

Intak Hwang

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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

A Privacy-Preserving HLA Imputation Method with Homomorphic Encryption

Hakin Kim, Intak Hwang, Yongsoo Song, Buham Han

In Submission

Practical Circuit Privacy/Sanitization for TFHE

Intak Hwang, Seonhong Min, Yongsoo Song

In Submission

Ciphertext-Simulatable HE from BFV with Randomized Evaluation

Intak Hwang, Seonhong Min, Yongsoo Song

In Submission

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

In Submission

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

In Submission

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

National Cryptographic Contest	2024
Grand Prize, Excellence Prize	
National Cryptographic Contest	2023
Special Prize	
CTF Security Competitions	2020 — 2022
SSTF Hacker's Playground 2022	<i>5th place</i>
WhiteHat Contest 2021	<i>3rd place</i>
DEF CON CTF 2021	<i>Finalist</i>
PlaidCTF 2021	<i>5th place</i>
Real World CTF 2020/2021 (Media Coverage)	<i>1st place</i>
Midnight Sun CTF 2020 Finals	<i>7th place</i>
TokyoWesterns CTF 2020 Finals	<i>3rd place</i>
DEF CON CTF 2020	<i>Finalist</i>
DGIST Dean's List	2020

SKILLS

Languages

Korean (native), English (fluent)

Programming Languages

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

OTHER ACTIVITIES

Member of CTF Team CodeRed 2020 — Present
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!