

Jaemin Park

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EDUCATION

Seoul National University, Dept. of Computer Science and Engineering | Seoul, Korea

2022 - Current

GPA: **3.47 / 4.3** Major GPA: **3.77 / 4.3**

Gyeonggi Science High School | Suwon, Korea GPA: **4.03 / 4.3**

2019 - 2021

Major Courses: : Computer Programming (OOP) | Principle of Programming (FP) | Automata Theory | Data Structure | Algorithm | Computer Architecture | Modern Algebra | Introduction to Mathematical Analysis

ACHIEVEMENTS

The 48th Annual World Finals of the International Collegiate Programming Contest - 9th Place

(Bronze Medal) - Team *NewTrend*

2024

The 2024 ICPC Asia Pacific Championship - 1st place (Champion) - Team *NewTrend*

2024

The 2023 ICPC Asia Hue City Regional Contest - 1st place (Champion) - Team *NewTrend*

2023

The 2024 ICPC Asia Seoul Regional Contest - 10th place - Team *aespa*

2024

The 2023 ICPC Asia Seoul Regional Contest - 3rd place - Team *NewTrend*

2023

The 2022 ICPC Asia Seoul Regional Contest - 4th place - Team *NewTrend*

2022

Samsung Collegiate Programming Cup 2023 - 2nd Prize

2023

Samsung Collegiate Programming Cup 2022 - 4th Prize

2022

Korea Selection Test for International Olympiad of Informatics 2021 - 6th Place

2021

Samsung Humantech Paper Award 2021 Mathematics / Data Processing section - Gold Prize

2021

Samsung Humantech Paper Award 2020 Mathematics / Data Processing section - Bronze Prize

2020

Korean Olympiad of Informatics 2021 - Silver Prize (6th Place)

2021

Korean Olympiad of Informatics 2020 - Silver Prize (5th Place)

2020

Korean Olympiad of Informatics 2019 - Silver Prize

2019

Nexon Youth Programming Challenge 2021 - Bronze Prize (4th Place)

2021

Nexon Youth Programming Challenge 2020 - Bronze Prize (8th Place)

2020

Google Codejam 2021 - 196th Place (Round 3)

2021

Google Kick Start 2020 - 28th Place (Round B)

2020

Reply Code Challenge Teen Edition - 4th Place

2021

Codeforces - Rating 2715 (International Grandmaster)

RESEARCH

Data Structure for Maintaining K th Maximum / Minimum Element of Polynomial Functions

2021

- Developed an efficient algorithm that can maintain K th maximum / minimum element of linear functions, with geometric transformations using Modified Quad Tree (MQT) and Persistent Angular Sorting (PAS) data structure.
- Generalized PAS to arbitrary polynomial functions, and implemented MQT, PAS with buckets to show its efficiency.

Competitive Reinforcement Learning for Graph Coloring Games

2020

- Devised a 2-player graph game in order to identify vertices important in graph connectivity, and found optimal strategies using reinforcement learning.
- Applied multi-agent reinforcement learning with DQN, DDQN, D3QN, and tested its efficiency in big graphs.

New Algorithm for Maintaining Lower/Upper Envelope of Similar Convex Figures

2020

- Improved the Li-Chao Tree data structure to maintain the lower / upper envelope of quadratic functions.
- Proved that the improved algorithm can be applied to similar convex figures, and implemented it with buckets and divide & conquer methods to show its efficiency.

New Techniques for Dynamic Programming Optimization using Convex Hull and Segment Tree

2019

- Implemented a dynamic convex hull data structure using splay trees, in order to optimize particular recurrences that can be reduced to finding extreme points in convex hull.
- Devised Quad Li-Chao Tree data structure and a bottom-up segment tree with convex hulls and tested its efficiency.

PROJECTS

Reinventing the Wheel Source code

- CircuitSim, a digital logic simulator that builds from gates and arithmetic circuits through memory systems to single-cycle and pipelined RV32I processors.
- Interactive circuit examples and component documentation.
- Timing models and experiments comparing processor implementations.

PS Checklist Source code

- A beta application for organizing programming contests, tracking problem progress, and recording practice sessions.
- ICPC and Olympiad catalogs, with Codeforces and AtCoder contest imports.
- Shared problem status, dated practice records, and a workflow for curating contest resources.

EXPERIENCE

Huawei Technologies Co., Ltd. Hong Kong Research Center, Research Intern 2025

Korean IOI Training Camp, Teaching Assistant 2021 - 2024

- Assisted in teaching various topics on algorithms to 50+ candidates of Korean IOI delegate

SKILLS

Languages C/C++ (Fluent), Java (Intermediate), Python (Intermediate), Scala (Basic)