

XIN HUANG

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Profile

Dedicated student at the University of Hong Kong, majoring in Mathematics and Computer Science. Strong academic performance with hands-on experience in data analysis, algorithms, and machine learning. Proven team player with excellent problem-solving skills, actively involved in research and volunteer projects. Seeking to apply analytical and technical expertise in a dynamic environment.

Education

University of Hong Kong,
B.Sc. (Major in Mathematics, Second Major in Computer Science)
Expected graduation time: May 2025
Cumulative GPA: 3.76/4.3
Coursework:
Mathematics: Linear algebra I & II, Discrete mathematics, Analysis, Numerical analysis, (Ordinary & Partial) Differential Equations, Optimization, Financial Calculus, Game Theory;
Computer Science: Data structure and algorithm, Artificial Intelligence, Statistical Learning, Database Management, Intro to WWW.

Hong Kong *September 2021 - present*

Experience

Research Intern, *University of Alberta,*
Department of Mathematical and Statistical Science
Experiments with graph signal processing

Alberta, Canada *June 2024 - August 2024*

- Conducted comprehensive data analysis and experimental evaluations to assess the feasibility of applying Fourier and Wavelet analysis techniques
- Investigated the integration of the Kolmogorov-Arnold Network (KAN) for collaborative filtering, enhancing both efficiency and performance by replacing the original B-spline or Fourier bases with Wavelet basis
- Explored the use of hypergraphs within the KAN architecture to model interactive relationships, investigating for the development of an improved recommendation system that outperformed NGCF and LightGCN in benchmark tests

Student Teaching Assistant, *University of Hong Kong,*
Department of Mathematics

Hong Kong *September 2023 – December 2023*

- Prepared auxiliary teaching materials to support classroom instruction
- Generated sets of topic-related questions to enhance student understanding
- Deepened understanding of mathematical concepts, including linear algebra and probability theory

Activities & Extracurriculars

Front-end Developer Volunteer, *SAGA Volunteer Project, Beyond the Pivot (BTP)*
IT Department

Hong Kong *July 2024 - Present*

- Developed and maintained front-end components for the SAGA Web pages.
- Collaborated with team members to improve user interface and experience

Member, *Cambridge-HKU Joint Education Program,*
Faculty of Science

Hong Kong *September 2021 - June 2023*

- Admitted successfully into the program, and received offer from University of Cambridge
- The participant is expected to receive Bachelor's degree in Natural Science from the University of Hong Kong and the University of Cambridge in 2024

Achievement

- Dean's Honours List: Top 10% of the class in B.Sc. (2022-2023, 2023-2024)
- The University of Hong Kong Full Scholarship for Outstanding Academic Talents (2022-2023, 2023-2024, 2024-2025)
- The University of Hong Kong Foundation Entrance Full Scholarship (2021-2022)

Skills

- Programming:** Python, JavaScript, C++, CSS, HTML
- Software:** MATLAB, L^AT_EX, Adobe PS

Languages

- English** [Proficient]
- Cantonese** [Basic]
- Mandarin** [Native]
- IELTS 8/9