Tengfei Xu

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Education

Dalian University of Technology *Dalian*

BACHELOR OF ENGINEERING IN ENGINEERING MECHANICS (QIAN LINGXI EXCELLENCE IN EDUCATION PROGRAM)

2018 - 2022

- GPA: 3.78

Dalian University of Technology *Dalian*

MASTER OF ENGINEERING IN COMPUTATIONAL MECHANICS *2022 - Current*

- Work at State Key Laboratory of Structural Analysis, Optimization and CAE Software for Industrial Equipment

Publications

Liu, D., Hao, P., **Xu, T.**, et al. 2023. Intelligent optimization of stiffener unit cell via variational autoencoder-based feature extraction. Structural and Multidisciplinary Optimization, 66(1), 8.

- In this work, I propose to use a VAE-GAN model as the deep learning module to extract feature and establish the latent space, rather than a naive VAE. I write the relevant code, and help to write and edit the paper.

Xu, T., Liu, D., Hao, P., et al. 2023. Variational operator learning: A unified paradigm marrying training neural operators and solving partial differential equations. arXiv preprint, arXiv:2304.04234.

- In this work, I propose Variational Operator Learning (VOL), a novel weak-form embedding and label-free paradigm in the PDEs' modeling. I'm the first inventor of the related patent (Publication number: CN 116468104 A)

Awards, Fellowships, & Grants

2019	**Qian Lingxi Mechanics Scholarship**, Dalian university of technology education development foundation
2022	**Chiang Chen Scholarship (The First-Class Scholarship)**, Chiang Chen Industrial Charity Foundation
2022-2025	**The First-Class Graduate Scholarship**, Dalian university of technology education development foundation

Research Experience

Dalian University of Technology - Dept of Engineering Mechanics *Dalian*

ADVISOR: DR. DIXIONG YANG *2019-2021*

- Projects: "Application of novel neural networks in structural optimization"

Dalian University of Technology - Dept of Engineering Mechanics *Dalian*

ADVISOR: DR. PENG HAO *2021-2022*

- Projects: "Intelligent design optimization of variable stiffness structures"

Dalian University of Technology - Dept of Engineering Mechanics *Dalian*

ADVISORS: DR. PENG HAO *2022-2025*

- Thesis: "A domain knowledge embedding framework of operator learning and brain-inspired computing"