Zhuoyuan Li

zy.li@stu.pku.edu.cn
zylipku.github.io
Peking University
Beijing, 100871, China

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/

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: September 1, 2024

[4] without teaching tasks