

Vincent X. Wang

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EDUCATION

University of Chicago

B.S. Mathematics

Chicago, IL

Expected June 2027

Rice University

GPA: 4.0/4.0

Houston, TX

Aug 2023 – May 2025

RESEARCH INTERESTS

Geometry, theoretical computer science

PUBLICATIONS

1. D. Leitz, R. Morrison, S. Newman-Taylor, V. X. Wang. *The d -gonal Locus of the Moduli Spaces of Tropical Plane Curves*. In preparation.
2. C. Chen, T. Gabrielsen, R. Morrison, N. Pasman, M. Reeve, V. X. Wang. *Graph Gonality Under Uniform Subdivision*. In preparation.
3. M. Aliakbarpour, Z. Shi, R. Stevens, V. X. Wang. *Nearly-Linear Time Private Hypothesis Selection with the Optimal Approximation Factor*. Preprint, [arXiv](#).

RESEARCH EXPERIENCE

SMALL REU: Chip-firing games on graphs and tropical geometry

June 2025 – August 2025

Williams College, Department of Mathematics

- Project 1: Graph gonality under uniform subdivision
- Project 2: The d -gonal locus of the moduli spaces of tropical planar curves
- Advisor: Ralph Morrison

Algorithms in differential privacy

January 2025 – June 2025

Rice University, Department of Computer Science

- Project 1: Differentially private algorithms with prediction
- Project 2: Nearly-linear time hypothesis selection
- Advisor: Maryam Aliakbarpour

Discontinuous Galerkin methods for wave equations

Apr 2024 – Dec 2024

Rice University, Department of Computational Applied Mathematics and Operations Research

- Project: Efficient Julia implementations of high order Bernstein-Bezier DG methods
- Optimized operators for PDE simulations, resulting in over 100x speedups (at high orders, $N = 15$)
- Advisor: Jesse Chan

PRESENTATIONS

- Williams College Mathematics Colloquium, *Williamstown, MA* Aug 2025
Talk: The d -gonal Locus in the Moduli Space of Tropical Plane Curves
- Williams College Summer Science Poster Session, *Williamstown, MA* Aug 2025
Poster: The d -gonal Locus in the Moduli Space of Tropical Plane Curves
- Gulf Coast Undergraduate Research Symposium, *Houston, TX* Nov 2024
Talk: Efficient Julia Implementations of Bernstein Basis Discontinuous Galerkin Methods
Award: Outstanding Presentation in Computational Applied Mathematics and Operations Research
- SIAM TX-LA, *Waco, TX* Oct 2024
Poster: Efficient Julia Implementations of Bernstein Basis Discontinuous Galerkin Methods
- RTG Numerical Mathematics & Scientific Computing Annual Workshop, *Houston, TX* Oct 2024
Poster: Efficient Julia Implementations of Bernstein Basis Discontinuous Galerkin Methods
- Materials Research Society Fall Meeting, *Boston, MA* Nov 2022
Talk: Molecular Dynamics (MD) Simulations of Soil-Strengthening Nanocomposite-Polyelectrolyte Hydrogels

AWARDS/HONORS

- Putnam **Top 517** (Score: 28) Dec 2023
- 4x Rice President's Honor Roll Fall 2023, Spring 2024, Fall 2024, Spring 2025
- **Silver Medal** at US Physics Olympiad (2x Qualifier) May 2022
- 3x AIME Qualifier 2021-2023
- USA Coding Olympiad Silver Contestant Jan 2020
- Lam Research Core Values Scholarship May 2023

SOFTWARE/PROJECTS

ChipFiring.jl

High-performance Julia package for analysis of chip-firing graphs

nestalgia.rs

Nintendo NES emulator in Rust from scratch (can play Donkey Kong + more!)

rchess

Rust-based chess library and engine

BernsteinBasis.jl

Julia library for discontinuous Galerkin methods via Bernstein basis

ACTIVITIES

MATH 232 Grader, *Honors Multivariable Calculus*

Spring 2024, Spring 2025

Lovett College Academic Fellow

Fall 2024, Spring 2025

Peer tutor for multivariable calculus and real analysis

COMP 182 TA, *Algorithmic Thinking*

Spring 2025

Rice Integration Bee Problem Setter and Organizer

Feb 2025

RiceApps, *Full-Stack Developer*

Sept 2023 – May 2024

Launched Speech Babble, a speech therapy app, on the App Store with nonprofit Texas Hearing Institute

Youth4Good English Tutoring Program, *Founder*

Sept 2019 – Aug 2023

Started an English tutoring program for students in rural China with 32 active tutors and raised \$800 to support three students' education

OTHER

Languages: English (native), Mandarin Chinese (proficient)

Coding languages (in order of preference): Julia, Rust, Python, Java, C/C++, Javascript

Other activities/interests: Emulator programming, piano, electronic music production/composition, matcha latte making