

HANWEN WANG

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Education

University of Pennsylvania

Doctor of Philosophy in Applied Mathematics and Computational Science

May 2021 – December 2026 (expected)

Philadelphia, PA

University of Pennsylvania

Master of Arts in Applied Mathematics and Computational Science

August 2019 – May 2021

Philadelphia, PA

- Cumulative GPA: 4.00/4.00

Wake Forest University

Bachelor of Science in Mathematics with Honor, Bachelor of Arts in Chemistry

August 2015 – May 2019

Winston-Salem, NC

- Cumulative GPA: 3.89/4.00, Summa Cum Laude

- Minor in Computer Science

Experience

Goldman Sachs Group, Inc

Summer Engineering Associate, Risk Economics Strats

June 2025 – August 2025

New York, NY

- **Project:** Retrieval augmented automatic credit rating.
- Developed an automated credit rating system using LangChain and LLMs to extract and evaluate qualitative criteria from credit review documents, generating structured outputs with full references and justifications for human review.

Goldman Sachs Group, Inc

Summer Engineering Associate, Market Risk Strats

June 2024 – August 2024

New York, NY

- **Projects:** Large Language Model uncertainty quantification, regression test for market risk scenarios, PnL hedging for desk portfolios.
- Explored quantitative and qualitative ways to evaluate the effectiveness and confidence of the Generative AI solution in ESG investing.
- Created and maintained programs for market risk evaluation.

University of Pennsylvania, Penn Institute of Computational Science

Graduate Research Assistant

May 2020 – Current

Philadelphia, PA

- **Projects:** Autoregressive prediction of time-dependent PDEs, Physics-Informed DeepONet learning the solution operator of parametric PDEs, analysis of eigenvector bias of Fourier feature networks on PINNs, COVID-19 dynamics modeling with LSTM and NeuralODE, segmentation of platelets from hemostatic plug scans.
- Implemented training, evaluation, and inference pipeline for SOTA computer vision and computer graphics, and scientific machine learning models for tasks ranging from object detection to neural PDE solver.
- Curated non-standard datasets for disease transmission and biomedical imaging projects.

Selected Journal Articles

- Wang, S., Seidman, J. H., Sankaran, S., Wang, H., Pappas, G. J., and Perdikaris, P. “CViT: Continuous Vision Transformer for Operator Learning”. In *The Thirteenth International Conference on Learning Representations*.
- Wang, Sifan, Hanwen Wang, and Paris Perdikaris. “Learning the solution operator of parametric partial differential equations with physics-informed DeepONets.” *Science advances* 7, no. 40 (2021): eabi8605.
- Wang, Sifan, Hanwen Wang, and Paris Perdikaris. “On the eigenvector bias of Fourier feature networks: From regression to solving multi-scale pdes with physics-informed neural networks.” *Computer Methods in Applied Mechanics and Engineering* 384 (2021): 113938.
- Bhouri, Mohamed Aziz, Francisco Sahli Costabal, Hanwen Wang, Kevin Linka, Mathias Peirlinck, Ellen Kuhl, and Paris Perdikaris. “COVID-19 dynamics across the US: A deep learning study of human mobility and social behavior.” *Computer Methods in Applied Mechanics and Engineering* 382 (2021): 113891.
- Wang, Hanwen, Isabelle Crawford-Eng, and Paris Perdikaris. “Enhancing the trainability and expressivity of deep MLPs with globally orthogonal initialization.” *The Symbiosis of Deep Learning and Differential Equations*. 2021, NeurIPS 2021 Workshop.

Skills

- **Programming Languages:** Python, R, MATLAB, L^AT_EX
- **Machine Learning Packages:** Jax, Optax, Flax, LangChain, PyTorch, Scikit-learn
- **Languages:** English, Chinese