Shenyu Qin

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Education

Shanghai Jiao Tong University *Sept. 2022 – Present*
Undergraduate in Computer Science

- GPA: 3.7/4.3 (or 87.4/100)
- Member of **John Hopcroft Honors Class**, a CS program at Zhiyuan College ↗ for the top 10% of students, with a focus on Theoretical Computer Science
- Relevant Coursework: Mathematical Analysis, Linear Algebra, Combinatorial Mathematics, Probability Theory, Optimization Methods, Mathematical Logic, Modern Algebra, Machine Learning, Computational Complexity, Online Algorithms, Introduction to Cryptography, Topics in Modern Algorithms

Experience

John Hopcroft Center, SJTU *Shanghai, China*
Research Intern, advised by Dr.Yuhao Zhang ↗ *Jul. 2024 – Present*

- Do research on online load balancing problem in random arrival order model, aiming to close the gap between the lower bound of $\Omega(\sqrt{\log m})$ and the upper bound of $O(\log m/\log\log m)$ by designing an $O(\sqrt{\log m})$-competitive algorithm
- Now consider the online graph balancing problem, which is a special case of the original problem, trying to analyze the competitive ratio of a newly-designed algorithm in this case
- participate in TCS Reading Group every week

Projects

Housing Price Prediction *Jul. 2024*
Course Project in Data Mining

- Developed a data mining model to analyze the relationship between housing prices and other variables using a partial dataset of Airbnb listings in New York City
- Predicted the price of a given listing and participated in a Kaggle competition

Towards the chat among distinct LLM agents *May. 2024*
Course Project in Natural Language Processing and Large Language Model

- Investigated the collaborative potential of completely distinct LLM agents (GPT, Llama, and Wenxin Yiyan) through structured dialogues and wrote a paper about the results
- Discovered a new technique termed "Virtual Conversation", where an LLM internally simulates a multi-agent discussion

Lexical and Syntax Analysis of a Programming Language with Array and String Types *Nov. 2023*
Course Project in Programming Languages Design and Implementation

- Performed lexical and syntax analysis on the WHILE language with array and string types, and implemented syntax tree output
- Tools Used: Bison, Flex

Deque *Apr. 2023*
Course Project in Program Design and Data Structure

- Implemented deque in my own way with arrays and a doubly linked list, meeting the complexity requirement

Honors and Awards

Zhiyuan Honors Scholarship (Top 10%), SJTU *2022, 2023, 2024*

Skills

Programming Languages: C++, C, Python, Rust

Software: LaTeX, MATLAB, Coq