

Zhuoyuan Li

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Peking University
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Education

2020–2025¹ **Ph.D.**, School of Mathematical Sciences, Peking University, Beijing, China
co-supervisors: Pingwen Zhang², Bin Dong³
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).

¹Expected.

²homepage: <https://www.math.pku.edu.cn/pzhang/en/>

³homepage: <http://faculty.bicmr.pku.edu.cn/~dongbin/>

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) <ul style="list-style-type: none">– location: Foshan, Guangdong, China– develop a CNN-based model for tornado detection and classification
2022-2023	MindSpore MindFlow SIG group (online), Huawei Technologies Co., Ltd. <ul style="list-style-type: none">– develop effective AI-based models for fluid simulation
Summer 2018	research internship organized by MITACS <ul style="list-style-type: none">– location: University of Alberta, Edmonton, AB, Canada– topic: multi-marginal optimal transport (advisor: Brendan Pass)

Last updated: August 20, 2024

⁴without teaching tasks