

TIANQIU ZHANG

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RESEARCH INTEREST

Latent World Models: brain-inspired world models, latent action models, structure learning
Self-supervised Reinforcement Learning: goal-conditioned RL, skill learning, zero-shot generalization
Computational Neuroscience: connectome-constrained model simulation and training

EDUCATION

Peking University Sep, 2022 - Jul, 2027 (expected)
Ph.D. in Integrated Life Sciences (Physics)
Advised by Prof. [Si Wu](#)

Beijing University of Posts and Telecommunications Sep, 2018 - Jul, 2022
B.Eng. in Computer Science and Technology GPA: 3.86/4.00, rank: 3/379

PUBLICATIONS

Conference Papers

- DiLA: Disentangled Latent Action World Models**
[Tianqiu Zhang*](#), [Muyang Lyu*](#), [Yufan Zhang](#), [Fang Fang](#), [Si Wu](#).
ICML 2026
- Structure Abstraction and Generalization in a Hippocampal-Entorhinal Inspired World Model**
[Tianqiu Zhang*](#), [Muyang Lyu*](#), [Xiao Liu](#), [Si Wu](#).
ICML 2026
- A differentiable brain simulator bridging brain simulation and brain-inspired computing**
[Chaoming Wang*](#), [Tianqiu Zhang*](#), [Sichao He](#), [Hongyaoxing Gu](#), [Shangyang Li](#), [Si Wu](#).
ICLR 2024 [[Paper](#)][[Code](#)]
- A Differentiable Approach to Multi-scale Brain Modeling**
[Chaoming Wang](#), [Muyang Lyu](#), [Tianqiu Zhang](#), [Sichao He](#), [Si Wu](#).
ICML 2024 Workshop Differentiable Almost Everything [[Paper](#)][[Code](#)]

Journal Papers

- BrainPy: a flexible, integrative, efficient, and extensible framework for general-purpose brain dynamics programming**
[Chaoming Wang](#), [Tianqiu Zhang](#), [Xiaoyu Chen](#), [Sichao He](#), [Shangyang Li](#), [Si Wu](#).
eLife, 2023 [[Paper](#)][[Code](#)]
- Visual information processing through the interplay between fine and coarse signal pathways.**
[Xiaolong Zou](#), [Zilong Ji](#), [Tianqiu Zhang](#), [Tiejun Huang](#), [Si Wu](#).
Neural Networks, 2023 [[Paper](#)]

(* indicates equal contribution)

PROJECTS

BrainPy [[Web](#)], [[Code](#)],
BrainPy is a highly flexible and extensible framework targeting general-purpose Brain Dynamics Programming.

ACADEMIC SERVICES

Conference Reviewer NeurIPS, ICLR, ICML

BOOKS

Neural Modeling in Action: based on BrainPy

Chaoming Wang, Xiaoyu Chen, **Tianqiu Zhang**, Si Wu (2023)

HONORS AND FELLOWSHIPS

Presidential Scholarship , Peking University	2024
Ubiquant Scholarship , Peking University	2023
FiberHome Scholarship , Beijing University of Posts and Telecommunications	2021
National Scholarship , Ministry of Education	2020

HIGHLIGHTED CONFERENCES AND SUMMER SCHOOLS

NeuroFrontiers: Bridging Molecules, Minds, and AI systems Symposium , Singapore <i>Poster Presenter</i>	2025
The 6th Chinese Computational and Cognitive Neuroscience Conference , Hong Kong, China The best poster award <i>Poster Title: Elucidating Sensorimotor Mechanisms through Connectome-based Whole-brain Spiking Neural Network Modeling in Zebrafish</i>	2024
The 16, 17, 18th Annual Meeting of Chinese Neuroscience Society , China <i>Poster Presenter</i>	2023, 2024, 2025
The Computational and Cognitive Neuroscience (CCN) summer school , Cold Spring Harbor Asia <i>Selected Participant</i>	2023
The Annual Meeting of Center of Quantitative Biology , Beijing, China <i>Invited Speaker</i>	2023

TEACHING

The 1st - 4th Online Training Course on Neural Modeling and Programming <i>Organizer & Instructor</i>	PKU NIPLab 2023-2025
AI for Psychology , School of Psychological and Cognitive Sciences <i>Teaching Assistant</i>	Peking University Feb, 2024 - Jun, 2024
Cognition and Intelligence , Department of Psychological and Cognitive Sciences <i>Invited Instructor</i>	Tsinghua University Mar, 2024
Foundations of Neural Modeling , School of Psychological and Cognitive Sciences <i>Teaching Assistant</i>	Peking University Sep, 2023 - Jan, 2024
Artificial and Brain-inspired Intelligence Basics , Yuanpei Collage <i>Teaching Assistant</i>	Peking University Feb, 2023 - Jun, 2023
Computational Neuroscience , School of Electronics Engineering and Computer Science <i>Teaching Assistant</i>	Peking University Sep, 2022 - Jan, 2023