Ching Ting LEUNG

GitHub Linkedlin Email Google Scholar

Education

Hong Kong University of Science and Technology 2021-2025 (Expected)
B.Eng. in Chemical Engineering (Research Option), Artificial Intelligence *Expected First Honour Graduation*

Coursework

Courses: Advanced Separation Processes (A), Data Science for Molecular Engineering (A+), Chemical and Biological Reaction Engineering (A+), Transport Phenomena II (A+), Process Control and Dynamics (A+)
Awards: 2023 Fall Dean's List, 2024 Spring Dean's List, Top 1% Students in Departments 2023
Bachelor Thesis: Benchmarking and Training Large Language Models (LLMs) in Learning Chemical Engineering Knowledge

Research Experience

McKelvey International Student Research Internship | *Washington University in St.Louis* 2024 Summer
Supervised by Prof. Chenguang Wang

Undergraduate Researcher | *Hong Kong University of Science and Technology* 2023 Fall – Present
Supervised by Prof. Hanyu Gao

Research Assistant | *Auiset Biotechnology Co. Ltd* 2023 Summer – Present
Designing protocols and conducting experiments for nanoparticle synthesis for testing the effectiveness of antibodies

Undergraduate Teaching Assistant | *Hong Kong University of Science and Technology* 2022 Fall – Present

- Calculus I-III (2022 Fall - 2023 Spring)
- Process and Product Design Principles (2023 Fall)
- Introduction to Food Science (2024 Spring)
- Chemical and Biological Reaction Engineering (2024 Fall)

Research Projects

Optical Molecular Recognition from Chemical Reaction Mechanism Images 2024 Fall
- Attended Annual Conference for American Institute of Chemical Engineers in San Diego, CA, US
- Awarded 1st prize in the session for Computing and Process Control, Undergraduate Poster Session

Large Language Models in Atmospheric Composition Analysis 2024 Summer
- Associated with McKelvey International Research Internship
- Refining current LLMs for air quality prediction and propose quantitative methods in predicting its movements

A Deep Learning Approach of Reaction Mechanism Information Extraction 2023 Fall - Present
- Supervised by Prof. Hanyu Gao
- Created a benchmark dataset that effectively targeted the characteristic of molecules from reaction mechanisms
- Proposed a pipeline in automatic reaction mechanism information extraction

Chem E-Car Competition 2023 Summer
- Attended Annual Conference for American Institute of Chemical Engineers in Orlando, FL, US
- Ranking 11th Worldwide, 2nd in Asia regions

Publications

Chen, Y., **Leung, C. T.**, Huang, Y., Sun, J., Chen, H., & Gao, H. (2024). MolNexTR: a generalized deep learning model for molecular image recognition. Journal of Cheminformatics, 16(1), 141.

Leung, C. T., Chen, Y., & Gao, H. (2024). SMiCRM: A benchmark dataset of mechanistic molecular images. arXiv preprint arXiv:2407.18338.