

HERMAN CHAU

University of Washington
Department of Mathematics

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EDUCATION/EMPLOYMENT

- **University of Washington** 2020 - 2025 (expected)
Ph.D. in Mathematics, Advisor: Sara Billey
- **Meta Platforms, Inc.** 2016 - 2019
Software Engineer (E5)
- **Stanford University** 2012 - 2016
B.Sc. in Mathematics

RESEARCH INTERESTS

Algebraic combinatorics, higher Bruhat order, machine learning and mathematics

HONORS AND AWARDS

- Honorable Mention, NSF GRFP (2022).
- Academic Excellence Award, University of Washington (2021).
- Provost Fellowship, University of Washington (2020).
- J.E. Wallace Sterling Award, University of Washington (2016).

PUBLICATIONS AND PREPRINTS

3. **The Forb-Flex Method for Odd Coloring and Proper Conflict-Free Coloring of Planar Graphs** (joint with James Anderson, Eun-Kyung Cho, Nicholas Crawford, Stephen G. Hartke, Emily Heath, Owen Henderschedt, Hyemin Kwon, Zhiyuan Zhang). [Preprint](#).
2. **Enumerating Higher Bruhat Orders**. *Submitted to FPSAC 2024*.
1. **Can We Count on Deep Learning: Characterizing Combinatorial Structures With Interpretability** (joint with Helen Jenne, Davis Brown, Jackson Warley, Tim Doster, Henry Kvinge). *Math-AI Workshop at NeurIPS 2023*. Available at <https://mathai2023.github.io/papers/10.pdf>.

TALKS

5. *Higher Weak Orders of Affine Permutations*. Combinatorics Seminar, University of Washington, March 2023.
4. *Commutation Classes of Permutations*. Math and CS Seminar, University of Puget Sound, November 2022.
3. *On Dividing a Square into Triangles*. CAT Seminar, University of Washington, February 2022.
2. *The Number of Reduced Decompositions of Elements of Coxeter Groups*. CAT Seminar, University of Washington, November 2021.
1. *Impossibility Of Tiling Odd by Odd Rectangles by L-shaped Tiles*. REU Presentation, Pennsylvania State University, August 2023.

TEACHING

- Instructor, MATH 381 (Discrete Mathematical Modeling) Summer 2023
- Teaching Assistant, MATH 381 Winter 2022
- Teaching Assistant, MATH 394A (Probability) Fall 2022
- Instructor and creator, MATH 580A (Graduate Computing Seminar) Summer 2022
- Teaching Assistant, MATH 111 (Algebra with Applications) Fall 2021 - Spring 2022
- Teaching Assistant, MATH 126 (Multivariable Calculus) Winter 2021 - Summer 2021
- Teaching Assistant, MATH 125 (Integral Calculus) Fall 2020

OUTREACH AND SERVICE

- Website administrator, UW Combinatorics Seminar (2022-2024)
- Mentor, UW Experimental Mathematics Lab (2023-2024)
- Industry Panel, Graduate Research Workshop in Combinatorics (July 2023)
- Mentor, UW Directed Reading Program (2021, 2023)