

LAU KAI KWAN

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EDUCATION

The Chinese University of Hong Kong (CUHK) <ul style="list-style-type: none">B.Sc in Mathematics (expected graduation date: 07/2026), major GPA (3.33/4.00)Enrichment Stream and Computational and Applied Mathematics Stream	Aug 2022 - Present
The Hong Kong University of Science and Technology <ul style="list-style-type: none">Science (Group A) with an extended major in artificial intelligence	Aug 2021 - Dec 2021
Ng Yuk Secondary School <ul style="list-style-type: none">Sir Edward Youde Memorial PrizeHKDSE: 29/35 for best five score subjectsSAT: 800/800 Math II, 750/800 Math I	Sep 2015 - Jun 2021

RESEARCH EXPERIENCE

The Chinese University of Hong Kong , Research Assistant <ul style="list-style-type: none">Investigated Quantitative Biology topics under the supervision of Prof. Gary P. T. ChoiDesigned a novel algorithm to perform geometric and statistical analysis on avian skull morphology, successfully quantifying complex biological shape dataPreprint: Geometric and Statistical Analysis of Avian Skull Morphology (Available on ArXiv)	Mar 2025 - Present
The Chinese University of Hong Kong , Research Assistant <ul style="list-style-type: none">Supervised by Dr. WONG Chak Fu Jeff in Department of Mathematics and Information TechnologySummarized and checked research papers about Game Theory	Jan 2025 - Mar 2025
The University of Waterloo , Visiting Scholar <ul style="list-style-type: none">Conducted research on numerical methods for Generative AI under the supervision of Prof. Justin WanFormulated score computation using PDE instead of SDE to enhance computational efficiency, achieved generation speeds over 100 times faster than standard DDPM in totalDeveloped a Cross-Matrix Krylov Projection algorithm to reduce over 40% computational timePreprint: Efficient Score Pre-computation for Diffusion Models via Cross-Matrix Krylov Projection (Available on ArXiv)	Jun 2025 - Aug 2025
The Education University of Hong Kong , Research Assistant <ul style="list-style-type: none">Supervised by Prof. SUEN Chun Kit Anthony of Department of Mathematics and Information TechnologySummarized and analyzed research papers about Partial Differential Equations using LaTeXDesigned master-level mathematics course assignments	Aug 2024 - Oct 2024

TEACHING EXPERIENCE

Quality Education Fund Project Funded by the Education Bureau , Programmer and Designer <ul style="list-style-type: none">Collaborated with a local company <i>OneEd</i> and received HKD250 million fundingDesigned HKDSE exam-related questions with AI training models and dynamic algorithmsDeveloped an online platform, Lambda Math, for the benefit of all local secondary school students	Jan 2024 - Present
First-Year Mathematics Honours Scheme (CUHK) , Teaching Assistant <ul style="list-style-type: none">Conducted and designed university-mathematics notes weekly for Year 1 Mathematics major students	Sep 2023 - May 2025
University of Wollongong College Hong Kong, Diploma of Applied Education Tutor <ul style="list-style-type: none">Conducted tutorial classes and lectures for students about applied mathematics in probability theory	Dec 2024 - Present
Training Programme for Young Mathematics Talents (CUHK) , Teaching Assistant <ul style="list-style-type: none">Instructed high school students in the Greater Bay Area in Linear Algebra I and Game TheorySupervised 4 students to conduct mathematical research on Game TheoryGuided students to achieve recognition for best research topic and presentationCooperated with all teaching assistants to hold final exams and tutorials	Jul 2024 - Aug 2024
Enrichment Programme for Young Mathematics Talents (CUHK) , Teaching Assistant <ul style="list-style-type: none">Delivered instructional materials and assessments in English for the Differential Geometry courseMentored young talents by fostering their mathematical maturity to prepare them for university-level course	Jul 2024 - Aug 2024

TEACHING EXPERIENCE

Program for the Gifted and Talented (CUHK), Teaching Assistant

Dec 2023

- Communicated to gifted and talented students effectively
- Maintained a disciplined classroom environment

Ng Yuk Secondary School, Mathematics Tutor

Jan 2022 - Present

- Raised at least one DSE exam levels in core maths subject for low banding students
- Organized and led study groups

LEADERSHIP EXPERIENCE

Chung Chi Astronomy Club (CUHK), President

Apr 2024 - Present

- Oversaw all administrative affairs to ensure smooth operations and adherence to institutional guidelines
- Communicated effectively with staff and members of Chung Chi College
- Led the team of 8 members in organizing major events

CUHK Astronomy Club, Publicity Secretary

Mar 2023 - Feb 2024

- Published astronomy-related posts on social media and produced a souvenir to the public for the art fair
- Designed website and 24-page reports for almost 400 club members
- Organized an astronomy open contest with participation from 20 teams

SCHOLARSHIPS

- Centaline Charity Fund Scholarship 2025-2026
- Yasumoto International Exchange Scholarships
- 1978 Mathematics Alumus Li Sze-lim Scholarship 2025/26
- Spring Dinner Scholarship 2025
- Hsin Chong-K.N. Godfrey Yeh Education Fund Bursaries 2024/25
- Centaline Charity Fund Scholarship 2024-2025
- ~Angel~ Care Student Assistance Project
- Centaline Charity Fund Scholarship 2023-2024
- Mathematics scholarship by Department of Mathematics, CUHK
- Chung Chi College admission scholarship for outstanding extra-curricular performance
- Faculty admission scholarship by Faculty of Science, CUHK
- Centaline Charity Fund Scholarship 2022-2023
- Sir Edward Youde Memorial Prize 2020-2021

AWARD

Hong Kong and Macau Math Olympiad Open Contest

- Bronze Award (2015-2017)
- Silver Award (2018-2019)

China National Math Olympiad - Hua Xia Cup

- Thrid Class Award (2017-2018)

Hong Kong International Youth Performance Arts Festival

- Champion in Flute
- First-runner up in Flute

VOLUNTARY WORK

- Book sharing
- Private tutoring