Seunghoon Kim

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Research Interest

I am interested in developing intelligence which can make decisions and interact with the real world. My research interests are **reinforcement learning** and **robotics**, especially identifying the bottlenecks of applying RL to robotics and making it scalable.

Education

- **KAIST (Korea Advanced Institue of Science and Technology)** — *September 2025 - current*
  M.S. Student in Kim Jaechul Graduate School of AI — Seoul, Republic of Korea
- **Seoul National University** — *March 2019 - February 2025*
  B.S. in Mechanical Engineering, Computer Science and Engineering — Seoul, Republic of Korea
  - GPA: 3.92/4.30 (Summa cum laude)
  - Leave of absence for mandatory military service: Dec. 2020 - Jun. 2022

Experience

- **CLVR (Cognitive Learning for Vision and Robotics) Lab** — *July 2025 - current*
  M.S. student — KAIST, Seoul
  - Advisor: Professor Joseph J. Lim
- **Decison Making Lab** — *June 2023 - June 2025*
  Undergraduate research intern — SNU, Seoul
  - Advisor: Professor Min-hwan Oh
  - Researched on reinforcement learning, bandit algorithms, operations research
  - Researched and developed dynamic pricing algorithms, online matching algorithms
- **AIIS (Artificial Intelligence Institue of Seoul National University) Summer Internship** — *July 2022 - August 2022*
  Undergraduate research intern — SNU, Seoul
  - SNU Computer Vision Lab with Professor Bohyung Han
  - Researched and developed tiny object detection algorithm
- **Mandatory Military Service** — *December 2020 - June 2022*
  English language interpreter (military) — ROK Army, Chuncheon

Publications

C=Conference, J=Journal, S=In Submission, T=Thesis

(*: Equal contribution)

[S.1] Hyungkyu Kang*, Seunghoon Kim*, Young-geun Choi, Min-hwan Oh, et al. (2025). **Practical Dynamic Pricing with Optimistic Likelihood Estimation**. Manuscript submitted for publication in *Neurips 2025*.

Projects

- **Practical dynamic pricing with optimistic likelihood estimation**
  Research project at SNU Decision Making Lab
  - Advisor: Min-hwan Oh
  - Developed a practical dynamic pricing algorithm using general function class with provable regret bounds
  - Submitted to Neurips 2025 (under review)
- **Low-rank online matching bandits**
  Research project at SNU Decision Making Lab
  - Advisor: Min-hwan Oh
  - Worked on solving a exploration-exploitation problem with bilinear rewards with low-rank assumptions
- **Tiny object detection**
  Research project during AIIS summer internship
  - Advisor: Bohyung Han
  - Implemented and conducted ablation studies to detect tiny objects
- **Dispersion of droplet group through mesh**
  B.S. Thesis for Mechanical Engineering (Outstanding Paper Award)
  - Advisor: Hyungmin Park
  - Observed and analyzed behaviors of water droplets passing through metal mesh

Skills

- **Languages:** Korean: Native, English: TOEFL 112 (test date: Mar. 2020)
- **Programming Languages:** C/C++, Python, PyTorch, CUDA
- **Mathematics:** Engineering Math, Analysis, Probability theory