Yan Huang

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Research Interests

Kinetic Equations, Gradient Flows, Optimal Transport, Deep Learning, Scientific Machine Learning.

Education

University of Minnesota Twin Cities — Minneapolis, MN, USA
Ph.D. in Mathematics — Aug. 2023 -

Southern University of Science and Technology — Shenzhen, China
B.S. in Mathematics and Applied Mathematics — Aug. 2019 - Jun. 2023
Honors Program in Mathematics

Preprints

[1] Y. Huang, L. Wang. JKO for Landau: a variational particle method for homogeneous Landau equation, submitted.

Publications

[1] Y. Huang, L. Wang. A score-based particle method for homogeneous Landau equation, Journal of Computational Physics, 2025, p.114053.

Presentations

- Statistical and Computational Challenges in Probabilistic Scientific Machine Learning (poster), IMSI, Chicago, Jun. 9-13, 2025.
- Rivière-Fabes Symposium on Analysis and PDE (poster), UMN, Apr. 25-27, 2025.
- Workshop on Kinetic Theory and Fluids (poster), UW-Madison, Mar. 28-30, 2025.
- Research Seminar, SUSTech, Oct. 17, 2024.

Conference Attending

- Summer School in Optimal Transport and Applications, UCSB, Jul. 20-25, 2025.
- Micro-workshop: Data-driven approaches for physical models, UMN, May. 19, 2025.
- PDEs of Incompressible Fluid Flows, Computer Assisted Proofs and Neural Networks, UMN, Apr. 12, 2024.
- Computational Challenge and Optimization in Kinetic Plasma Physics, IMSI, Chicago, Feb. 19-22, 2024.
- New Trends in Kinetic and Optimal Transport, UMN, Oct. 25-27, 2023.

Teaching

School of Mathematics, UMN

- Teaching Assistant, MATH 1272 Calculus II, Spring 2025.
- Grader, MATH 5485 Introduction to Numerical Methods I and MATH 8441 Numerical Analysis and Scientific Computing, Fall 2024.
- Teaching Assistant, MATH 1272 Calculus II, Spring 2024.
- Teaching Assistant, MATH 1271 Calculus I, Fall 2023.

Awards

- SUSTech Excellent Undergraduate Thesis.
- SUSTech Second Class of the Merit Student Scholarship, 2021 & 2022.
- First Class Award of the 13^{th} National College Students Mathematics Competition.

Skills **Programming**: Python, PyTorch, Matlab, Java.

Language: Chinese (native), English (professional).