

Ikhan Choi

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EDUCATION

University of Tokyo M.S. program in Mathematical Science	Apr 2023 – Now
Pohang University of Science and Technology B.S. in Mathematics Early graduation: leave of absence for three years including military service	Mar 2016 – Aug 2022
Seoul Science High School Specialized high school for gifted students	Mar 2013 – Feb 2016

RESEARCH INTERESTS

Operator Algebra, Mathematical Physics, Abstract Harmonic Analysis.

PUBLICATIONS

- I. Choi**, *Curved folding and planar cutting of simple closed curve on a conical origami*
Kodai Math., 39-3 (2016), pp. 579-595.
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 \mathbb{R}^3 .

ACADEMIC EXPERIENCES

Senior thesis, POSTECH Title: <i>Three perspectives on Bochner's theorem: from Herglotz representation to Pontryagin duality</i> Advisor: <i>Younghwan Son</i> Investigated Bochner's theorem from three different viewpoints; complex analysis, probability theory, and representation theory using GNS construction. As an application, proved the Pontryagin duality theorem.	Spring 2022
Undergraduate Research Program, POSTECH Title: <i>Global Existence of the Vlasov-Poisson System</i> Advisor: <i>Donghyun Lee</i> Proved the local existence of the Vlasov-Poisson system and reviewed Schaeffer's paper on the global existence.	Fall 2019
IBS-CGP Mathematics Festival (Research Experience Program), POSTECH Topic: <i>Variations on a Theme: On the Dispersion of Waves</i> Advisor: <i>Sung-Jin Oh</i>	Aug 2018

TEACHING EXPERIENCES

Student Mentoring Program Mentor: MATH 423 Introduction to Differential Geometry Covered the theory of space curves and surfaces, introduction to smooth manifolds, covariant derivatives, and the Riemannian curvature tensor.	Fall 2019
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AWARDS AND HONORS

Japanese Government (MEXT) Scholarship Embassy recommendation, Research student	Apr 2023 (expected) – Now
Gold Prize in 38th Mathematics Competition for University Students in Korea 1st group for math majors Sponsored by Korean Mathematics Society	Nov 2019

TALKS

POSTECH – KAIST – UNIST Undergraduate Math Club Joint Seminar

Aug 2019

Title: *Diachrony of Spectra*

Focusing on the word “spectrum”, followed the history of how mathematical languages are created in the interdisciplinary study of physics, analysis, and geometry.

POSTECH Undergraduate Mathematics Seminar

Nov 2018

Title: *Dispersion for the Schrödinger Equation*

Proved the dispersive inequality for the Schrödinger equation, using the theory of Fourier transforms and oscillatory integrals.

WORK EXPERIENCE

Military Service

Jan 2020 – July 2021

1st Marine Division Band, Republic of Korea Marine Corps

Military Musician (Saxophone)

Summer Experience Society (Internship Program in POSTECH)

Jun 2019 – Aug 2019

Persona AI Co., Ltd.

R&D on Natural Language Processing (Chatbot development)

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

OTHER SKILLS AND QUALIFICATIONS

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

Passed: General Qualifying Examination for Ph.D. Program of POSTECH in Mathematics