Wonjae **Choi**

BLOCKCHAIN RESEARCH ENGINEER

Seoul, Republic of Korea

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"Trust the Trustless"

Education

Seoul National University
Seoul, Korea

INTEGRATED M.S. AND PH.D. IN COMPUTER SCIENCE (EXPECTED ENROLLMENT)   *Sep. 2024 - Expected*

- Virtual Machine & Optimization Lab
- Blockchain and cryptography research
- Expected enrollment in September 2024

Yonsei University
Seoul, Korea

B.S. CANDIDATE IN COMPUTER SCIENCE   *Mar. 2020 - Aug. 2024*

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

Skills

Programming	Good: Rust, Solidity, Python Intermediate: C/C++, Go, Javascript
Blockchain	Ethereum, Bitcoin, XRP Ledger, Solana, Hyperledger Fabric
Research	Blockchain, Cryptography, Layer 2, Zero-Knowledge Proof, DeFi
Others	Git, Linux, Docker, SQL, NoSQL, Kafka

Working Experience

Nethermind
London, England (Remote)

RESEARCH ENGINEER INTERN   *June. 2024 - Present*

- Research and development on FRIDA which is DAS using FRI.
- Research on based rollups and preconfirmations.

Seoul National University Virtual Machine & Optimization Lab
Korea

UNDERGRADUATE RESEARCH INTERN   *Feb. 2024 - Present*

- Working as an intern researching blockchain core.
- Will begin my Integrated Master's and Ph.D studies in September 2024.

XRPL Korea
Seoul, Korea

DEVELOPER RELATIONS   *June. 2023 - Sep. 2023*

- Developed DEX platform on XRPL.
- Researched and developed WASM contract on XRPL.
- Made an technical documentation for Korean XRPL developers.
- Technical sessions on several meetups.
- Provided technical support for the XRPL developers.

Web3Mon
Korea

SMART CONTRACT & BACKEND DEVELOPER   *Feb. 2023 - May. 2023*

- 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.

Contract in Person *Remote*

QUANTITATIVE DEVELOPER *Oct. 2021 - Jan. 2023*

- Algorithmic Trading:
    - Developed trading algorithms using technical analysis and AI.
    - Handled large and performance-sensitive data pipeline.
- DEX Arbitrage:
    - Conducted research on various MEVs.
    - Developed a cross-DEX, cyclic arbitrage bot using flash swap.
- AUM $400k

Extracurricular Activity

Decipher *Seoul National University, Korea*

RESEARCHER *Sep. 2023 - Present*

- A member of Decipher, a blockchain academic club at Seoul National University.
- Technical research and sessions about various topics of blockchain.
- 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.
- Held weekly sessions about "BitVM", "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.

DOMESTIC

Yonsei Computer Science Graduation Project Exhibition   *Yonsei University, Korea*

1ST PLACE   *June. 2023*

- Data NFT marketplace.
- Process the private data batch into anonymous data set and make it as a NFT for easy usage and incentives.
- Built with Hyperledger Fabric.

Projects

XRPL Swap   *XRP Ledger*

LEAD DEVELOPER   *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   *Confidential*

RESEARCHER & DEVELOPER   *Feb. 2024 - Present*

- Conducting research on smart contract layer of Bitcoin.
- Researching layer 2 solution of Bitcoin.

Presentation

Blockchain at Yonsei Regular Session   *Yonsei University, Korea*

PRESENTER FOR <REGULAR SESSIONS IN BLOCKCHAIN AT YONSEI>   *Mar. 2023 - July. 2023*

- Held three 1-hour sessions with below topics.
- Bitcoin and Blockchain
- Ethereum and Smart Contract
- Hyperledger Fabric Architecture

XRP Ledger Korea Dev Meetup   *Seoul, Korea*

PRESENTER FOR <XRP LEDGER DEV SESSION>   *Aug. 2023*

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