

TIANHAO WANG

5th Year PhD Student in Mathematics

@ tianhw11@uci.edu ☎ 858-699-6710

EDUCATION

University of California Irvine

Ph.D in Mathematics

📅 Sept 2020 – June 2026

- Advisor: Nathan Kaplan
- Research Focus: Arithmetic Algebraic Geometry

University of California San Diego

B.S in Mathematics, M.A in Mathematics

📅 Sept 2014 – Dec 2019

- Cumulative GPA: 3.76/4, Major GPA: 3.91/4
- Cum Laude Honor, Dean's Award for Excellence

SKILLS

- **Programming:** Proficient programming skills in Python and C++.
- **Math:** Expert level knowledge in Advanced Probability, Stochastic Process, Martingale Theory and Stochastic Calculus.
- **Finance:** Familiar with common financial derivatives, Black-Scholes pricing model, greeks, and common hedging strategies.
- **Machine Learning:** Familiar with CNN, LSTM, GNU, Transformer models, and also the common training techniques.

EMPLOYMENT HISTORY

Associate Instructor

📅 2024 Summer 📍 UC Irvine

- Instructor for the upper division Linear Algebra class.

Teaching Assistant

📅 2016 - 📍 UC Irvine, UC San Diego

- Teaching Assistant for Calculus, Linear Algebra, Abstract Algebra, Number Theory, Math Finance
- On average, 85% of students taking my class strongly recommend me to other students who is considering taking the same class in the future.
- Received Excellent TA award in June 2018.

PREPRINTS/PUBLICATIONS

1. T. Wang, *Density of Poncelet n -gon over Finite Fields*. To be submitted recently
2. T. Wang, N. Kaplan, *Counting pairs of conics satisfying the Poncelet triangle condition*. 13pp. arxiv.org/abs/2309.16978. To be submitted recently
3. T. Wang, *Explicit description of centralizers for a matrix*. 13pp. arxiv.org/abs/1910.13666

HONORS & AWARDS

- Nominated for the **Most Promising Future Faculty Award** (May 2024, UC Irvine Division of Teaching Excellence and Innovation. Awards to be announced on Sept 2024)
- **Finalist in the Alibaba Global Mathematics Competition** (June 2023, one of the 685 finalist out of more than 50,000 competitors)
- **Dean's Awards for Excellence** (June 2018, UC San Diego)
- **Excellent Teaching Award** (June 2018, UC San Diego)
- **Member of Phi Beta Kappa Honor Society** (Since 2018)

ACTIVITIES

Organizer of a Graduate Reading Group

📅 2021-2023 📍 UC Irvine

- Organized a graduate reading group of 5 PhD students on Algebraic Geometry.
- We read a book of interest together, and gave presentations in turns.
- I am further responsible for booking the classroom, scheduling the presentation, and organizing the problem sessions.

MSRI Summer School in Tropical Geometry

📅 2022 June 📍 St. Mary College

- One of the four nominee by the department to attend the summer school for the Tropical Geometry.
- Gave a short talk on the MDS conjecture.

Independent Game Development

📅 2019-2020

- Developed an independent game "Become Witch": <https://tianhao-wang.itch.io/become-witch-the-story-of-lunaria>
- The game is developed without any game engine. I built the engine under the ECS structure using C++ and the SDL library (a basic rendering library).
- The game is still under development, and received 3800 views and 495 downloads so far.

Mentee of a Research Training Group (RTG)

📅 2017-2018 📍 UC San Diego

- Conducted independent reading on Algebraic Geometry under supervision by a PhD student
- Gave a presentation on "The Projective Space and Global Bezout's Theorem". (2018), and another presentation on "The Geometric Version of the Chinese Remainder Theorem" (2017)