Yi-Hsin Tsai

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RESEARCH INTERESTS

My research focuses on the exploration of Bergman kernels within the field of complex geometry. During my Master's program, my primary goal is to apply semi-classical methods to investigate the behavior of Bergman kernels on complex manifolds and complex orbifolds, with a particular emphasis on understanding their characteristics for large values of k. Additionally, I am exploring similar concepts in CR geometry and the Szegő kernel.

EDUCATION

Master of Science (M.S.) in Mathematics Expected June 2025

National Taiwan University

Bachelor of Science (B.S.) in Mathematics June 2023

National Taiwan University

ACADEMIC EXPERIENCE

NTU | *Project Research Scholarship Recipients* Oct 2023 - Present

- Advisor: Prof. Chin-Yu Hsiao
- Bergman Kernel on Complex Manifold or Complex Orbifold.

NTU | *Teaching Assistant (TA) of Introduction of Geometry* Sep 2023 - Dec 2023

NCTS | *URP* Oct 2022 - Jun 2023

- Advisor: Prof. Chin-Yu Hsiao
- Heat and Bergman Kernels Asymptotics in Complex Geometry.

NTU | *Teaching Assistant (TA) of Complex Analysis* Sep 2022 - Dec 2022

NCTS | *USRP* Jul 2022 - Aug 2022

- Advisor: Prof. Chin-Yu Hsiao
- Comparison of Various Methods in Deformation Quantization

NTU | *Project Research Scholarship Recipients* Nov 2021 - Apr 2022

- Advisor: Prof. Hsueh-Yung Lin
- Dynamics in One Complex Variable and some Fundamental of Complex Geometry.

COURSES

Differential Forms in Algebraic Topology	Spring 2024
Partial Differential Equations(II)	Spring 2024
Real Analysis(II)	Spring 2024
Functional Analysis(I)	Fall 2023
Partial Differential Equations(I)	Fall 2023
Real Analysis(I)	Fall 2023
Algebraic Geometry (I)	Fall 2022
Geometry (II)	Spring 2022
Analytic Number Theory	Spring 2022
Geometry (Honor Program)	Fall 2021
An introduction to complex geometry	Fall 2021
Graph Theory (I)	Fall 2021
Analysis(Honor Program)(II)	Spring 2021
Algebra(Honor Program)(II)	Spring 2021
Introduction to Partial Differential Equations	Spring 2021
Introduction to Probability Theory	Spring 2021
Analysis(Honor Program)(I)	Fall 2020
Complex Analysis (Honor Program)	Fall 2020

Algebra(Honor Program)(I)	Fall 2020
Introduction to Ordinary Differential Equations	Fall 2020
Calculus(II)	Spring 2020
Linear Algebra (II)	Spring 2020
Calculus(I)	Fall 2019
Linear Algebra (I)	Fall 2019