

YANJIE TONG

Atlanta, GA

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EDUCATION

Georgia Institute of Technology, Atlanta, GA

Aug. 2024 – Now

Ph.D. in Computational Science and Engineering

Advisor: Peng Chen, **GPA:** 4.00/4.00

Tsinghua University, Beijing, China

Sep. 2020 – Jun. 2024

B.S. in Mathematics and Physics and B.Eng. in Energy and Power Engineering

GPA: 3.89/4.00 (Top 6/44)

RESEARCH EXPERIENCE

Georgia Institute of Technology, Atlanta, GA

Aug. 2024 – Now

Graduate Research Assistant, SciML & UQ Lab

- Developed STRIDE, an end-to-end deep-learning framework combining temporal sensor-history encoding with neural-field decoding to reconstruct continuous spatiotemporal fields from sparse measurements.
- Benchmarked alternative model families and built reproducible evaluation workflows covering training stability, resolution transfer, sensor failures, and distribution shifts.
- Validated the framework across fluid-dynamics and wave-propagation problems and extended it toward real-time flood prediction on a 4.2-million-cell river-basin dataset.

Tsinghua University, Beijing, China

Sep. 2022 – Jun. 2024

Undergraduate Research Assistant

- Implemented a tensor-decomposition reduced-order modeling pipeline for parametric, unstructured-mesh flow fields, combining low-rank representations and regression methods for efficient nonlinear simulation.
- Developed Gaussian process subspace surrogates with region partitioning for cold-flow and combustion emulation.

TEACHING AND ACADEMIC SERVICES

TA for Modeling and Simulation (CSE 6730)

2025 Spring, Fall

TA for Machine Learning (CS 7641)

2025 Summer

Reviewer for *Journal of Computational Physics*

2025

PUBLICATIONS

- Yanjie Tong**, Phillip Si, Yuan Qiu, Peng Chen. “C-STRIDE: An Observation-Driven AI Digital Twin for Predicting Basin-Wide Flood Fields from Sparse Stream-Gauge Histories.” arXiv, 2026, 2609.39005.
- Yanjie Tong**, Peng Chen. “From sparse sensors to continuous fields: STRIDE for spatiotemporal reconstruction.” arXiv, 2026, 2602.04201.
- Yanjie Tong**, Qingzhou Lu, Siyu Ding, Xingjian Wang. “A parametric reduced-order model based on tensor decomposition for unstructured mesh data.” *Journal of Computational Physics*, Vol. 541, 2025, 114300.
- Mingshuo Zhou, Ruiye Zuo, Chih-Li Sung, **Yanjie Tong**, Xingjian Wang. “Region-optimal Gaussian process surrogate model via Dirichlet process for cold-flow and combustion emulations.” *Computer Methods in Applied Mechanics and Engineering*, Vol. 439, 2025, 117894.
- Xiangshang Lin, Longfei Wang, **Yanjie Tong**, Yang Zhang, Xingjian Wang. “Reduced-order modeling of spatiotemporal evolution of unsteady flows using tensor decomposition.” Under Review at JCP.

AWARDS AND SCHOLARSHIPS

- The Chinese Mathematics Competitions (CMC) Final, First Prize, National 3rd Place 2023
- Alibaba Global Mathematics Competition, Finalist 2022
- Scholarship of Academic Excellence, Tsinghua University 2021 & 2022

TECHNICAL SKILLS

Programming Language

Python (PyTorch), C++, MATLAB, R, Java

Tool and Software

Git, Linux, LaTeX, MySQL, AutoCAD, SolidWorks, Ansys Fluent

Language

Chinese (Native), English (Fluent)