Siyuan Gong

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 Gooosy

Education

University of Illinois at Urbana Champaign   *Sept 2023 – Present*
Bachelor of Science in Computer Engineering
- GPA: 4.0/4.0

University of Illinois at Urbana Champaign   *Sept 2023 – Present*
Bachelor of Engineering in Electrical and Computer Engineering
- GPA: 3.89/4.0

Honors and Awards

Dean's List	*University of Illinois at Urbana Champaign, 2024*
National Scholarship	*Ministry of Education of People's Republic of China, 2024*
Meritorious Winner in Mathematical Contest in Modeling	*Consortium for Mathematics and its Applications, 2024*
First Prize Scholarship for Academic Excellence	*Zhejiang University-University of Illinois Urbana-Champaign Institute, 2024*
Gold Medal in iGEM	*International Genetically Engineered Machine (iGEM) Foundation, 2024*

Experience

Graph-Based In-Context Learning Enhancement   *Hangzhou, China*
Advisors: Yifei Sun, Yang Yang, Zhejiang University   *Jun 2024 – Feb 2025*
- Contributed as the second author to a KDD 2025 submission, our work focusing on integrating graph structural information into in-context learning (ICL) demonstration retrieval.
- Conducted literature review, assisted in brainstorming, and refined the idea of our model.
- Designed and implemented our experiments. By leveraging graph structures and the PageRank algorithm for example selection and employing three levels of encoding (node, path, subgraph), our model achieved a 2.74% improvement over SOTA baselines.
- Drafted and revised the paper, with a primary focus on the experiment section.

International Genetically Engineered Machine Competition   *Hangzhou, China*
Team: iZJU-China   *Apr 2024 – Oct 2024*
- Constructed a CNN to detect binary dot matrices in yeast images captured under microscope, facilitating the batch processing of biological images.
- Developed a differential equation model to describe the relationship between yeast genes, enabling prediction of potential product expression levels to assist biological experiments.
- Utilized MATLAB to visualize the results for differential equations and create plots of experimental outcomes.
- Wrote Python scripts to automatically handle batch processing tasks.

Mathematical Contest in Modeling   *Hangzhou, China*
Teammates: Wenjuan Lin, Xinyi Zheng   *Feb 2024 – Feb 2024*
- Developed the Sea Lamprey Population Model using Fisher's Principle, the Leslie Matrix, and the Lotka-Volterra Model to simulate the dynamics of sea lamprey populations and their impact on ecosystems.
- Utilized MATLAB to stimulate difference equations and visualize the results of the mathematical model through various plots.

- Wrote the paper presenting the final results, addressing how sex ratio variation influences both sea lamprey populations and the surrounding ecosystem.

Work

Teaching Assistant for ECE 120 Introduction to Computing *Haining, China*
Course Instructors: Lin Qiu, Zuozhu Liu, and Ujjal Bhowmik *Sep 2024 – Jan 2024*

- Conducted weekly discussion tutorials, reviewing course material, and answering students' questions to reinforce their understanding.
- Assisted in grading homework assignments, providing timely feedback to students.
- Organized and led midterm review sessions, guiding students through key concepts and exam preparation strategies.
- Held lab sessions, supervised demonstrations, and provided support for lab experiments.

Technologies

Languages: Python, C++, MATLAB

Technologies: VS Code, GitHub, PyTorch