SIYUAN LI

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EDUCATION

Zhejiang University (ZJU) & Westlake University, China | **Supervisor: Prof. Stan Z. Li** Sept 2021 - June 2026
PhD. Candidate of Computer Science and Technology

Nanjing University (NJU), China | **Supervisor: Prof. Jianxin Wu** Sept 2017 - June 2021
Bachelor of Computer Science and Technology

PROJECTS & RESEARCH EXPERIENCE

Alibaba DAMO Academy: AIGC and Representation Learning Aug 2023 - Sept 2024
*Researching in AIGC for face and general images, supervised by Researcher **Baigui Sun**.*

Westlake University: Manifold learning for dimension reduction May 2020 - June 2021
*Studying inverse dimension reduction and publishing inv-ML, supervised by Prof. **Stan Z. Li**.*

Zhejiang University of Technology: Visual Object Tracking in open scenes Aug 2019 - May 2020
Programming visual tracking systems and publishing TLPG-Tracker, supervised by Dr Zhi Zhang.

Open source projects for machine learning and computer vision in PyTorch July 2021 - Sept 2023

- **OpenMixup**: Open mixup toolbox and benchmark for visual representation learning. **613 stars, 62 forks**
- **OpenSTL**: Open-source project for video prediction benchmarks (NeurIPS, 2023). **718 stars, 113 forks**
- **MogaNet**: Image classification and various downstream tasks of MogaNet (ICLR, 2024). **164 stars, 13 forks**

SELECTED PUBLICATIONS

Representation Learning and Generation (AIGC)

MergeVQ: A Unified Framework for Visual Generation and Representation with Disentangled Token Merging and Quantization CVPR, 2025
Siyuan Li, Luyuan Zhang, Zedong Wang, Juanxi Tian, Cheng Tan, Zicheng Liu, Chang Yu, Qingsong Xie, Haonan Lu, Haoqian Wang, Zhen Lei. Code

Architecture-Agnostic Masked Image Modeling – From ViT back to CNN ICML, 2023
Siyuan Li, Di Wu, Fang Wu, Zelin Zang, Stan Z. Li. Code

GenURL: A General Framework for Unsupervised Representation Learning IEEE TNNLS, 2023
Siyuan Li, Zicheng Liu, Zelin Zang, Di Wu, Zhiyuan Chen, Stan Z. Li. Code

DLME: Deep Local-flatness Manifold Embedding ECCV, 2022
Zelin Zang, **Siyuan Li**, Di Wu, Ge Wang, Lei Shang, Baigui Sun, Hao Li, Stan Z. Li. Code

Network Architecture and Long-Sequence Modeling

MogaNet: Multi-order Gated Aggregation Network ICLR, 2024
Siyuan Li, Zedong Wang, Zicheng Liu, Cheng Tan, Haitao Lin, Di Wu, Zhiyuan Chen, Jiangbin Zheng, Stan Z. Li. Code

Short-Long Convolutions Help Hardware-Efficient Linear Attention to Focus on Long Sequences ICML, 2024
Zicheng Liu, **Siyuan Li**, Li Wang, Zedong Wang, Yunfan Liu, Stan Z. Li. Code

Data Augmentations and Data-efficient Learning

SemiReward: A General Reward Model for Semi-supervised Learning ICLR, 2024
Siyuan Li, Weiyang Jin, Zedong Wang, Fang Wu, Zicheng Liu, Cheng Tan, Stan Z. Li. Code

Harnessing Hard Mixed Samples with Decoupled Regularizer NeurIPS, 2023
Zicheng Liu, **Siyuan Li**, Ge Wang, Cheng Tan, Lirong Wu, Stan Z. Li. Code

AutoMix: Unveiling the Power of Mixup for Stronger Classifiers (*Oral, Top 2.7%*) ECCV, 2022
Zicheng Liu, **Siyuan Li**, Di Wu, Zihan Liu, Zhiyuan Chen, Lirong Wu, Stan Z. Li. Code

AI for Science Applications

VQDNA: Unleashing the Power of Vector Quantization for Multi-Species Genomic Sequence Modeling ICML, 2024
Siyuan Li, Zedong Wang, Zicheng Liu, Di Wu, Cheng Tan, Jiangbin Zheng, Yufei Huang, Stan Z. Li.

Neuro-BERT: Rethinking Masked Autoencoding for Self-Supervised Neurological Pretraining IEEE JBHI, 2024
Di Wu, **Siyuan Li**, Jie Yang, Mohamad Sawan

Protein 3D Graph Structure Learning for Robust Structure-based Protein Property Prediction AAAI, 2024
Yufei Huang, **Siyuan Li**, Jin Su, Lirong Wu, Odin Zhang, Haitao Lin, Jingqi Qi, Zihan Liu, Zhangyang Gao, Yuyang Liu, Jiangbin Zheng, Stan Z. Li.

Video Applications

OpenSTL: A Comprehensive Benchmark of Spatio-Temporal Predictive Learning NeurIPS, 2023
Cheng Tan, **Siyuan Li**, Zhangyang Gao, Wenfei Guan, Zedong Wang, Zicheng Liu, Lirong Wu, Stan Z. Li. Code

TLPG-Tracker: Joint Learning of Target Localization and Proposal Generation for Visual Tracking IJCAI, 2020
Siyuan Li, Zhi Zhang, Ziyu Liu, Anna Wang, Linglong Qiu, Feng Du. Code

Graph Representation Learning and Dimension Reduction

Discovering the Representation Bottleneck of Graph Neural Networks IEEE TKDE, 2024
Fang Wu, **Siyuan Li**, Stan Z. Li. Code

Explaining Graph Neural Networks via Non-parametric Subgraph Matching ICML, 2023
Fang Wu, **Siyuan Li**, Xurui Jin, Zhangming Niu, Yinghui Jiang, Dragomir Radev, Stan Z. Li. Code

Invertible Manifold Learning for Dimension Reduction ECML, 2021
Siyuan Li, Haitao Lin, Zelin Zang, Lirong Wu, Jun Xia, Stan Z. Li. Code

Services and Memberships

Top-tier AI Conference Reviewer or PC Member 2022 - Present
ICLR *(2024-2025),* ***ICML*** *(2022-2024),* ***NeurIPS*** *(2022-2024),* ***NeurIPS DB Track*** *(2023-2024),* ***CVPR*** *(2022-2025),* ***ICCV*** *(2023),* ***ECCV*** *(2022, 2024),* ***AAAI*** *(2022-2025),* ***IJCAI*** *(2023),* ***BMVC*** *(2024)*

Top-tier AI Journal Reviewer 2023 - Present
*IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**), International Journal of Computer Vision (**IJCV**), IEEE Transactions on Neural Networks and Learning Systems (**TNNLS**), IEEE Transactions on Circuits and Systems for Video Technology (**TCSVT**)*

Membership in Associations of Computer Science 2022 - Present
IEEE Graduate Student Member, IEEE Young Professionals, China Society of Image and Graphics (CSIG Student Member), China Computer Federation (CCF Student Member), British Machine Vision Association (BMVA Student Member)

Teaching Assistant and Invited Talk 2023 - Present

- Teaching Assistant of Deep Learning Course at Westlake University (2024 Spring).
- Invited talk on Modern Convolutional Neural Networks at Chengdu Institute of Computer Application, Chinese Academy of Sciences (2024/03/27).
- Online talk on Convolution Kernel Design and Gated Attention for Modern Convolutional Neural Networks at ShuZiHuanYu Platform (2024/03/12).
- Invited talk on Mixup Data Augmentation for Computer Vision at Chongqing Technology and Business University (2023/12/14).

Additional Achievements

Programming language: Python, PyTorch, LaTeX, C/C++, Matlab, Java

Languages: Mandarin (Native); English (CET-6: 558)