Zhuoyuan Li

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School of Mathematical Sciences, Peking University
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Education

2020–2025[1]	**Ph.D.**, School of Mathematical Sciences, Peking University, Beijing, China co-supervisors: Prof. Pingwen Zhang[2], Prof. Bin Dong[3]
2016–2020	**B.Sc.**, School of Mathematics, Sichuan University, Chengdu, China

Research Experience

2022–present	deep learning in data assimilation
2020–2022	deep learning in numerical weather prediction

Publications

Google Scholar

† → Equal contribution; ∗ → Corresponding author(s)

Journal Articles

J1. **Zhuoyuan Li**∗, Dong, B. & Zhang, P. Latent assimilation with implicit neural representations for unknown dynamics. *Journal of Computational Physics* **506,** 112953. ISSN: 0021-9991. https://doi.org/10.1016/j.jcp.2024.112953 (2024).

Preprints

P1. **Zhuoyuan Li**, Dong∗, B. & Zhang∗, P. State-observation augmented diffusion model for nonlinear assimilation. *arXiv preprint arXiv:2407.21314*. https://arxiv.org/abs/2407.21314 (2024).

P2. Huang†, X., **Zhuoyuan Li**†, Z., Liu, H., Wang, Z., Zhou, H., Dong∗, B. & Hua, B. Learning to simulate partially known spatio-temporal dynamics with trainable difference operators. *arXiv preprint arXiv:2307.14395*. https://arxiv.org/abs/2307.14395 (2023).

[1] Expected.
[2] homepage: https://www.math.pku.edu.cn/pzhang/en/
[3] homepage: http://faculty.bicmr.pku.edu.cn/~dongbin/

Talks

CSIAM 2024	Oct. 24-27, 2024	"Latent assimilation with implicit neural representations for unknown dynamics" (Selected Poster)

Teaching

Peking University

Spring 2023	Assistant Instructor, Advanced Algebra (II)
Fall 2022	Assistant Instructor, Advanced Algebra (I)
Spring 2022	Assistant Instructor, Advanced Algebra (II)
Fall 2020	Teaching Assistant[4], Advanced Mathematics (C)

Please see my homepage for more details.

Other Experience

May 2024	China Meteorological Administration Tornado Key Laboratory (link, in Chinese) – location: Foshan, Guangdong, China – deploy a CNN-based model for tornado detection and classification
2022-2023	MindSpore MindFlow SIG group (online), Huawei Technologies Co., Ltd. – develop effective AI-based models for fluid simulation
Summer 2018	research internship organized by MITACS – location: University of Alberta, Edmonton, AB, Canada – topic: multi-marginal optimal transport (advisor: Prof. Brendan Pass)

Last updated: October 28, 2024

[4] without teaching tasks