

Xinghao Dong

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Education

University of Wisconsin-Madison

Expected Jun. 2028

Ph.D. Candidate in Mechanical Engineering with Minor in Mathematics

- Artificial Intelligence for Modeling and Simulation Lab (Advisor: Dr. Jinlong Wu)
- Cumulated GPA: 3.86/4.00

University of Wisconsin-Madison

Expected Jun. 2028

M.S. Student in Computer Science

University of California, Los Angeles

Mar. 2023

B.S. in Applied Mathematics with Specialization in Computing

- Cumulated GPA: 3.90/4.00 (Cum Laude)

Research Experience

Research Assistant

Sep. 2023 – Present

Department of Mechanical Engineering

University of Wisconsin-Madison

- Extended Score-Based Models for resolution-invariant conditional generation, enhancing predictive accuracy and efficiency in the simulations of complex systems that are multi-scale, multi-physics, and chaotic in nature.

Research Assistant

Jun. 2022 – Mar. 2023

Department of Mathematics

University of California, Los Angeles

- Investigated an optimization problem related to the Morrey conjecture that rank-one convexity does not imply quasi-convexity
- First successful numerical strategy to prove the Morrey Conjecture by finding example functions

Research Assistant

Feb. 2022 – Jun. 2023

Department of Ecology and Evolutionary Biology

University of California, Los Angeles

- Constructed a mechanistic simulation-based model and a boosted regression tree model to predict tick population abundance

Publications

[1] **Dong, X.**, & Chen, C., & Wu, J-L. (2025). Data-driven stochastic closure modeling via conditional diffusion model and neural operator. *Journal of Computational Physics*, 114005.

[2] **Dong, X.**, & Enakoutsa, K. (2022). Some Numerical Simulations Based on Dacorogna and Marcellini Example Functions in Favor of the Morrey Conjecture. *arXiv preprint* [arXiv:2211.11194](https://arxiv.org/abs/2211.11194).

Presentations

Conference Talks

- **Dong, X.**, & Chen, C., & Wu, J-L. Learning stochastic closures via conditional diffusion model and neural operator. (Selected for DFD-Interact.) APS DFD 2024

Teaching Experience

Grader - University of California, Los Angeles

Dec. 2022 – Mar. 2023

- PIC 20A: Principles of Java Language with Applications

Learning Assistant - University of California, Los Angeles

Jan. 2022 – Jul. 2023

- Math 32B: Calculus of Several Variables
- CS 31: Introduction to Computer Science

Skills and Qualifications

Programming and Software

- C++, Python, LaTeX, R, JAVA, MATLAB, Maple, Mathematica

Memberships

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| • Society for Industrial and Applied Mathematics, Member | 2023-present |
| • American Physical Society, Member | 2023-present |
| • American Geophysical Union, Member | 2023-present |