

Intak Hwang

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Website: sp301415.com

RESEARCH INTERESTS

Lattice-Based Cryptography, Fully Homomorphic Encryption and Zero Knowledge Proofs

EDUCATION

Seoul National University

2023 — Present

Integrated M.S./Ph.D. in Computer Science & Engineering

Advisor: Prof. Yongsoo Song

DGIST

2018 — 2022

B.S. in School of Undergraduate Studies

Summa Cum Laude

PUBLICATIONS

2024/1502

TopGear 2.0: Accelerated Authenticated Matrix Triple Generation with Scalable Prime Fields via Optimized HE Packing

Hyunho Cha, Intak Hwang, Seonhong Min, Jinyeong Seo, Yongsoo Song

IEEE S&P 2025

2025/395

Provably Secure Approximate Computation Protocols from CKKS

Intak Hwang, Yisol Hwang, Miran Kim, Dongwon Lee, Yongsoo Song

2025/382

On the Security and Privacy of CKKS-based Homomorphic Evaluation Protocols

Intak Hwang, Seonhong Min, Jinyeong Seo, Yongsoo Song

A Privacy-Preserving HLA Imputation Method with Homomorphic Encryption

Hakin Kim, Intak Hwang, Yongsoo Song, Buham Han

2025/216

Practical Circuit Privacy/Sanitization for TFHE

Intak Hwang, Seonhong Min, Yongsoo Song

2025/203

Ciphertext-Simulatable HE from BFV with Randomized Evaluation

Intak Hwang, Seonhong Min, Yongsoo Song

2024/1879

Practical Zero-Knowledge PIOP for Public Key and Ciphertext Generation in (Multi-Group) Homomorphic Encryption

Intak Hwang, Hyeonbum Lee, Jinyeong Seo, Yongsoo Song

2024/306

Concretely Efficient Lattice-based Polynomial Commitment from Standard Assumptions

Intak Hwang, Jinyeong Seo, Yongsoo Song

CRYPTO 2024

2023/1328

Optimizing HE via Level-aware Key-switching

Intak Hwang, Jinyeong Seo, Yongsoo Song

WAHC 2023

HONORS AND SCHOLARSHIPS

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| National Cryptographic Contest | 2024 |
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Grand Prize, Excellence Prize

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| National Cryptographic Contest | 2023 |
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Special Prize

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| CTF Security Competitions | 2020 — 2022 |
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| SSTF Hacker's Playground 2022 | 5th place |
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| WhiteHat Contest 2021 | 3rd place |
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| DEF CON CTF 2021 | Finalist |
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| PlaidCTF 2021 | 5th place |
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| Real World CTF 2020/2021 (Media Coverage) | 1st place |
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| Midnight Sun CTF 2020 Finals | 7th place |
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| TokyoWesterns CTF 2020 Finals | 3rd place |
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| DEF CON CTF 2020 | Finalist |
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| DGIST Dean's List | 2020 |
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SKILLS

Languages

Korean (native), English (fluent)

Programming Languages

Go, Python (SageMath), C/C++, C#, Rust, \LaTeX

OTHER ACTIVITIES

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| Member of CTF Team CodeRed | 2020 — Present |
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I participate in CTF competitions from time to time, mostly solving crypto challenges.

Developer & Writer of Team Invertible

2020 — Present

I am actively working on INVERTIBLE, a sokoban puzzle game. We are planning to release the game on Steam.

OTHER INTERESTS

I love watching films. I wrote and directed four short films, and I still write screenplays as a hobby!