Shenyu Qin

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Education

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

- GPA: 3.71/4.3 (87.76/100)
- 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 (93), Linear Algebra (91), Combinatorial Mathematics (91), Probability Theory (91), Mathematical Logic (94), Computational Complexity (98)

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