Hao Lin

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Education

University of Wisconsin–Madison   Expected: Sep. 2023 – May. 2025
In pursuit of M.S. Computer Science   *Madison, WI, USA*

Shanghai Jiao Tong University   Sep. 2017 – Aug. 2021
University of Michigan - Shanghai Jiao Tong University Joint Institute   *Shanghai, China*

Major: **B. Eng. Electrical and Computer Engineering**, Minor: Data Science

- Related Courses: *Honors Mathematics* (A+), *Big Data System* (A+), *Computer Organization* (project: implemented **a pipelined CPU**), *Operating System* (project: built a bash shell, implemented a **multi-thread** database, modified a Unix-like **kernel**)
- ABET-accredited Program; Full English teaching institute
- TOEFL 109 (R30, L27, S27, W25); GRE: Verbal 156, Quant 170, AW 4.0

Professional Experience (Full Time)

ByteDance   July 2021 – July 2022
Software Engineer   *Shanghai, China*

- **Spot Bonus Award**: received for outstanding outcome in building a robust core strategy service, a Bayesian and complex strategy-based recommender system to adaptively provide students exercises most suitable to their current abilities
- Refactored codes of 11 strategies for a **large-scale** microsystem with millions of lines of codes to enhance maintainability
- Created a **distributed** reward service with eventual consistency and multiple data sources within limited 2 weeks
- Invented a JSON-like data interchange format and its parser to transfer specific graph relational data
- Improved the quality of service monitoring by customizing alarm scripts to every service, reducing half of the false alarm rate

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Computer Related Skills

Programming Languages: proficient in Golang (roughly **60k lines of code** while working at ByteDance), familiar with C/C++ and Python, coding experience in more than **10 languages** (ranging from hardware-level to application-level)

Familiar Fields: operating system (Linux), computer architecture, database, computer network, compiler, distributed system & AI

Awards

GMTK Game Jam   July 2022
*Ranked **11 out of 6000+** games in public ranking*   *Worldwide, Online*

- Led the technical team by actively communicating with the art & design members, and assigned works to other two coding members to ensure the accomplishment of the game within 48 hours; implemented C# codes of the user interface

VEX Robotics China Final   June – Nov. 2018
Fourth Place, Amazing Prize, Top 2 in autonomous track   *Shanghai, China*

- Designed autonomous driving algorithms based on the PID algorithm; tuned the robot's parameters and tested its robustness to ensure its stability in completing a 45-second-long self-driving race through a two-day intense match

The Interdisciplinary Contest in Modeling   Feb. 2018
Honorable Mention, Team Leader   *Shanghai, China*

National Olympiad in Informatics (series competitions)   Nov. 2015, Jan. 2016 & Nov. 2016
First Prize, won Twice (Province Level); Bronze Medal (National Winter Camp)   *Shanghai & Mianyang, China*

- A highly competitive coding contest in **Data Structure & Algorithm**

Selected Experiences

On Sample Efficiency Improvement for Deep Reinforcement Learning with Sparse Reward   Oct. – Dec. 2020
Honors Research Program   advisor: *Prof. Paul Weng*   *SJTU, Shanghai, China*

- Designed an innovative algorithm by expanding artificial trajectories in Invariant Transform Experience Replay (data augmentation for DRL), achieving successful training result with fewer samples: trained in contracted 120 epochs

Movie Recommender System for Groups using Hybrid Metrics   Jan. – Feb. 2020
*Team Leader, **Best Project** in the Winter School*   advisor: *Prof. Arnav Jhala*   *North Carolina State University, NC, USA*

- Gained 42% decrease in error by applying Neural Collaborative Filtering with hybrid metrics to CAMRa2011 (rating dataset)

Model Based Deep Reinforcement Learning for Autonomous Driving   June 2019 – Sep. 2020
Team Leader   advisor: *Prof. Paul Weng*   *SJTU, Shanghai, China*

- Explored feasibility of a self-designed model-based deep reinforcement learning algorithm; used it to successfully train an agent completely offline to move safely on the obstacle-free road, over a 140GB pre-collected dataset

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Voluntary Works for Education

Coding Girls   Aug. 2022 – May 2023

- Imparted graphical programming and frontier computer science applications weekly to kids suffering from leukemia

SK Sunny Volunteer Group   Feb. 2018 – Feb. 2019

- Organized beneficial activities for kids and the elderly, such as seminars on mobile phone usage and environmental protection