




# Ikhan Choi

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## PROJECTS

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GAME ENGINE

RENDERING

PHYSICS SIMULATIONS

ARTIFICIAL INTELLIGENCE

R&D on Natural Language Processing for Chatbot development

Jun 2019 – Aug 2019

Internship Program, Persona AI Co., Ltd.

*Implemented probabilistic graphical models, attention model, and sentiment analyzer.*

## SKILLS AND QUALIFICATIONS

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Language: English (fluent), Japanese (fluent), Korean (native)

## EDUCATION

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**University of Tokyo**

Apr 2025 – Now

Ph.D. program in Mathematical Science

**University of Tokyo**

Apr 2023 – Mar 2025

M.S. in Mathematical Science

**Pohang University of Science and Technology**

Mar 2016 – Aug 2022

B.S. in Mathematics

Early graduation: leave of absence for three years including military service

**Seoul Science High School**

Mar 2013 – Feb 2016

Specialized high school for gifted students

## ACADEMIC EXPERIENCES

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### INTERESTS

Functional Analysis and Homotopy Theory

### PUBLICATIONS

**I. Choi**, *A solution to Haagerup's problem and positionve Hahn-Banach separation theorems in operator algebras*, preprint, arXiv: 2501.16832. (Master's thesis)

Solved a 50 years old open problem posed by U. Haagerup.

**I. Choi**, *Curved folding and planar cutting of simple closed curve on a conical origami*, Kodai Math. J., 39-3 (2016) 579-595. (High school thesis)

Suggested a problem in terms of classical differential geometry of determining whether a closed curve on a plane can be realized as the intersection of a piecewise smooth isometric immersion of the plane and another plane embedded in the three-dimensional Euclidean space.

### AWARDS AND HONORS

Dean's Award Mar 2025

M.S. in Graduate School of Mathematical Science at the University of Tokyo

Japanese Government (MEXT) Scholarship Apr 2023 – Now

Embassy recommendation, Research student

Gold Prize in 38th Mathematics Competition for University Students in Korea Nov 2019

1st group for math majors

Sponsored by Korean Mathematics Society

### TEACHING

Teaching Assistant: Geometry II Fall 2024

Teaching Assistant: Complex Analysis I Fall 2023

Student Mentoring: MATH 423 Introduction to Differential Geometry Fall 2019

### OTHER EXPERIENCES

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Military Service Jan 2020 – July 2021

1st Marine Division Band, Republic of Korea Marine Corps

Military Musician (Saxophone)