

Huy Truong

Cardwell Hall
Department of Mathematics, Kansas State University
hntruong@ksu.edu

ACADEMIC INTERESTS

Applied Mathematics, Combinatorics, Analysis, Graph Theory, Modulus on graphs.

EDUCATION

Kansas State University, United States, Ph.D., Mathematics, expected graduation: 2026. Advisor: Dr. Pietro Poggi-Corradini.
Ho Chi Minh University of Education, Vietnam, B.S., Mathematics, *Excellent degree*, 2021.

UNDERGRADUATE RESEARCH

Lorentz estimate for renormalized solutions to a class of very singular p -Laplace problem with $L1$ data. Research project. Scientific Research Student Award, 2020.
A weighted Lorentz estimate for p -Laplace equation with measure data. Research project. Scientific Research Student Award, 2020.

PUBLICATIONS

1. Modulus for bases of matroids, with Pietro Poggi-Corradini. *Discrete Mathematics*, Volume 348, Issue 5, May 2025. DOI:10.1016/j.disc.2025.114395
2. Matroid reinforcement and sparsification, with Pietro Poggi-Corradini. **Under review.**
3. Modulus of hypertrees, with Pietro Poggi-Corradini. **Under review.**
4. Base Modulus for Matroid Truncation, Strength, and Fractional Arboricity, with Pietro Poggi-Corradini. **Under preparation.**
5. Fulkerson duality for spanning tree family and partitions, with Pietro Poggi-Corradini. **Preprint.**

CONFERENCES SEMINARS

Constructive Functions 2025, in conjunction with the 37th Shanks Lecture, celebrating Ed Saff's 80th birthday, Vanderbilt University, Nashville, Tennessee, May 19–22, 2025.
AMS Spring Central Sectional Meeting, Department of Mathematics, University of Kansas, March 29–30, 2025.
Prairie Analysis Seminar 2024, University of Kansas, October 25–26, 2024.
The 9th Annual Meeting of SIAM Central States Section, University of Missouri–Kansas City, Kansas City, Missouri, October 5–6, 2024.
The 2024 INFORMS Telecommunications and Network Analytics Conference, May 15–17, 2024.
The 19th Prairie Analysis Seminar, Kansas State University, November 3–4, 2023.
The 8th Annual Meeting of SIAM Central States Section, Nebraska University, Lincoln, Nebraska, October 7–8, 2023.
MSRI Summer Graduate School: Machine Learning, University of California San Diego, June 26, 2023 – July 7, 2023.
Prairie Analysis Seminar 2022, University of Kansas, October 28–29, 2022.
The 7th Annual SIAM Central States Section, Oklahoma State University, October

1–2, 2022.

The NODE (Network Optimization Design and Exploration) Group seminar, Kansas State University.

Combinatorics seminar, Kansas State University.

Applied Mathematics seminar, Kansas State University.

TALKS

Modulus of hypertrees, Kansas State University, NODE Group meetings, March 4, 2025.

Modulus for bases of matroids, University of Missouri–Kansas City, The 9th Annual Meeting of SIAM Central States Section, Kansas City, Missouri, October 5, 2024.

Modulus for bases of matroids, Kansas State University, NODE Group meetings, September 24, 2024.

Introduction to spanning tree modulus (part 2), Kansas State University, NODE Group meetings, September 10, 2024.

Introduction to spanning tree modulus (part 1), Kansas State University, NODE Group meetings, September 3, 2024.

Modulus for bases of matroids, 2024 INFORMS Telecommunications and Network Analytics Conference, Virtual Conference, May 16, 2024.

Hypergraph cuts with general splitting functions, Kansas State University, NODE Group meetings, April 5, 2024.

Real stable polynomials and log-concave polynomials for probability distributions I, Kansas State University, NODE Group meetings, October 27, 2023.

Real stable polynomials and log-concave polynomials for probability distributions I, Kansas State University, NODE Group meetings, October 20, 2023.

Homogenous graph reinforcement, Nebraska University, The 8th Annual Meeting of SIAM Central States Section, Lincoln, Nebraska, October 7, 2023.

Homogenous graph reinforcement II, Kansas State University, NODE Group meetings, September 8, 2023.

Homogenous graph reinforcement I, Kansas State University, NODE Group meetings, September 1, 2023.

Fulkerson duality for spanning trees and partitions III, Kansas State University, NODE Group meetings, February 13, 2023.

Fulkerson duality for spanning trees and partitions II, Kansas State University, NODE Group meetings, February 6, 2023.

Fulkerson duality for spanning trees and partitions I, Kansas State University, NODE Group meetings, January 30, 2023.

Fulkerson duality for spanning trees and partitions, Oklahoma State University, Minisymposium, 7th Annual SIAM Central States Section, October 2, 2022.

Fulkerson duality for spanning trees and partitions, Kansas State University, NODE Group meeting, September 8, 2022.

Concurrent families and vertex-based modulus, Kansas State University, NODE Group meeting, July 5, 2022.

TEACHING

Kansas State University

Teaching Lecturer, Calculus I Preparation Course	Summer 2025
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Teaching Assistant, Elementary Differential Equations	Spring 2025
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Teaching Assistant, Applied Matrix Theory	Fall 2024
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Teaching Lecturer, Applied Matrix Theory	Summer 2024
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Coordinator, Applied Matrix Theory	Summer 2024
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Teaching Assistant, Calculus III	Spring 2024
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Teaching Assistant, College Algebra	Summer 2023
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Teaching Assistant, Elementary Differential Equations	Spring 2023
Teaching Assistant, Applied Matrix Theory	Summer 2022
Teaching Assistant, Calculus I	Spring 2022
Teaching Assistant, Calculus II	Fall 2021

Ho Chi Minh University of Education, Vietnam

Teaching internship, Precalculus	Spring 2021
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MENTOR

Mentor for Undergraduate Research, Spring 2025.
 Kansas State University Directed Reading Program, Mentor, Spring 2025.
 Mentor for Undergraduate Research, Fall 2024.
 Kansas State University Directed Reading Program, Mentor, Fall 2024.
 Kansas State University Directed Reading Program, Mentor, Spring 2024.
 Mentor for Undergraduate Research, Spring 2024.
 Kansas State University Peer to Peer Program, Mentor, Spring 2024.
 Mentor for Undergraduate Research, Fall 2023.
 Kansas State University Peer to Peer Program, Mentor, Fall 2023.
 Kansas State University Directed Reading Program, Mentor, Spring 2022.

SERVICE

Master GTA in Mathematics Department, Fall 2025.
 Co-organizing the NODE Group seminar, Fall 2025.
 Organizational Assistant in Mathematics Department, Spring 2025.
 Organizational Assistant in Mathematics Department, Fall 2024.
 Co-organizing the NODE Group seminar, Spring 2024.
 Co-organizing the NODE Group seminar, Fall 2023.

GRANTS AND FELLOWSHIPS

Funding for Research Assistant in Fall 2025 from the National Science Foundation under Grant No. 2154032.
 Funding for travel from the National Science Foundation under Grant No. 2154032 to Constructive Functions 2025, in conjunction with the 37th Shanks Lecture, celebrating Ed Saff's 80th birthday, Vanderbilt University, Nashville, Tennessee, May 19–22, 2025.
 Funding for travel AMS Spring Central Sectional Meeting, Department of Mathematics, University of Kansas, March 29–30, 2025.
 Funding for travel to the 9th Annual Meeting of SIAM Central States Section, Kansas City, Missouri, October 5–6, 2024, supported by the National Science Foundation under Project No. 00087298.
 Funding for travel from the College of Arts and Sciences to attend the 8th Annual Meeting of SIAM Central States Section, University of Nebraska–Lincoln, October 7–8, 2023.
 Funding for Summer school: Machine Learning, MSRI, June 26 – July 7, 2023.
 Funding for Research Assistant in Fall 2023 from the National Science Foundation under Grant No. 2154032.
 Funding for Research Assistant in Fall 2022 from the National Science Foundation under Grant No. 2154032.
 Funding for travel from the College of Arts and Sciences and from SIAM to attend the 7th Annual SIAM Central States Section conference, October 1–2, 2022.

AWARDS

I-center Graduate Scholar Award for mentoring undergraduate mathematical research

in the Department of Mathematics, Kansas State University, 2024-2025.
2nd prize in the Scientific Research Student Award, Mathematics Department, Ho Chi Minh University of Education, Vietnam, 2020.
Gold Medal in the Vietnam Mathematical Olympiad for students in University, 2019.
Gold Medal in the Vietnam Mathematical Olympiad for students in University, 2018.
Second prize in the Vietnam Mathematics Olympiad for High school students, 2017.
Attended the Vietnam Mathematics Team Selection Test for International Mathematics Olympiad, March 2017.
Second prize in 2015 Hanoi Open Mathematics Competition, Vietnam, 2015.

**TECHNICAL
STRENGTHS**

Programming Language: Matlab, proficient.
Programming Language: Python, proficient.