

Wonjae Choi

BLOCKCHAIN RESEARCH ENGINEER

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"In Trustlessness We Trust."

Education

Seoul National University

M.S/PH.D. IN ELECTRICAL AND COMPUTER ENGINEERING

- Virtual Machine & Optimization Lab
- Focus on Blockchain & Cryptography Research

Seoul, Korea

Sep. 2024 - Present

Yonsei University

B.S. IN COMPUTER SCIENCE

- Scholarship Granted by Wemade (₩ 5,000,000)

Seoul, Korea

Mar. 2020 - Aug. 2024

Skills

Programming	Good: Rust, Solidity, Python Intermediate: C/C++, Go, Javascript
Blockchain	Ethereum, Bitcoin, Solana, XRP Ledger, Hyperledger Fabric
Research	Blockchain, Cryptography, Layer 2, Zero-Knowledge Proof, MEV
Others	Basic Full-Stack, Linux, Git, Docker, RabbitMQ

Working Experience

Radius

RESEARCH ENGINEER

- Worked on designing the architecture of Block Space Network (BSN).
- BSN assists Rollups capture positive MEVs while protecting regular users from malicious MEVs through Encrypted Mempool.
- Research focused on the Ethereum Beacon Chain and Decentralized Sequencers of Rollups.
- Engineering with Rust and PoC-level project with TEE.

Seoul, Korea

Oct. 2024 - Present

Nethermind

RESEARCH ENGINEER INTERN

- Cryptography research & engineering
- Research and development on FRIDA(YoDA) which is new DAS scheme using FRI Proof.
- Developed initial build of YoDA client based on Reth.

London, England (Remote)

June. 2024 - Sep. 2024

Seoul National University Virtual Machine & Optimization Lab

UNDERGRADUATE RESEARCH INTERN

- Conducted research on Ethereum core and execution clients.
- Conducted research on ZKP.
- Experiment on fuzzing EVM on various Ethereum execution clients.

Seoul, Korea

Feb. 2024 - Aug. 2024

XRPL Korea

BLOCKCHAIN DEVELOPER & DEVELOPER RELATIONS

- Developed DEX on XRPL.
- Researched and developed WASM contract on XRPL.
- Made an technical documentation for Korean XRPL developers.
- Held several technical sessions on meetups.

Seoul, Korea

June. 2023 - Sep. 2023

Web3Mon

SMART CONTRACT & BACKEND DEVELOPER

- Developed smart contracts(programs) using Rust for Solana.
- Maintained and developed Rust backend server.
- Conducted research on the novel cross-chain implementation using virtual state channel.

Seoul, Korea

Feb. 2023 - May. 2023

Freelance

Remote

QUANTITATIVE DEVELOPER

Oct. 2021 - Jan. 2023

- Algorithmic Trading:
 - Developed trading algorithms using technical analysis and AI.
 - Handled large and performance-sensitive data pipeline.
- Researched and developed MEV bot
- AUM \$400k

Extracurricular Activity

Decipher

Seoul National University, Korea

SENIOR RESEARCHER

Sep. 2023 - Present

- A member of Decipher, a blockchain society at Seoul National University.
- Awarded the "Best Member Prize" for the second semester of 2024.
- Team Opensource Warriors
 - Contributed to ERC-6900 github and Alchemy team.
 - Conducted research and made a simulation model for LVR minimization method on AMM DEX.
- ZK Research Team
 - Conducted various research on ZKP and rollup architectures.
 - Made PoC level implementation of MSM computing network for ZKP using gRPC.
- Academic Paper Seminar Group (Nonceipher)
 - Organized a weekly academic paper seminar group.
 - Each member presents academic paper from the top academic conferences.
- Bitcoin Scalability Team
 - Published presented 70 pages long Bitcoin Report.
- Held weekly sessions about "BitVM", "Data Availability", "Future Bank" and published the researches on Medium.

Blockchain at Yonsei

Yonsei University, Korea

TECH LEAD & BOARD MEMBER

Sep. 2022 - Aug. 2023

- Drove research initiatives on emerging topics in blockchain and web3 technologies.
- Prepared and lectured solidity smart contract development for 12 hours course.
- Conducted research on MEV and made arbitrage bot using cyclic arbitrage method on DEX.

Morgorithm (Algorithm Club at Yonsei University)

Yonsei University, Korea

MEMBER

Mar. 2020 - Mar. 2022

- Solved and learned algorithm problems in depth and improved coding skills.
- Participated Morgorithm algorithm camp, studied various in-depth algorithms.

Honors & Awards

INTERNATIONAL

Chainlink Constellation Hackathon

Online

TOP QUALITY PRIZE, BEST USE OF SUBGRAPH

Dec. 2023

- Crosschain Lending Protocol
- Implemented crosschain functionalities with CCIP(crosschain interoperability protocol).
- Used DID, graph, oracle services.

Viction Horizon Hackathon

Online

DEFI TRACK 3RD PRIZE

Dec. 2023

- Delta Neutral Stablecoin using Perpetual DEX.
- Used Layerzero for crosschain support.
- Used VRC-25 for native gas paymaster usage.
- 4 days full-sponsored tour to Vietnam hosted by Coin98.

XRPL Summer Hackathon | Ripple

Online

GRAND PRIZE

Aug. 2023

- Implemented concentrated liquidity pool.
- Used XRPL hooks which is a Web Assembly based smart contract on XRP Ledger.

Ethereum Global Tokyo Hackathon

Tokyo, Japan

POLYGON TRACK PRIZE

April. 2023

- Federated learning on public blockchain.
- Implemented p2p AI learning protocol.

Projects

XRPL Swap

LEAD DEVELOPER

XRPL Ledger

June. 2023 - Oct. 2023

- Made a DEX platform on XRPL.
- WASM Smart Contract (XRPL Hooks) & Backend.
- Designed novel tokenomics leveraging native AMM auction on XRPL.
- Pitched on XRPL side event of Korean Blockchain Week(KBW).

Bitcoin Layer 2

RESEARCHER & DEVELOPER

Confidential

Feb. 2024 - April. 2024

- Conducting research on building Layer 2 on Bitcoin.
- Researched on verifying ZKP on Bitcoin using BitVM and OP_CAT.

Presentation

Blockchain at Yonsei Regular Session

PRESENTER FOR <REGULAR SESSIONS IN BLOCKCHAIN AT YONSEI>

Yonsei University, Korea

Mar. 2023 - July. 2023

- Held regular sessions.
- Conducted 6-week Solidity course.

XRP Ledger Korea Dev Meetup

PRESENTER FOR <XRP LEDGER DEV SESSION>

Seoul, Korea

Aug. 2023

- Introduced XRP Ledger architecture and technical features.
- Held practice session to help developers on-boarding.