

Jaegun Lee

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RESEARCH INTERESTS

Area : Computational Geometry and Geometric Algorithms

Topics : Partitioning, covering, triangulation, and related optimization problems

EDUCATION

Pohang University of Science and Technology (POSTECH)

2022 – Present

M.S./Ph.D. Integrated Program in Computer Science and Engineering

Pohang, South Korea

- Advisor: Hee-Kap Ahn
- GPA: 4.04/4.3

Pohang University of Science and Technology (POSTECH)

2017 – 2022

B.S. in Creative IT Engineering & Mathematics

Pohang, South Korea

- GPA: 3.81/4.3 (*Cum Laude*)

PUBLICATIONS

Journal Articles

- Hwi Kim, **Jaegun Lee**, Hee-Kap Ahn. *Uniformly monotone partitioning of polygons*. *Theoretical Computer Science*, 2024.
- Hwi Kim, **Jaegun Lee**, Hee-Kap Ahn. *Rectangular Partitions of a Rectilinear Polygon*. *Computational Geometry*, 2023.

Conference Papers

- **Jaegun Lee**, Youjung Bae, Taehoon Ahn, Sang Won Bae, Hee-Kap Ahn. *Bichromatic Line-Centers for Point Pairs*. *The 37th International Symposium on Algorithms and Computation (ISAAC)*, 2026.
- **Jaegun Lee**, Chaeyoon Chung, Hee-Kap Ahn. *Bichromatic Classifications using Strips*. *The 20th Scandinavian Symposium on Algorithm Theory (SWAT)*, 2026.
- **Jaegun Lee**, Seokyun Kang, Hyeonseok Lee, Hyeon Yang, Taehoon Ahn. *CG#Hunters Approach to Central Triangulation Under Parallel Flip Operations*. *The 42nd International Symposium on Computational Geometry (SoCG)*, 2026.
- Chaeyoon Chung, **Jaegun Lee**, Hee-Kap Ahn. *Covering Weighted Points using Unit Squares*. *The 36th International Symposium on Algorithms and Computation (ISAAC)*, 2025.
- **Jaegun Lee**, Hyojeong An, Hwi Kim, Hee-Kap Ahn. *Monotone Partitions of Simple Polygons*. *The 36th International Workshop on Combinatorial Algorithms (IWOCA)*, 2025.
- Taehoon Ahn, **Jaegun Lee**, Byeonguk Kang, Hwi Kim. *Incremental algorithm and local search for minimum non-obtuse triangulation*. *The 41st International Symposium on Computational Geometry (SoCG)*, 2025.
- Jongmin Choi, **Jaegun Lee**, Hee-Kap Ahn. *Efficient k -center algorithms for planar points in convex position*. *The 18th Algorithms and Data Structures Symposium (WADS)*, 2023.
- Hwi Kim, **Jaegun Lee**, Hee-Kap Ahn. *Uniformly Monotone Partitioning of Polygons Revisited*. *The 34th Canadian Conference on Computational Geometry (CCCG)*, 2022.

Presentations and Talks at Workshops

- *Bichromatic Classifications using Strips*. *The 26th Japan–Korea Joint Workshop on Algorithms and Computation (WAAC)*, 2026.
- *Bichromatic Classifications using Strips*. *The 17th Annual Meeting of Asian Association for Algorithms and Computation (AAAC)*, 2026.
- *Monotone Partitions of Simple Polygons*. *The 16th Annual Meeting of Asian Association for Algorithms and Computation (AAAC)*, 2025.
- *Efficient k -center algorithms for planar points in convex position*. *The 23rd Japan–Korea Joint Workshop on Algorithms and Computation (WAAC)*, 2023.

AWARDS AND FELLOWSHIPS

Awards and Fellowships

- AAAC Best Student Presentation Award, 2026
- Third Place at the CG:SHOP SoCG Competition, 2026.
- Second Place & First Place in Junior at the CG:SHOP SoCG Competition, 2025.
- Bang Sung-Yang Graduate Fellowship, 2022.

PROJECTS

Research and Industry Projects

- **Auto Nesting** — Samsung Heavy Industries, 2025–2027.
- **Slab Yard Optimization** — POSCO DX (Team Leader), 2023–2024.
- **Software Star Lab** — Optimal Data Structure and Algorithmic Applications in Dynamic Geometric Environment, 2022–2025.

PATENTS

Patents and Applications

- *Efficient Optimal Facility Location Determination Methods for Convex Position Demand Points*, Hee-Kap Ahn, Tae Kang Eom, Jong Min Choi, **Jae Gun Lee**. U.S. Patent, No. 12614142, 2026.
- *Slab Transfer System Using Virtual Slab Yard Simulator*, Hee-Kap Ahn, **Jaegun Lee**, Jae Hoon Chung, Chae Yoon Chung, Minju Song. Korean Patent (Application), No. 10-2024-0201787, 2024.
- *Efficient Optimal Facility Location Determination Methods for Convex Position Demand Points*, Hee-Kap Ahn, Tae Kang Eom, Jong Min Choi, **Jae Gun Lee**. Korean Patent, No. 10-2704974, 2024.
- *METHOD AND APPARATUS FOR CLASSIFYING IMAGE*, Chi Won Sung, **Jae Gun Lee**. U.S. Patent, No. 11657594, 2023.
- *METHOD AND APPARATUS FOR CLASSIFYING IMAGE*, Chi Won Sung, **Jae Gun Lee**. Korean Patent, No. 1021590520000, 2020.

ACADEMIC ACTIVITIES

Conference Organization

- The 26th Korea–Japan Joint Workshop on Algorithms and Computation (WAAC), 2026.
- The 25th Korean Workshop on Computational Geometry (KWCG), 2025. (Local Organizer)

Journal Reviewing

- *Computational Geometry: Theory and Applications (CGTA)*, 2024.

Conference Reviewing

- Symposium on Theoretical Aspects of Computer Science (STACS), 2025.
- International Conference and Workshop on Algorithms and Computation (WALCOM), 2025.
- International Symposium on Computational Geometry (SoCG), 2024.
- Theory and Applications of Models of Computation (TAMC), 2024.
- International Symposium on Algorithms and Computation (ISAAC), 2023.

EDUCATIONAL ACTIVITIES

Teaching Assistant of AI Education Programs for Business

- POSCO AI Expert, 2022.
- Youth AI-Bigdata Academy, 2022.6, 2022.12, 2023, 2024.2, 2024.8, 2025.4.
- HuStar Innovation Academy¹, 2022.

Teaching Assistant at POSTECH

- CSED331 Algorithms, 2022, 2023.

Teaching Assistant at Pohang Jecheol High School

- Advanced Thinking Program, 2022.

PROFESSIONAL AND OTHER ACTIVITIES

Lab Activities

- Lab Manager, 2025–2026.

Work Experience

- **Polaris3D**, 2019–2020. Developer for an out-of-stock detection model; demo at CES 2020.

Student Organization Activities

- Student Council of the Department, 2018.

Club Activities

- Adlib (drama club), 2017–2022; President, 2019.
- Tachyons (baseball club), 2017–Present.

¹Education program of local governments (Daegu and Gyeongsangbuk-do).