

Jiawen Dai

School of Physics and Astronomy, Shanghai Jiao Tong University

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GitHub | Scholar | Homepage

Education

Shanghai Jiao Tong University

Sep 2024 – Present

Undergraduate in Physics, Tsung-Dao Lee Physics Class

GPA: 4.18/4.30, Rank 1; Weighted Average: 95.50/100, Rank 1.

Research Experience

Research Intern

Dec 2025 – Present

Representation Learning, advised by Prof. Yue Song, College of AI, Tsinghua University

- Worked on *Winfree Oscillatory Neural Network (WONN)*, a neural architecture built upon generalized Winfree synchronization dynamics. Accepted to NeurIPS 2026 as a **Spotlight** paper (Top 1%).
- Lead ongoing research on language models and collaborate on generative modeling.

Undergraduate Researcher

Sep 2025 – Dec 2025

Advised by Prof. Junchi Yan, School of Artificial Intelligence, Shanghai Jiao Tong University

Undergraduate Researcher

Jul 2025 – Sep 2025

Advised by Prof. Dong Lai, Tsung-Dao Lee Institute, Shanghai Jiao Tong University

- Studied orbital distributions in three-body scattering.

Publications

Winfree Oscillatory Neural Network

Jiawen Dai, Yue Song

Accepted to NeurIPS 2026 (Spotlight, Top 1%). [Project] [arXiv] [Code]

Skills

Programming: Python, Julia, MATLAB (basic)

ML / Systems: PyTorch, Linux

Tools: L^AT_EX, Origin

Languages: English (Fluent), Chinese (Native)

Coursework

Selected coursework (scores out of 100).

Course	Score
Mathematical Analysis II	93
Probability Theory and Mathematical Statistics	96
Equations of Mathematical Physics	96
Complex Analysis	95
Programming and Fundamentals of Computational Physics	100
Mechanics	96
Thermal Physics	96
Electromagnetism	95
Optics	95
Analytical Mechanics	100
Electrodynamics	100
Quantum Mechanics	98
Plasma Physics	96
Observational Astrophysics	97