JINGWEI ZUO

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EDUCATION

Tsinghua University — Beijing, China

B.Sc. in **Mathematics and Physics** & B.Eng. in **Electrical Engineering (dual degree)** — Sept. 2021-June 2025

- GPA: **3.93**/4.00
- Got an **A+** in *Fundamentals of Computer Program Design*, **A** in *Computer Organization and Architecture*, and *Data Structures*
- Earn an award in courses such as *Software Programming Training, Android Programming,* and *Embedded System Design*
- A- or more in *Calculus*, *Linear Algebra*, and *Probability and Stochastic Processes*

Northeastern University — Boston, MA, USA

Exchange Student at College of Engineering — Sept. -Dec. 2023

- GPA: **4.00**
- Exchange student to Northeastern University, MA, USA from Sept. to Dec. 2023
- Got an **A** in ***Machine Learning/Data Mining (1)*** and *Networks & Distributed Systems*
- Dean's List

PUBLICATIONS

AgentVerse: Facilitating Multi-Agent Collaboration and Exploring Emergent Behaviors

Weize Chen, Yusheng Su, <u>Jingwei Zuo</u>, Cheng Yang, Chenfei Yuan, Chen Qian, Chi-Min Chan, Yujia Qin, Yaxi Lu, Ruobing Xie, Zhiyuan Liu, Maosong Sun, Jie Zhou. <u>In Proceedings of ICLR, 2024</u>

RESEARCH EXPERIENCE

Massachusetts Institute of Technology EECS (Hanlab) — Cambridge, MA, USA

Research Assistant to Prof. Song Han — Oct. 2023-Present

- Now working on cutting-edge research of LLM *pruning* and *efficient AI*
- Advised by Ph.D. student Guangxuan Xiao

Tsinghua University (THU Natural Language Processing Lab) — Beijing, China

Research Assistant to Prof. Zhiyuan Liu — Mar. 2023-Aug. 2023

AGENTVERSE: Facilitating Multi-Agent Collaboration and Exploring Emergent Behaviors

- A cutting-edge AI framework enabling *multiple agents* to *collaborate* like human teams, optimizing *problem-solving* in diverse fields such as text understanding and software development
- Implemented *dynamic role assignment,* inspired by human group dynamics
- Conducted *extensive experiments* in text understanding, reasoning, coding, tool utilization, and embodied AI to validate the framework's effectiveness
- Analyzed agent interactions within the framework, revealing *emergent sociological behaviors* such as volunteer behaviors and conformity behaviors
- Released the <u>project code</u> publicly on GitHub, facilitating further research and development in the field of autonomous agent collaboration

PROJECT EXPERIENCES

1. **NeRF Octree Optimization** — June 2023
- Utilized *Octree* data structure to optimize the memory consumption and time efficiency of NeRF rendering
- Up to *4x* memory optimization compared to *voxel* storage and the rendering time is equivalent
- Got a better command of pytorch and the idea of how to make an AI model more efficient

2. Markov Chain Application in Tennis Competitions — Dec. 2022
- Course project of *Probability and Stochastic Processes*, here is the <u>report</u>(in Chinese).
- Personally a tennis superfan and merged my passion for tennis with mathematical analysis.
- Utilized *Markov Chain* analysis to demonstrate the *stabilizing effect* of tennis's multi-game per set and multi-point per game rules on player performance.

3. **Wordinary: Comprehensive Learning Suite for Language Learners** — July 2021-Feb. 2022
- A multifaceted educational software tool designed to enhance *vocabulary building* for English learners, focusing on *high-frequency word extraction, quiz generation,* and *standard pronunciation audio creation*

- Engineered the software using Python 3 for backend processing and C# .NET for a user-friendly interface, ensuring compatibility with Windows systems
- Innovated by introducing customizable features for varied educational needs, such as setting benchmarks for word extraction adaptable for exams like CET-4, TOEFL, or GRE
- Actively managed and updated the project on GitHub, demonstrating continuous improvement and engagement with the user community

SELECTED AWARDS AND HONORS

- **Comprehensive Scholarship** (Excellent across academics, sports, arts, volunteer, and social practices)   2021-2022
- **Academic Excellence Scholarship**   2022-2023
- **Dean's List**   2023Fall
  Issued by College of Engineering, Northeastern University
- "TI Cup" Digital System Innovation Design Competition (Third Prize)   Oct. 2022
  Designed self-tracking algorithms on microcontrollers and also intelligent algorithms to find the best route
- "Xindong" Vehicle Competition (Third Prize)   Jan. 2022
  Developed a self-tracking mini-vehicle using a microcontroller, incorporating PID control methods and camera-based tracking for enhanced autonomous navigation

SKILLS

- High proficiency in Python with two years' experience of using numpy, matplotlib, and pytorch
- Advanced coding skills, proficient in developing complex algorithms and solutions across multiple programming languages such as C, C++, C#, Java, and Python
- Fluent in English and Mandarin (Native), enabling effective communication in diverse cultural and technical environments
- Two years of tennis playing experience