YILIN LI

Machine Learning and Applied Math, Transgender Female

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⌨ nagasakisoyo157.github.io/

EXPERIENCE

Undergraduate Student
School of Mathematical Sciences, Nankai University

🗓 Sept 2021 – June 2025   📍 Nankai District, Tianjin

- Excellent courses: Data Mining(93), Functional Analysis(87), Operating System and Network(91), GPU Programming(90), Signal and Systems(90), Data Structure and Algoritms(94), Numerical Approximating(91), Mathematical Modeling(92)
- Outstanding Student Union Cadre (09/2023): Recognized for organizing student union activities and leadership contributions.
- Administrative Assistant at the Department of Physical Education, Nankai University (1.5 years)

Research Assistant
HKUST(GZ)

🗓 Feb 2025 - June 2025   📍 Guangzhou, China

- Developing Tensor Neural Networks to solve high-dimensional partial differential equations (PDEs). Working as an internship.

RESEARCH EXPERIENCE

Research with Associate Professor Wenrui Hao at Penn State University (Current)
Focus: Neural Network Modeling of Alzheimer's Disease Dynamics
Highlights:
- Innovation in model structure(Split mechanism: Gating network multiplied by magnitude network, and discuss the activation function that should be used), high-precision approximation and credible interval
- Transfer learning for constructing personalized models
- Disease Progression Score, Parameters clustering and AD stage identification, Mini-batches

Research Assistant at Hong Kong University of Science and Technology, working with Assistant Professor Zecheng Gan (Current)
Focus: Developing Tensor Neural Networks to solve high-dimensional partial differential equations (PDEs)
Highlights:
- Mathematically derive algorithms for Convolutional Tensor Neural Networks(CTNNs) with coupled input dimensions, building CTNN models
- Applying Deep Galerkin Methods for Numerical PDEs, solving boundary problems
- Accelerating training process, profiling time cost of each computational procedure, training layer-by-layer
- Understanding advantages/disadvantages of different algorithms, for instance, Weakly adversarial neural networks

RESEARCH INTEREST

Deep Learning | Efficient Machine Learning | Fine Tuning | Scientific Computing | High Performance Computing | Image Processing and Computer Vision

STRENGTHS

Functional Analysis and Operator Algebra | Numerical PDEs | Python with Pytorch and Pandas | MATLAB | Linux | GPU Programming, NVCC | Love Coding and Trying

HONORS AND AWARDS

🏆 **Outstanding Student Union Cadre (09/2023)**
Recognized for organizing student union activities and leadership contributions

🏆 **Outstanding Teenager in Beilin District(06/2019)**
Nominated for exemplary academic performance and good conduct, awarded by Beilin District Education Bureau.

🏆 **First Class High School Scholarship (02/2021)**
Awarded for ranking first in the grade for one semester

🏆 **S Prize in Mathematical Contest in Modeling (MCM) 2024, COMAP**
Solved Lamprey Resource Availability and Sex Ratios Problem

ENGLISH PROFICIENCY (TOEFL)

Reading 29/ Listening 29/ Speaking 22/ Writing 22

CV Last Update: 2025/07/30