KEVIN LE

Email: kevinhle@tamu.edu
Website: khuule.github.io

EDUCATION

Texas A&M University   Fall 2021 – present
B.S. Mathematics, Honors   GPA: 3.961

RESEARCH EXPERIENCE

University of Michigan REU (University of Michigan)   May 2024 – present
Advisor: Elad Zelingher
- Project in number theory and representation theory computing special values of Bessel functions associated to representations of matrix groups (symplectic, orthogonal, unitary) over finite fields

Finite Fourier Analysis on Groups (Texas A&M University)   December 2022 – May 2024
Advisor: Matthew Young
- A reading course in Terras' *Fourier Analysis on Finite Groups and Applications*. The hope is to make explicit the Kuznetsov Trace Formula on finite upper half planes

Clemson Number Theory REU (Clemson University)   June 2023 – July 2023
Advisors: Hui Xue, Daozhou Zhu
- Project in analytic number theory proving interlacing results of zeros of period polynomials of newforms, resulting in [2]

Polymath Jr. REU (Online)   June 2022 – August 2022
Advisors: Hùng V. Chu, Steven J. Miller
- Project in elementary number theory generalizing and strengthening previous results on linear recurrence relations in the small divisors and large divisors of natural numbers, resulting in [1]

WORK AND VOLUNTEER EXPERIENCE

Undergraduate Teaching Assistant   August 2023 – present
Texas A&M University Math Department
- Lead recitation sections, graded quizzes and exams, held office hours for Calc III (MATH221)

Undergraduate Grader   August 2022 – present
Texas A&M University Math Department
- Graded and provided feedback on student homework for honors and non-honors Linear Algebra (MATH323)

Undergraduate Student Researcher   December 2022 – present
Texas A&M University Math Department
- Assisted with various research projects at Texas A&M University and other institutions

Assistant Student Editor   December 2021 – August 2022
Volunteer work under Philip Yasskin
- Edited an online textbook, writing solutions to exercises for Calc II in TeX

Math Circle Facilitator   Fall 2021
TAMU Math Circle
- Guided 5th-12th graders through math activities not typically covered in the standard school curriculum

PUBLICATIONS AND PREPRINTS

3. D. Cates, K. H. Le, E. Zelingher, Special values of the Bessel Function associated to representations of finite matrix groups, in preparation.

2. L. Breland, K. H. Le, J. Ni, L. O'Brien, H. Xue & D. Zhu, Interlacing of zeros of period polynomials, to appear in *The Journal of the Mathematical Society of Japan, 2024* Available here: pdf

1. H. V. Chu, K. H. Le, S. J. Miller, Y. Qiu, & L. Shen, Linear recurrences of order at most two in nontrivial small divisors and large divisors, to appear in *Combinatorial and Additive Number Theory VI*, Springer Proceedings in Mathematics and Statistics. Available here: arXiv

CONFERENCES, PRESENTATIONS, AND WORKSHOPS

Preliminary Arizona Winter School 2024　　　　　　September 2024 – November 2024
"Local Fields" Lecture Series

Astronaut Scholar Technical Conference　　　　　　　　　　　　　　August 2024
Presentation Title: "Special Values of the Bessel Function"

Joint Mathematics Meeting 2024 - Pi Mu Epsilon Poster Session　　　　January 2024
Poster title: "Interlacing of zeros of period polynomials"

Texas A&M Undergraduate Mathematics Research Expo　　　　　September 2023
Poster title: "Interlacing of zeros of period polynomials"

Clemson Summer Undergraduate Research Poster Symposium　　　　　July 2023
Poster title: "Interlacing of zeros of period polynomials"

HONORS AND AWARDS

2024 Astronaut Scholar　　　　　　　　　　　　　　Fall 2024 – Spring 2025
National scholarship awarded to 71 students planning on pursuing a career in research

Pi Mu Epsilon　　　　　　　　　　　　　　　　　　Fall 2022 – present
Member of a national mathematics honor society

Classroom Excellence Award　　　　　　　　　　　　　　　　Fall 2022
Awarded to one student in each honors 400-level class - Honors Modern Algebra (M415H)

Classroom Excellence Award　　　　　　　　　　　　　　　Spring 2022
Awarded to one student in each honors 400-level class - Honors Advanced Calculus (M409H)

F.W. Eagleton President's Endowed Scholarship　　　　　Fall 2021 – Spring 2025
Texas A&M Foundation

ACTIVITIES AND SERVICE

Math Club　　　　　　　　　　　　　　　　　　　Fall 2021 – present
Bimonthly meetings on math, volunteering in math outreach in the community
- President: Fall 2023 – Spring 2024, Fall 2024 – present
  * Organized biweekly meetings in math by inviting speakers and planning activities to foster mathematical interest in undergraduates and beyond
- Treasurer: Spring 2022, Fall 2022 – Spring 2023
  * Managed fiscal responsibilities associated with the club, as well as Pi Mu Epsilon, arranged food for meetings, facilitated the ordering and selling of Math Department T-shirts

RELEVANT COURSEWORK

* indicates honors, † indicates graduate
Analysis Courses
- Differential Equations*, Complex Variables, Analysis on the Real Line*, Analysis on Metric Spaces*, Integration and Measure Theory*, Complex Variables I†, Complex Variables II†

Algebra Courses
- Linear Algebra*, Modern Algebra I*, Algebra I†, Algebra II†

Number Theory Courses
- Analytic Number Theory†, Research*

Applied/Computer Science Courses
- Principles of Statistics I, Mathematical Probability, Data Structures & Algorithms

In Progress
- Algebraic Number Theory†, Real Variables I†, Topology I†

SKILLS

Programming Languages
Proficient in C++, SageMath, and Python