

# SIYUAN LI

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## EDUCATION

<b>Zhejiang University (ZJU) &amp; Westlake University, China   Supervisor: Prof. Stan Z. Li</b> <i>PhD. Candidate of Computer Science and Technology</i>	Sept 2021 - June 2026
<b>Nanjing University (NJU), China   Supervisor: Prof. Jianxin Wu</b> <i>Bachelor of Computer Science and Technology</i>	Sept 2017 - June 2021

## PROJECTS & RESEARCH EXPERIENCE

<b>Alibaba DAMO Academy: AIGC and Representation Learning</b> <i>Researching in AIGC for face and general images, supervised by Researcher Baigui Sun.</i>	Aug 2023 - Sept 2024
<b>Westlake University: Manifold learning for dimension reduction</b> <i>Studying inverse dimension reduction and publishing <i>inv-ML</i>, supervised by Prof. Stan Z. Li.</i>	May 2020 - June 2021
<b>Zhejiang University of Technology: Visual Object Tracking in open scenes</b> <i>Programming visual tracking systems and publishing <i>TLPG-Tracker</i>, supervised by Dr Zhi Zhang.</i>	Aug 2019 - May 2020
<b>Open source projects for machine learning and computer vision in PyTorch</b> <ul style="list-style-type: none"><li>• <b>OpenMixup</b>: Open mixup toolbox and benchmark for visual representation learning. <b>613 stars, 62 forks</b></li><li>• <b>OpenSTL</b>: Open-source project for video prediction benchmarks (NeurIPS, 2023). <b>718 stars, 113 forks</b></li><li>• <b>MogaNet</b>: Image classification and various downstream tasks of MogaNet (ICLR, 2024). <b>164 stars, 13 forks</b></li></ul>	July 2021 - Sept 2023

## SELECTED PUBLICATIONS

### Self-supervised Learning and Representation Learning

<b>Architecture-Agnostic Masked Image Modeling – From ViT back to CNN</b> <a href="#">Siyuan Li</a> , <a href="#">Di Wu</a> , Fang Wu, Zelin Zang, Stan Z. Li. 📄 <a href="#">Code</a>	ICML, 2023
<b>GenURL: A General Framework for Unsupervised Representation Learning</b> <a href="#">Siyuan Li</a> , <a href="#">Zicheng Liu</a> , Zelin Zang, Di Wu, Zhiyuan Chen, Stan Z. Li. 📄 <a href="#">Code</a>	IEEE TNNLS, 2023
<b>DLME: Deep Local-flatness Manifold Embedding</b> <a href="#">Zelin Zang</a> , <a href="#">Siyuan Li</a> , Di Wu, Ge Wang, Lei Shang, Baigui Sun, Hao Li, Stan Z. Li. 📄 <a href="#">Code</a>	ECCV, 2022
<b>Exploring Localization for Self-supervised Fine-grained Contrastive Learning (<i>Spotlight, Top 3.9%</i>)</b> <a href="#">Di Wu</a> , <a href="#">Siyuan Li</a> , Zelin Zang, Stan Z. Li. 📄 <a href="#">Code</a>	BMVC, 2022

### Network Architecture and Long-sequence Modeling

<b>MogaNet: Multi-order Gated Aggregation Network</b> <a href="#">Siyuan Li</a> , Zedong Wang, Zicheng Liu, Cheng Tan, Haitao Lin, Di Wu, Zhiyuan Chen, Jiangbin Zheng, Stan Z. Li. 📄 <a href="#">Code</a>	ICLR, 2024
<b>Short-Long Convolutions Help Hardware-Efficient Linear Attention to Focus on Long Sequences</b> <a href="#">Zicheng Liu</a> , <a href="#">Siyuan Li</a> , Li Wang, Zedong Wang, Yunfan Liu, Stan Z. Li. 📄 <a href="#">Code</a>	ICML, 2024



### Data Augmentations and Data-efficient Learning

<b>SemiReward: A General Reward Model for Semi-supervised Learning</b> <a href="#">Siyuan Li</a> , <a href="#">Weiyang Jin</a> , Zedong Wang, Fang Wu, Zicheng Liu, Cheng Tan, Stan Z. Li. 📄 <a href="#">Code</a>	ICLR, 2024
<b>Harnessing Hard Mixed Samples with Decoupled Regularizer</b> <a href="#">Zicheng Liu</a> , <a href="#">Siyuan Li</a> , Ge Wang, Cheng Tan, Lirong Wu, Stan Z. Li. 📄 <a href="#">Code</a>	NeurIPS, 2023
<b>AutoMix: Unveiling the Power of Mixup for Stronger Classifiers (<i>Oral, Top 2.7%</i>)</b> <a href="#">Zicheng Liu</a> , <a href="#">Siyuan Li</a> , Di Wu, Zihan Liu, Zhiyuan Chen, Lirong Wu, Stan Z. Li. 📄 <a href="#">Code</a>	ECCV, 2022




## 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)