Anthony Hojin Lee

Curriculum Vitae

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antleee7.github.io

Education

M.Sc., Mathematics. KAIST, Daejeon, South Korea — 2025–2027 (Expected)

B.Sc., Mathematics. Seoul National University, Seoul, South Korea — 2021–2025

- cGPA: 3.67 / 4.30, *cum laude*. 4th year GPA: 4.12 / 4.30.

Awards and honors

NSF GRFP Honorable Mention, 2025

Dean's List, Spring and Fall 2024

Joongdong High School Honor Graduate, 2021

Undergraduate research experience

Moduli spaces of sheaves and their derived categories, Seoul National University — 2024

- Advised by Jeongseok Oh. Studied Calabi-Yau varieties and the behavior of their derived categories, in comparison to Fano or general type cases via Bondal-Orlov. Studied Mukai's results on the existence of K3 surfaces that are not distinguishable via equivalence of their derived categories, constructed as moduli spaces of sheaves. Resulted in senior thesis, available on homepage.

Teaching experience

Teaching Assistant, Introduction to Linear Algebra, KAIST — 2025

Lecturer, Basic Calculus I, Seoul National University — 2022

- Delivered 2 hour long lectures weekly.

Conferences attended

Geometric Langlands Masterclasses, University of Copenhagen — 2025

- Attended in-person, discussed representation theory topics with PhD students of D. Gaitsgory and D. Ben-Zvi.

International Undergraduate Mathematics Summer School, Seoul National University — 2023

- Attended in-person. Joint with Peking University, University of Tokyo, and Moscow State University.

Study groups and seminars

Undergraduate Algebra & Geometry Seminar, Seoul National University (Awarded approx. $380) — 2025

- Abstracts and photos available on antleee7.github.io/uags.
- Talks: 27 lines on a cubic surface, 12 rational plane curves through 8 points in general position, the ADE classification, generalized cohomology theories.

Graduate Algebraic Geometry Seminar, Seoul National University — 2024–2025

- Talks: Stability of sheaves, Harder-Narasimhan filtration, defining moduli spaces via Quot schemes, Fourier-Mukai transforms, Batyrev's construction of Calabi-Yau hypersurfaces of toric varieties, Larsen-Lunts theorem, the étale fundamental group.

Nevanlinna Theory in Several Variables, KAIST — 2025

- Talks: p-adic numbers and Diophantine approximation, first main theorem for ideal sheaves.

Complex Geometry and Characteristic Classes, Seoul National University (Awarded approx. $380) — 2024

Organization

SEGL (SNU Experimental Geometry Lab) 2023

- Advised by Gye-Seon Lee. Founded an undergraduate mathematics seminar focused on visual geometry projects, with over 15 active members. Projects include seminars on Riemannian geometry, interactive Penrose tiling generator via N. J. de Bruijn's theory of pentagrids, Pappus theorem and the modular group, limit points of reflections in hyperbolic space.
- Provided financial support for students participating in the Mathematics Competition of the KMS.

Work experience

Administrative Assistant, KAIST Department of Mathematics 2025–Present

K–12 Mathematics Tutor 2022–2023