Curriculum Vitae of **Zhen LI** (李震)

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Education

- Tsinghua University, Beijing
 - B. E. in Mechanics School of Aerospace, 2007
 - M. E. in Mechanics
 School of Aerospace, 2010
 Thesis: Theoretical Study on the Definition of Vortex
 - Ph. D. in Mathematics
 Yau Mathematical Sciences Center, 2016
 Thesis: The Point Integral Method for Elliptic Equations with Application

Research Positions

- Postdoctoral Fellow Dept. Math., The Hong Kong University of Science and Technology. 2016.9 –2018.10
- Assistant Professor Beijing Institute of Mathematical Sciences and Applications. 2024.1 -

Publications & Preprints

- [1] Zhen Li and K. Zhu. "Effects of relaxation time on start-up time for starting flow of Maxwell fluid in a pipe". In: *Acta Mechanica Sinica* 26 (2010), pp. 209–215.
- [2] Zhen Li, Yiming Chen, and Feng He. "Evaluation of vortex criteria by virtue of the triple and quadruple decomposition of velocity gradient tensor". Chinese. In: Beijing, China, 2011.

- [3] Zhen Li, Xiwen Zhang, and Feng He. "Evaluation of vortex criteria by virtue of the quadruple decomposition of velocity gradient tensor". Chinese. In: *Acta Physica Sinica* 63.5 (Mar. 2014).
- [4] Zhen Li and Zuoqiang Shi. "A Convergent Point Integral Method for Isotropic Elliptic Equations on a Point Cloud". In: Multiscale Modeling & Simulation 14.2 (2016), pp. 874–905.
- [5] Zhen Li and Zuoqiang Shi. "A Flow Model of Neural Networks". In: (Aug. 2017). arXiv: 1708.06257 [cs.LG].
- [6] Zhen Li and Zuoqiang Shi. "Compute Quasi-Conformal Map on Point Cloud by Point Integral Method". In: (2017).
- [7] Zhen Li and Zuoqiang Shi. "Deep residual learning and pdes on manifold". In: *arXiv preprint arXiv:1708.05115* (2017).
- [8] Zhen Li, Zuoqiang Shi, and Jian Sun. "Point Integral Method for Solving Poisson-Type Equations on Manifolds from Point Clouds with Convergence Guarantees". In: *Communications in Computational Physics* 22.1 (2017), pp. 228–258.
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- [10] Bao Wang, Xiyang Luo, Zhen Li, Wei Zhu, Zuoqiang Shi, and Stanley Osher. "Deep Neural Nets with Interpolating Function as Output Activation". In: Advances in Neural Information Processing Systems. Vol. 31. 2018.
- [11] Zhen Li, Zuoqiang Shi, and Jian Sun. "Point Integral Method for Elliptic Equations with Variable Coefficients on Point Cloud". In: *Communications in Computational Physics* 26.2 (2019), pp. 506–530.
- [12] Yiran Wang and Zhen Li. "Inverse Problem of Nonlinear Schrödinger Equation as Learning of Convolutional Neural Network". In: *arXiv preprint arXiv:2107.08593* (2021).
- [13] Jian Huang, Yuling Jiao, Zhen Li, Shiao Liu, Yang Wang, and Yunfei Yang. "An error analysis of generative adversarial networks for learning distributions". In: *The Journal of Machine Learning Research* 23.1 (2022), pp. 5047–5089.
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- [15] Yunfei Yang, Zhen Li, and Yang Wang. "Approximation in shift-invariant spaces with deep ReLU neural networks". In: *Neural Networks* 153 (2022), pp. 269–281. ISSN: 0893-6080.
- [16] Yunfei Yang, Zhen Li, and Yang Wang. "On the capacity of deep generative networks for approximating distributions". In: *Neural Networks* 145 (Jan. 2022), pp. 144–154. ISSN: 0893-6080.
- [17] Yuan Lan, Zhen Li, Jie Sun, and Yang Xiang. "DOSnet as a Non-Black-Box PDE Solver: When Deep Learning Meets Operator Splitting". In: *Journal of Computational Physics* (2023), p. 112343. ISSN: 0021-9991.

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