# Ching Ting LEUNG

Links to my: Github Linkedin Email Google Scholar

## Education

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

## 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, October). Optical Molecular Recognition from Chemical Reaction Mechanism Images. In 2024 AIChE Annual Meeting. AIChE.

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

## 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

## 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 Student Research Internship Program
- 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

## Teaching Experience

**Undergraduate Teaching Assistant** | *Hong Kong University of Science and Technology* 2022 Fall - 2025 Spring

- 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)
- Process Dynamics & Control (2025 Spring)