Hanzhang Yin

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Education

University of Connecticut
Bachelor of Arts, Mathematics (Expected May 2023)

August 2019 – Present
Storrs, CT, USA

Research Experience

Undergraduate Research on Combinatorics
Univeristy of Connecticut

September, 2022 – Present
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)
Florida International University

May, 2022 – July, 2022
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
University of Connecticut

September, 2021 – May, 2022
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.

Publication (In Preparation)

(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 (preprint)

Presentations & Talks

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

Work Experience

University of Connecticut Quantitative Learning Center
Mathematics Tutor

March, 2022 – April, 2023

Storrs, CT, USA

- Served for the students who needs help with calculus homework and exams.
- Reviewed learning schedule and supplied guidance for class curriculum.
- Gained an understanding of the equipment's functions and thoroughly cleaned all machines.

University of Connecticut Department of Mathematics
Mathematics Grading Specialist

Janaury, 2023 – April, 2023

Storrs, CT, USA

- Reviewed students' homework and checked for accuracy and completeness.
- Ensured that grading is done in a consistent and fair manner, following the guidelines and standards set by the teacher or institution.

Volunteer Experience

Brain Ventricle Project
Connecticut Children's

September, 2021 – December, 2021

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.

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

Specialized Skills

Applications: VScode, Visual Studio, Google Sheets, SQLite, R studio, Jupyter Notebook, GitHub
Programming Languages: Unix, Python, R, SQL, Sagemath, LaTeX, HTML, C#
Languages: English (Fluent), Chinese (Native-speaker)