

Hwang In Tak

Email: sp301415@gmail.com

Website: sp301415.com

Phone: [REDACTED]

RESEARCH INTERESTS

Mathematical Cryptography

EDUCATION

Sangsan High School 2015 — 2017

DGIST 2018 — Present
B.S. in School of Undergraduate Studies GPA: 4.00/4.3

UC Berkeley 2018 Summer
Summer Sessions, in part of DGIST Freshmen Global Leadership Program (FGLP)

HONORS AND SCHOLARSHIPS

DGIST Dean's List 2020

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

RESEARCH EXPERIENCE

NIMS Academy for Industrial Mathematics 2019.08.
I studied text-based modeling and big data mining, along with its use in industrial mathematics.

DGIST Computer Architecture and Systems Lab (CASLAB) 2019.06. — 2019.08.
Mentors: Prof. Dae Hoon Kim (DGIST)
During internship, I studied various CPU Side Channel Attacks, such as Flush+Reload and Row Hammering.

DGIST Division of Intelligent Robotics 2020.06. — 2020.08.
Mentors: Dr. Sang Chul Lee (DGIST)
During internship, I studied algorithms for solving localization problems, i.e. determining the

local position of autonomous robots.

DGIST Undergraduate Group Research Program (UGRP)

2020

Mentors: Prof. Hyo Sang Kang (DGIST)

I participated in two research teams as a part of UGRP. The topics were *Developing Games with Multiple Genres* and *Designing Surface Code with Uniform Hyperbolic Tiling*.

For the former, I developed several games using Godot Engine. For the latter, I studied Quantum Error Correction, Hyperbolic Geometry and developed Uniform Hyperbolic Tiling Generator using Python.

DGIST Information and Intelligence Lab (IIL)

2022.01. — 2022.06.

Mentors: Prof. Yong June Kim (DGIST)

During intership, I studied Privacy-Preserving Machine Learning(PPML) and Homomorphic Encryption.

SNU Cryptography & Privacy Lab

2022.07 – 2022.08

Mentors: Prof. Yong Soo Song (SNU)

During Intership, I studied Homomorphic Encryption and its optimization.

TEACHING EXPERIENCE

Tutor at DGIST

SE102 Multivariate Calculus

2019 Fall

SE201 Linear Algebra

2020 Spring

Teaching Assistant at KAIST PRE-URP

Making a Quantum Error Correction Game

2020.12. — 2021.02.

Drawing Escherian Image Using Hyperbolic Tiling

2021.06. — 2021.08.

Decrypting RSA using Shor's Algorithm

2021.12. — 2022.02.

Seminars at DGIST Clubs

Solving Integer Problems Using Lattices

2021.11.

A Short Introduction to Approximation Theory

2022.04.

Game Development Using Godot Engine

2022.05.

SKILLS

Languages

Korean (native), English (fluent)

Programming Languages

Python (SageMath), Go, \LaTeX , GDScript

OTHER ACTIVITIES

Translator of elementaryOS

2018 — Present

I translated Several Parts of elementaryOS, most notably the main website, elementary.io.

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 recently ran our first closed beta test. We are planning to release the game on Steam in 2023.

President of DGIST Math Club 2021 — Present
I founded DGIST Math Club in 2021. We hold seminars and meetings on a regular basis.

OTHER INTERESTS

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