Ching Ting LEUNG

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Education

Hong Kong University of Science and Technology 2021-2025 (Expected)
B.Eng. in Chemical Engineering (Research Option), Artificial Intelligence *Current MCGA: 3.421/4.3*

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: Chemical Reaction Mechanism Information Extraction with Deep Leaning Methods

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 Biologial Reaction Engineering (2024 Fall)

Projects

Autonomous Chemical Reaction Mechanism Information Extraction 2024 Fall
- Attended Annual Conference for American Institute of Chemical Engineers in San Diego, CA, US
- Included in the Undergraduate Poster Session

Atmospheric Composition Analysis with Multimodality Large Language Models 2024 Summer
- Associated with McKelvey International Research Internship
- Refining current LLMs for air quality prediction
- Build quantitative models for pollutant cloud movement prediction

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 reaction mechanism parsing

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

Publications

MolNexTR: A Generalized Deep Learning Model for Molecular Image Recognition Submitted
Y. Chen, **C.T. Leung**, Y. Huang, J. Sun, H. Chen*, H. Gao*

SMiCRM: A Benchmark Dataset of Mechanistic Molecular Images *arxiv*, 2024
C.T. Leung, Y. Chen, H. Gao*