Hanzhang Yin

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Education

University of Kansas — August 2023 – Present
Doctor of Philosophy, Mathematics — *Lawrence, KS, USA*

University of Connecticut — August 2019 – May 2023
Bachelor of Arts, Mathematics — *Storrs, CT, USA*

Publication

(with L. Busch, G. Silewski, W. C. Torre, and J. Wisby) "Domination Number of Cartesian Product of Complete Graphs" https://www.researchgate.net/publication/366168241_DOMINATION_OF_CARTESIAN_PRODUCT_OF_COMPLETE_GRAPHS

(with R. Hodges) "A Non-Iterative Rule for Straightening Fillings and Orthonormality" In Preparation

Presentations & Talks

University of Denver, 2025 AMS Fall Western Sectional Meeting, Denver, CO, "A Non-Iterative Rule for Straightening Fillings and Orthonormality for Skew Schur Module", 24 August 2025

University of Minnesota, ALGECOM (Poster Section), Minneapolis-Saint Paul, MN, "A Non-Iterative Rule for Straightening Fillings and Orthonormality", 5 April 2025

University of Kansas, AMS Spring Sectional Meeting, Lawrence, KS, "A Non-Iterative Rule for Straightening Fillings and Orthonormality", 30 March 2025

University of Kansas, Combnatorics Seminar, Lawrence, KS, "A Non-Iterative Rule for Straightening Fillings and Orthonormality", 1 November 2024

University of Connecticut, 2023 Frontier Preparation, Storrs, CT, "Domination Number of Cartesian Product of Complete Graphs", 14 April 2023

University of Utah, AMS Fall Western Sectional Meeting, Salt Lake City, UT, "Domination Number of Cartesian Product of Complete Graphs", 22 October 2022

Florida International University, AMRPU Presentation, Miami, FL, "Using Chessboards to investigate an Unsolved Conjecture in Graphs", 15 July 2022

University of Connecticut, Direct Reading Project Presentation, Storrs, CT, "Some Topics in Algebraic Combinatorics (Young Tableaux)", 10 May 2022

University of Connecticut, Direct Reading Project Presentation, Storrs, CT, "Some Topics in Algebraic Combinatorics (Count Walks on Graphs)", 16 December 2021

Awards & Honors

Conference Presentation Awards
University of Connecticut — *October 2022*

2021 New England Scholar
University of Connecticut — *Spring & Fall 2021*

Dean's List
University of Connecticut — *Spring & Fall 2021*

Courses Taught

MATH 127: Calculus III Lab Sections Fall 2025
University of Kansas *Lawrence, KS, USA*

MATH 115: Business Calculus Spring 2025
University of Kansas *Lawrence, KS, USA*

MATH 104: Precalculus Mathematics Fall 2024
University of Kansas *Lawrence, KS, USA*

MATH 125: Calculus I Summer 2024
University of Kansas *Lawrence, KS, USA*

MATH 115: Business Calculus Spring 2024
University of Kansas *Lawrence, KS, USA*

MATH 002: Intermediate Mathematics Fall 2023
University of Kansas *Lawrence, KS, USA*

Research Experience

Undergraduate Research on Combinatorics September, 2022 – May, 2023
Univeristy of Connecticut *Storrs, CT, USA*
- Carried out in-depth investigations on the homomesy properties of the togglings of dominant sets in path graphs.
- Utilized Sagemath software to gather and examine the gathered data.
- Mentor: Thomas Roby & Matthew Plante

Applied Mathematics Research Program for Undergraduates (AMRPU) May, 2022 – July, 2022
Florida International University *Miami, FL, USA*
- Conducted research on the Domination Number of the Cartesian Product of Complete Graphs.
- Utilized python to generate data and regularly reported progress in weekly updates.
- Mentor: Walter Carballosa Torres & Justin Wisby.

Direct Reading Project September, 2021 – May, 2022
University of Connecticut *Storrs, CT, USA*
- Engaged in independent study of combinatorial topics with the support of a graduate student mentor.
- Delivered weekly presentations to showcase learning progress and insights.
- Mentor: Matthew Plante.

Volunteer Experience

Brain Ventricle Project September, 2021 – December, 2021
Connecticut Children's *CT, USA*
- Identified, scanned, and labeled the ventricles from hundreds of CT images for training artificial intelligence.
- Assigned work to co-workers and discussed how to eliminate mistakes from scanning.
- Reviewed the progress of volunteers, rearranged their works, and collected and organized data for analysis.

Specialized Skills

Applications: VScode, SQLite, R studio, Jupyter Notebook, GitHub
Programming Languages: Unix, Python, R, SQL, Sagemath, LaTeX, HTML, CSS, React, Javascript
Languages: English (Fluent), Chinese (Native-speaker)