# ZILINGHAN LI

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## EDUCATION

**Zhejiang University** — Aug. 2018 – June 2022
Electronic and Computer Engineering — GPA: 3.99/4.0

**University of Illinois at Urbana–Champaign** — Aug. 2018 – May 2022
Computer Engineering — GPA: 3.92/4.0

## PUBLICATION

**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, Submi--tted to *ICASSP 2022*. (*: equal contributions) **[Paper]**

## SELECTED PROJECTS AND RESEARCH

**Movie Characters Recognition** | *Python* — Sep. 2021 - Present
Advisor: Prof. Volodymyr Kindratenko, University of Illinois at Urbana–Champaign
- Built a neural network which takes a movie as input and returns the time slots that each character appears.
- The model can be used as a handy tool for generating statistical data automatically to assist movie analysis.

**ActiveMatch: End-to-end Semi-supervised Active Representation Learning [Pub2]** — Jun. 2021 - Sep. 2021
Advisor: Prof. Gaoang Wang, Zhejiang University
- Proposed an end-to-end semi-supervised learning (SSL) method named ActiveMatch, which combines SSL, contrastive learning, and active learning.
- ActiveMatch reached the **state-of-the-art** performance on SSL benchmarks CIFAR-10 and CIFAR-100. On CIFAR-10, accuracy got improved by $1\% \sim 2\%$. 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
- Built a SCalable Imputation System (SCIS) which serves as a powerful GUI tool for data scientists to upload, merge, preprocess and impute their datasets easily.
- SCIS can train imputation models constructed by GAN via using an appropriate sample size under accuracy guarantees for large-scale incomplete data, and can speed up model training by **7.5x** on average.

**Unbounded Barrier-Synchronized Concurrent ASMs** | *C++* **[Pub1]** — May 2020 - May 2021
Advisor: Prof. Klaus-Dieter Schewe, Zhejiang University
- Extended the normal MapReduce algorithm from processing large finite datasets to processing stream queries with input data stream assumed to continue indefinitely.
- Divided stream queries into three classes: memoryless, semi-memoryless and memorable, and provided the MapReduce implementations for each class based on the BSP model.
- Extended the BSP model to Infinite-Agent BSP model, which can capture the 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

**Zhejiang Province Government Scholarship**                                      Fall 2021
Top 3% university students in Zhejiang province

**National Scholarship**                                                          Fall 2020
0.2% of Chinese university students can get this award

**First-class Scholarship of Zhejiang University**                               Fall 2020
Top 5% students of Zhejiang University in 2019-2020 academic year

## SKILLS

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