Full-stack web development

Education

Korea University, B.S. in Computer Science and Engineering

Mar 2020 – Feb 2026

Experience

Research Engineer (Grantee), Ethereum Foundation

Apr 2025 – Oct 2025

- Co-authored "Diamond iO" (IACR ePrint 2025/236), introducing a lattice-based iO(indistinguishable obfuscation) construction that replaces recursive encryption with lightweight matrix operations.
- Implemented and optimized the full construction, reducing peak memory from 500GB to 30GB and runtime from 12 hours to 15 minutes.

Rust Engineer (Contract), Paradigm

Jan – Feb 2025

- Designed and implemented `ress`, stateless Ethereum execution client that reduces storage requirements from 2TB of persistent state to 20GB.

Product Engineer, Herodotus

Mar 2023 – Dec 2024

- Joined as employee #5 and served as the first product-focused and protocol engineer.
- Designed and built HDP, a STARK-provable modular execution framework that runs user-defined logic over multi-chain data in Cairo, a general-purpose ZKVM.
- Designed and built an indexer for Ethereum L2s to make raw blockchain event data easily queryable.
- Presented 10+ technical talks and created reference applications on storage proofs (Merkle-proof ZK) to onboard developers.

Projects

Kolu, an identification friend or foe (IFF) protocol

kolu-gears/ff1

- Designed a cryptographic authentication protocol for friend and foe identification in UAVs.
- Created and 3D printed a custom plug-in device for easy integration with existing drones.
- European Defense Tech Hackathon (London, 2025), 1st place.

solchip8, On-chain CHIP-8 Emulator

rkdud007/solchip8

- Developed a CHIP-8 VM in Solidity and deployed on the EVM to execute chip8 programs as blockchain transactions.
- Created a client-side Rust renderer to visualize and follow the execution.
- Optimized execution costs by minimizing on-chain storage with compact struct compression and packing.

xxfunc, Serverless functions for Reth via exec

rkdud007/xxfunc

- Developed serverless function to compile Rust into WASI module for hook-triggered execution callback in Reth.

Activities

- Judge, ZK Hack Krakow, 2024.

- Founded a Korea University blockchain club, 2022.