# Hao (Hollis) Xie

Email: hxie@connect.hku.hk | Hong Kong SAR

## OBJECTIVE

To obtain a full-time position in the industry, utilizing my data analytics experience, technical expertise, and problem-solving skills.

## SKILLS

- **Technical:** C, C++, Python (Pandas), Matlab, Linux, Git, Bash
- **Knowledge:** Algorithm Design, Data Analytics, Machine Learning, Probability Theory, Mathematical Optimization, Graph Theory
- **Languages:** English (fluent), Cantonese (native), Mandarin (native), Japanese (intermediate)

## EDUCATION

12/2024 **The University of Hong Kong** Hong Kong SAR

- Ph.D. – Research Area: Algorithm (Theoretical Computer Science)
- Thesis: Optimization-based Approaches for Graph Analytics and Secure Private Distributed Protocols

06/2019 **University of Electronic Science and Technology of China** Sichuan, China

- Bachelor of Engineering – Major: Computer Science and Technology

## EXPERIENCE

09/2020–08/2023 **Coach of Programming Contest Teams**, The University of Hong Kong Hong Kong SAR

- Coached and supervised students in algorithms and programming for the International Collegiate Programming Contest (ICPC). Organized and led trips to mainland China, Bangladesh, and Egypt.
- Two student teams ranked in the top 1% in Asia Contests and represented HKU in the ICPC Annual World Finals. They were the only two qualified HKU teams in the past ten years.

09/2019–08/2023 **Teaching Assistant**, The University of Hong Kong Hong Kong SAR

- Courses: Discrete Mathematics, Introduction to Data Structures and Algorithms, Probabilistic Method and Randomized Algorithms (for Ph.D. students).
- Prepared learning materials and organized TA sessions. Received appreciation from many students.

06/2022–08/2022 **Quantitative Developer Intern**, Gangxing Investment Co., Ltd. Beijing, China

- Skills: Python (Pandas), C++, Parallel Computing, Linux Memory Management, Data Analytics
- Optimized the trading workflow and post-trade analysis module in an automated trading system. Improved backtesting efficiency by 30%. Collaborated with researchers on time-series analysis.

03/2022–05/2022 **Visiting Research Student**, Peking University Beijing, China

- Undertook research in computational geometry at the Center on Frontiers of Computing Studies.

## PROJECTS

AAAI 2024 **Privacy Amplification by Iteration for ADMM with (Strongly) Convex Objective Functions.**

- Skills: Random Process, Mathematical Optimization, Federated Learning, Computational Complexity Theory.

TKDD 2024 **Finding Subgraphs with Maximum Total Density and Limited Overlap in Weighted Hypergraphs.**

- Skills: C++, Clustering, Mathematical Optimization, Graph Theory, Computational Complexity Theory.

ACNS 2023 **Game-Theoretically Secure Protocols for the Ordinal Random Assignment Problem.**

- Skills: Decentralization, Distributed Computing, Probability Theory, Game Theory.

Bachelor's Thesis **Overlapping Community Detection on Attributed Networks based on Distance Dynamics.**

- Skills: C++, Clustering, Data Science, Graph Theory.

## SELECTED AWARDS

**HKU Postgraduate Scholarship**, 2019; **Outstanding Graduate**, UESTC, 2019; **China National Scholarship** (Top 1%), 2018; **Gold Medal** in ACM International Collegiate Programming Contest Asia Regional, 2018; Silver Medal in CCF Collegiate Computer Systems & Programming Contest, 2018.