CHEN, YIXIANG

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EDUCATION

The Hong Kong Polytechnic University & University of Macau, Hong Kong & Macau Incoming

Ph.D. in the Dual Doctoral Degree Programme in Robotics and Embodied Intelligence

- Jointly offered by The Hong Kong Polytechnic University (PolyU) and University of Macau (UM)
- Supervised by Prof. Wanyu Lin at PolyU and Prof. Li Li at UM

The Hong Kong University of Science and Technology (HKUST), Hong Kong 2022 – 2026

B.Sc. in Data Science and Technology (DSCT), expected June 2026

- S.S. Chern Class Student (2023 – Present)
- CGA: 3.6 / 4.3 *First Class Honors*

Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland 2024 – 2025

Exchange

- School of Computer and Communication Sciences IC

High School Affiliated to Shanghai Jiao Tong University, Shanghai, China 2019 – 2022

High School Diploma

PUBLICATION

The Curse of CoT: On the Limitations of Chain-of-Thought in In-Context Learning.

Tianshi Zheng* , **Yixiang Chen***, Chengxi Li*, Chunyang Li, Qing Zong, Haochen Shi, Baixuan Xu, Yangqiu Song, Ginny Y Wong, Simon See.
Accepted to Transactions on Machine Learning Research (TMLR), 2025. [pdf], [code]

Self-Redraft: Eliciting Intrinsic Exploration-Exploitation Balance in Test-Time Scaling for Code Generation.

Yixiang Chen*, Tianshi Zheng* , Shijue Huang, Zhitao He, Yi R. Fung.
Preprint, 2025. [pdf]

RESEARCH EXPERIENCE

I am generally interested in Natural Language Processing. More specifically, I focus on advancing the **logical reasoning** and **multi-agent collaboration** capabilities of Large Language Models. In Spring 2025, I co-authored a paper The Curse of CoT on LLM logical reasoning (accepted to TMLR) with Tianshi Zheng under the supervision of Prof. Yangqiu Song.

Large Language Models as Autonomous Agents 2025–26 Fall

Undergraduate Researcher Supervisor: Prof. Yangqiu Song

- Explore the enhancement of **LLM-powered agents for scientific discovery**.

Human-Centric Trustworthy AI4Coding 2025–2026

Final Year Thesis Supervisor: Prof. Yi R. Fung

- Complete the paper *SELF-REDRAFT: Eliciting Intrinsic Exploration-Exploitation Balance in Test-Time Scaling for Code Generation*, which is currently under review.
- Gain hands-on experience in **supervised fine-tuning** and **reinforcement learning**.
- Establish a baseline for **intrinsic exploration-exploitation balancing** in **test-time scaling** and identifies feedback and discrimination as key areas with potential for future advances.

Logical Inference and Rationales in Large Foundation Models, HKUST 2024–25 Spring

Undergraduate Researcher Supervisor: Prof. Yangqiu Song

- Co-author the paper *The Curse of CoT: On the Limitations of Chain-of-Thought in In-Context Learning* on LLM logical reasoning (**accpeted to TMLR**).
- Investigate the counter-intuitive phenomenon where Large Language Models underperform in a **Chain-of-Thought** setting compared to direct answering during **in-context learning**.

Large-Scale Spatiotemporal Data Analytics and Learning, HKUST 2023–24 Summer

Undergraduate Research Opportunities Program Supervisor: Prof. Xiaofang Zhou

Performance Analysis of PointNetLK for Point Cloud Registration Across Diverse Datasets

Academic Highlights

In addition to my research experience, I have an excellent academic record, particularly in **statistics** and **mathematics related to machine learning**. Below is a selection of relevant courses where I achieved high grades:

- **Courses with Grade A+**:
  - Statistical Inference
  - Applied Statistics
  - Regression Analysis
  - Foundation of Mathematics
- **Courses with Grade A**:
  - Stochasitc Process
  - Honors Probability
  - Matrix Computation
  - Programming with C++
  - Honors Discrete Math Tools for CS
  - Multivariable Calculus
  - Game Theory
- Completed the **Machine Learning** course (CS-433), a core component of the CS master's program at EPFL, with an excellent score of **5.5/6.0**.

Honors and Awards

HKSAR Government Scholarship Fund – Reaching Out Award (ROA), Education Bureau 2024–2025 Fall
University's Scholarship Scheme for Continuing Undergraduate Students, HKUST Dec. 2024
Chern Class Scholarship, HKUST Aug. 2024
Dean's List, HKUST 2023–24 Spring
Dean's List, HKUST 2023–24 Fall
Chern Class Scholarship, HKUST Aug. 2023
Dean's List, HKUST 2022–23 Spring

Skills

- Natural Language Processing / Machine Learning: Supervised Fine-tuning, Reinforcement Learning.
- Programming Languages: Python, C++, SQL, R.

Miscellaneous

- Personal Website: https://github.com/ericyxchen2003
- Languages: English - Fluent, Mandarin & Wu Chinese - Native speaker
- Amateur Vocalist/Vocal Percussionist & Music Director at Tunatics A Cappella