# Hyunbin Kim

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## RESEARCH INTERESTS

- **Programming Language, Compiler**
- **Algorithm -** graph theory, geometry, string algorithm

## PUBLICATION

- **Abelian duplications on strings and string searching algorithms**
  **Hyunbin Kim**, Chiwook Ahn, Dajung Cho
  *Korea Computer Congress, 2024 (KCC '24)* ***(Excellent Paper Award)***

- **Algorithms for Searching Maximum-Length Abelian Duplications in Strings**
  **Hyunbin Kim**, Dajung Cho
  *KIISE Transactions on Computing Practices, 2025 (KTCP '25)*

- **Online Approaches for Abelian Duplication in Strings : Design and Applications**
  **Hyunbin Kim**, Dajung Cho
  *Korea Conference on Software Engineering, 2025 (KCSE '25)*

## EDUCATION

- **Korea Advanced Institute of Science and Technology (KAIST)**　　　　　*Mar '26 - Current*
  *M.S. in School of Computing*　　　　　Daejeon, Korea

  – Advised by: Kihong Heo, *Prosys lab*

- **Ajou University**　　　　　*Mar '19 - Feb '26*
  *B.S. in Department of Computer Engineering*　　　　　Suwon, Korea

  – Graduated with *highest honor(1st)*
  – *Distinguished Graduate Award*, recognized for distinguished external achievements

## EXPERIENCE

- **NetSys Lab. (Prof. Younghoon Kim)**　　　　　*Mar '25 - Current*
  *Undergraduate Internship*　　　　　Suwon, Korea

  – Researching Linux networking subsystem and extended BPF (eBPF) for system-level performance and programmability

- **Theory of Natural Computation Lab. (Prof. Dajung Cho)**　　　　　*Dec '23 - Dec '24*
  *Undergraduate Internship*　　　　　Suwon, Korea

  – Researched a string operation called *Abelian duplication* from a formal language theory perspective, focusing on decision problems and closure properties

## ACTIVITIES AND PROJECTS

- **Union of Clubs for Programming Contest (UCPC)** *Jan '25 - Sep '25*
  *Vice president*

  – Largest algorithmic problem solving club union(30+ Universities) in Korea
  – Designed set of problems(submitted 1 problem), handled communication with international sponsors, organized seminar

- **shake! - 2022, 2023, 2024, 2025** *Sep-Jan {'22, '23, '24, '25}*
  *Director, Problem setter*

  – Annual ICPC-style college union programming contest for universities in Kyongin Region
    * Participants : {Ajou, Hanyang-ERICA, Inha, Korea Aerospace, Kyunghee, Sungkyunkwan, Dankook} Univ.
  – Designed set of problems, submitted 8 problems total

- **Ajou Programming Contest (APC) - 2022, 2023 ,2024 ,2025** *Mar - May {'22,'23,'24, '25}*
  *Director, Problem setter*

  – Annual ICPC-style programming contest held in Ajou Univ.
  – Designed set of problems, submitted 16 problems total

- **Analyze 'N Solve It (ANSI)** *Jan '23 - Current*
  *Member, Vice president*

  – Algorithmic problem solving club in Ajou University
  – Ran algorithmic problem solving study group – {Intermediate, Advanced, Extreme} Algorithm study group
  – Directed several programming contests

## FURTHER SKILLS AND QUALIFICATIONS

- **Software Skills :** C/C++, LaTeX
- **Language :** Korean(Native), English(Upper intermediate)

## ACHIEVEMENTS AND HONORS

* ICPC : International Collegiate Programming Contest

- **Distinguished Graduate Award,** Ajou University *Feb '26*
- **Excellence Award,** '24 Fall, Ajou Softcon – Research section *Dec '24*
- **Honorable mention,** 2025 ICPC Seoul Regional *Nov '25*
- **Honor,** 2024 ICPC Jakarta Regional *Dec '24*
- **Honor,** 2024 ICPC Seoul Regional *Nov '24*
- **Excellent Paper Award,** Korea Computer Congress 2024 (KCC '24) *Jul '24*
- **34th place,** 2023 ICPC Seoul Regional *Nov '23*
- **59th place,** 2022 ICPC Seoul Regional *Nov '22*
- **Finalist,** 2023 Samsung Collegiate Programming Cup ('23 SCPC) *Aug '23*
- **Academic Scholarship (Daewoo Scholarship – College Top Rank)**, Ajou University *Jul '25*
- **Academic Scholarship (Yulgok Scholarship)**, Ajou University *Dec '24*
- **Academic Scholarship (Yulgok Scholarship)**, Ajou University *Dec '23*
- **Academic Scholarship (Yulgok Scholarship)**, Ajou University *Dec '22*
- **Academic Scholarship (Yulgok Scholarship)**, Ajou University *Jul '20*