Junhee Lee

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Research Interest

Decision making (Decision making under uncertainty, strategic decision making, strategy-proof decision making (cf. Incentive compatibility @ mechanism design), AI supported decision making)

> Q. What is a good decision making and how can we make such? And how can we model the process of good decision making?
>
> Q. What makes the key gap between real world decision making and theoretical modeling (especially optimization approaches)? How can we bridge the gap?
>
> Q. Will AI useful for bridging the gap and improving decision making? If so, how can we design AI systems that effectively support good decision making?

Education

Seoul National University   *Fall 2025 – Now*
MS in Industrial Engineering - Lab. of Engineering Economic System Analysis

- GPA(Overall): 4.2/4.3
- **Coursework:** Convex Optimization, Conversational AI, Stochastic Process

Seoul National University   *Spring 2018 –*
BS in Industrial Engineering and Mathematical Science (Double Major)   *Spring 2025*

- GPA: 3.42/4.3 (Industrial Engineering: 3.54, Mathematical Science: 3.70)
- **Coursework: (Mathematics)** Introduction to Topology I/II, Introduction to Mathematical Analysis I/II, Measure Theory and Probability, **(Business related)** Engineering Economic Analysis, Industrial Application of Machine Learning, Operations Research II, Principles of Accounting, Scientific Management, Introduction to Financial Engineering **(Music Theory)** Harmony and Counterpoint I/II/III/IV, Music Analysis I/II, . . .

Experience

Peer Tutor - "Basic Calculus I"   *Spring 2025*
Department of Mathematical Science, SNU

- Conducted weekly 2-hour tutoring sessions for underperforming first-year engineering students, focusing on explaining key concepts and assisting with problem-solving to reinforce their understanding of Calculus I course.
- Topics: limits, series, Taylor's theorem, coordinate systems, vectors, matrices, determinants, and curves

Undergraduate Research Intern (Advisor: Prof. Gye-Seon Lee)   *Fall 2024*
Department of Mathematical Science, SNU

- Conducted independent study on **Pappus's Theorem and the Modular Group**, focusing on geometric and algebraic structures such as **projective planes, modular groups ($PSL(2, \mathbb{Z})$), and faithful representations**. Analyzed and reconstructed mathematical proofs from research papers including "Pappus's Theorem and the Modular Group" (R. Schwartz) and "Pappus Theorem, Schwartz Representations and Anosov Representations" (Barbot & Valerio).
- Gained early exposure to advanced topics such as **free groups, group presentations, Poincaré disk models, Farey graphs, and hyperbolic geometry**. Developed strong **mathematical reading and abstraction skills**, learning to

interpret complex research papers beyond textbook-level comprehension.

Business Intelligence Specialist (reported to Head of Finance) *Nov 2021 – Jul 2022*
Business Intelligence Intern (reported to Country Manager) *Feb 2021 – Oct 2021*
Adecco Korea

- **Independently designed and implemented** a company-wide financial reporting and budgeting automation system that was **deployed for ongoing business use for over a year**. The system standardized financial data structures, integrated version control and dynamic entity mapping, and ensured consistent cross-fiscal reporting.
- Collaborated with an international and multicultural team including French, American, Indian, and Malaysian colleagues, communicating in English for coordination, validation, and presentation of results.
- Learned that technological sophistication creates value only when aligned with real user and organizational needs—an understanding that continues to inform my interest in system design, financial data modeling, and quantitative decision-making frameworks.

Honors, Awards, & Grants

기초학문분야 학문 후속 세대 *2026*
석사과정 수학지원

1st Prize - Korean Institute of Industrial Engineers (President's Award) *Summer 2020*
FIELD[1] Camp Competition

- Based on analysis of Seoul Bike User Data, Predict User Behavior and optimize bike station location.

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[1]Future Industrial Engineering Leaders and Dreamers