

ZILINGHAN LI

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EDUCATION

Zhejiang University

Bachelor of Engineering in Electronics and Computer Engineering (double degree)

Sep. 2018 – Jun. 2022

GPA: 3.99/4.0

University of Illinois at Urbana–Champaign

Bachelor of Science in Computer Engineering (double degree)

Sep. 2018 – May. 2022

GPA: 3.92/4.0

PUBLICATIONS

Conference Paper

[Pub1] Li Z., He S., Du Y., González S., Schewe KD. Unbounded Barrier-Synchronized Concurrent ASMs for Effective MapReduce Processing on Streams. In *Rigorous State-Based Methods. ABZ 2021*. Lecture Notes in Computer Science, vol 12709. Springer, Cham. [Paper]

Preprint Paper

[Pub2] Yuan X.*, Li Z.*, Wang G. ActiveMatch: End-to-end Semi-supervised Active Representation Learning, Submitted to ICASSP 2022. (*: equal contributions) [Paper]

SELECTED PROJECTS AND RESEARCH

Movie Characters Recognition using Deep Learning | Python

Sep. 2021 - Present

Advisor: Prof. Volodymyr Kindratenko, University of Illinois at Urbana–Champaign

- Built a deep learning network that can return the time slots in which each main character appears. The model can serve as a handy tool for generating statistical data to assist movie analysis.
- Applied the semi-supervised learning method to train the face recognition network to fully leverage the unlabeled images from movies and reduce the required number of labeled images.

End-to-end Semi-supervised Active Representation Learning [Pub2] | Python

Jun. 2021 - Sep. 2021

Advisor: Prof. Gaoang Wang, Zhejiang University

- Proposed an end-to-end semi-supervised learning (SSL) method named ActiveMatch, which combined SSL, contrastive learning and active learning. It solved the drawbacks of current SSL methods such as ambiguous representations for inter-class samples, sensitivity to initialization and inconvenience in building labeled sets.
- ActiveMatch reached **state-of-the-art** performance on SSL image classification benchmarks CIFAR-10 and CIFAR-100. On CIFAR-10, accuracy got improved by 1% ~ 2%. On CIFAR-100, accuracy got improved by 4%.

Large-scale Missing Data Imputation System | Python

Jun. 2021 - Sep. 2021

Advisor: Prof. Xiaoye Miao, Zhejiang University

- Proposed an improved generative adversarial network (GAN) based missing data imputation method. It solved the vanishing gradient problem and speeded up the model training by 7.5x on average.
- Built a Scalable Imputation System (SCIS) with the GAN-based model embedded. It can serve as a powerful GUI tool for data scientists to upload, merge, preprocess and impute their datasets.

Unbounded Barrier-Synchronized Concurrent ASMs | C++ [Pub1]

May. 2020 - May. 2021

Advisor: Prof. Klaus-Dieter Schewe, Zhejiang University

- Based on the bulk-synchronous parallel (BSP) model, extended the normal MapReduce algorithm from processing large finite datasets to processing stream queries with input data assumed to continue indefinitely.
- Extended the BSP model to Infinite-Agent BSP model capturing an unbounded number of agents. A behavioral theory was developed for the extended model as well.

TEACHING ASSISTANT EXPERIENCE

Math 241 (Calculus III) With Prof. Thomas Honold in Fall 2020

ECE 120 (Intro to Computing) With Prof. Volodymyr Kindratenko in Spring 2021

SELECTED HONORS AND AWARDS

Provincial Government Scholarship of Zhejiang Province Top 3% university students in Zhejiang province	2021
National Scholarship 0.2% of Chinese university students get this award	2020
Zhejiang University Scholarship - First Prize Top 3% students in Zhejiang University	2020
Zhejiang University Scholarship - Second Prize Top 8% students in Zhejiang University	2019, 2021

SKILLS

Programming Languages: Python, C, C++, System Verilog, MATLAB, SQL
Tools: PyTorch, Latex, Git, CUDA
Languages: Mandarin, English (**TOEFL: 112** Listening: 30, Reading: 29, Writing: 29, Speaking: 24)

EXTRACURRICULAR ACTIVITIES

Champion of Zhejiang University Sanhao Football Cup
Champion of Zhejiang University International Campus Freshmen Football Cup as the **captain**
Volunteer teaching in Guilin, Guangxi Province, China in 2019 summer