Curriculum Vitae

HaoYun Yao
Durham, NC 27708
haoyun.yao@duke.edu
(919) 396-1903

EDUCATION

National Taiwan University, Taipei city, Taiwan (2018 - 2022)
Bachelor of Science, Mathematics; GPA: 3.93

- Courseworks: Introduction to Number Theory, Algebraic Number Theory, Multiple Zeta Values and Iterated Integrals, Introduction to Iwasawa theory, Algebraic Geometry, Introduction to Algebraic Topology, Graph Theory, Finite group representation, Automorphic forms on GL(2)

National Taiwan University, Taipei city, Taiwan (2022 - 2023)
Master of Science, Mathematics

- Advisor: Ming-Lun Hsieh
- Courseworks: Analytic Number Theory, Lie Groups and Lie Algebras, Combinatorics I
- Master Thesis: Algebraicity of critical values of Asai L-functions.

Duke University, Durham, NC, US (Fall 2023 -)
PhD, Mathematics

- Advisor: Jayce R. Getz
- Project: Non-abelian trace formula.

RESEARCH INTERESTS

Number Theory, Representation Theory for locally compact groups and Lie groups, Automorphic Forms

TEACH EXPERIENCES

- Teaching assistant of Calculus for Department of Electrical Engineering (Fall 2020 - Summer 2021)
- Teaching assistant of Introduction to Complex Analysis (Fall 2021 - Winter 2022)
- Teaching assistant of Undergraduate Linear Algebra for Department of Mathematics (Fall 2022 - Spring 2023)
- Teaching assistant of Algebraic Number Theory (Spring 2023)

LEADERSHIPS/SERVICES

- Lecturer of Math Camp for High School Students, Host by Student Association of Math Department, NTU (Summer 2019)
  - Basic concepts on linear error-correcting codes.
- Academic Director, Student Association of Math Department (Fall 2020 - Summer 2021)
  - Arrange 4 undergraduate-oriented introductory academic speeches

EXTRACURRICULAR EXPERIENCES

- Student Seminar on Basic Topics in Algebraic Topology with classmates (Summer 2019)

- Main reference: Chapter 1 in Algebraic topology by Allen Hatcher, Chapter 2, 4, 7 (all partial) GTM 139 by Bredon, Glen E.

- Student Reading Seminar on Lie Algebra with classmates (Summer 2020)
  - Main reference: Chapter 1 - 6 in GTM 9 by Humphreys, James E.
- Lecturer of Student Seminar for freshmen (Summer 2020)
  - Teaching basic concepts in algebras and Stokes' theorem on manifolds.
  - Main reference: Chapter 2, 5 (all partial) in GTM 139 by Bredon, Glen E.
- MSRI summer graduate school - Tropical Geometry (01-12, August 2022)
  - Arranged by Prof. Renzo Cavalieri, Hannah Markwig and Dhruv Ranganathan, and held in California, US.
  - Learning basic tropical theory, including Mikhalkin's correspondence theorem, classical and tropical Hurwitz theory, tropical compactification, constructing $\overline{\mathcal{M}}_{0,n}$ by the fan $\mathcal{M}_{0,n}^{\mathrm{trop}}$, etc.

HONORS/AWARDS

- Dean's List (2019, 2021, 2021)
- Scholarship for Excellence (卓越獎學金) (2020)
- Distinguished Teaching Assistance (2021)

LANGUAGES

Chinese (native)
English
Japanese (not fluent)

SKILLS

Python
C++
LaTeX