

# (Daniel) Shiu-hong KAO

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## EDUCATION

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- **The Hong Kong University of Science and Technology** Hong Kong S.A.R., China  
*Bsc in Data Science and Technology / Bsc in Computer Science* Aug 2019 - May 2023  
GPA: **3.764**, Major GPA: **3.893**
- **Northwestern University** Illinois, USA  
*Exchange Student in McCormick School of Engineering* Mar 2022 - Jun 2022  
GPA: **4.000**

## ACADEMIC PROJECTS

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- **Dynamic Neural Network Comparison: Efficiency and Performance** Sep 2021 - Jan 2022  
Supervisor: S.-H. Gary Chan, HKUST  
Undergraduate Research Opportunity Program (UROP), HKUST  
[DeepLearning, ComputerVision, DynamicNeuralNetwork] Testing, analyzing, and comparing the performance and efficiency across different deep learning models.
- **Press Release Classification on Mobile Application** Feb 2021 - Jun 2021  
Supervisor: Dimitris Chatzopoulos, HKUST (now in UCD, Ireland)  
Undergraduate Research Opportunity Program (UROP), HKUST  
[AndroidDevelopment, MachineLearning] Developing an Android app for text classification.
- **AlignKD: A Low-cost Technique for Convolutional Shortcut Removal** Sep 2022 - Dec 2022  
Course Title: COMP4471 Deep Learning for Computer Vision  
Course project at HKUST  
[DeepLearning] Providing a cheap method to remove shortcuts in convolutional neural networks while preserving the performance.

## RESEARCH EXPERIENCES

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- **Divide and Distill: An Accurate, Fast, and Data-efficient Knowledge Distillation Framework**  
First Author, under second-phase review of top conference  
[DeepLearning, KnowledgeDistillation] A fast-converging and data-efficient algorithm for knowledge distillation with accuracy higher than state of the art.
- **Run, Don't Walk: Chasing Higher FLOPS for Faster Neural Networks**  
Second Author, accepted by **CVPR 2023**  
[DeepLearning, ArtificialIntelligence] A faster and effective separable convolutional layer to improve the performance of existing approaches such as Depthwise Convolution and Group Convolution.
- **Integer Partition: Further Discussion of the Number of the Integer-side Triangles**  
First Author, Silver medal at **Yau's Award 2018**  
[Combinatorics, DiscreteMath] A closed-form solution for the number of integer-side quadrilaterals with perimeter  $m$  and a recursive relationship for the number the integer-side  $n$ -sided polygons with perimeter  $m$ .

## TEACHING EXPERIENCE

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- **Undergraduate Teaching Assistant** Aug 2022 - Dec 2022  
**Department of Computer Science and Engineering, HKUST**  
Course: Computer Organization. Responsibility: Assisting with the lab sessions, holding office hours by appointment, providing solutions for in-class exercises.

## INTERNSHIP

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- **Software Engineer (Summer Intern)** Jun 2021 - Aug 2021  
**Hong Kong Applied Science and Technology Research Institute**  
*Designing and developing algorithms to solve problems; researching the latest technologies; tasks including image processing, OCR, data parsing, deep learning, etc.*
- **Software Developer (Part-time)** Mar 2020 - Jun 2020  
**Jing Ping Educational Creation Ltd.**  
*Implementing a financial system for the company's use. VBA and Python are involved.*

## AWARDS

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- **Chern Class Scholarship** Academic Year 2020-21  
**The Hong Kong University of Science and Technology**  
*A special scholarship for students with excellent performance in mathematics.*
- **University Scholarship for Continuing Undergraduate Students** Academic Year 2021-22, 2022-23  
**The Hong Kong University of Science and Technology**  
*Academic scholarship for the students at HKUST whose CGA is in the top 10th percentile of all continuing undergraduate students.*
- **Silver Medal, Shing-Tung Yau High School Mathematics Award** Jul 2018  
**National Taiwan University**  
*National science fair for mathematical research in Taiwan.*
- **Dean's List** Fall 2019, Fall 2020, Spring 2021, Fall 2022  
**The Hong Kong University of Science and Technology**  
*An academic award for a high GPA at HKUST.*
- **High Honors** Spring 2022  
**Northwestern University**  
*An academic award for a full GPA at NU.*

## EXTRA-CURRICULAR ACTIVITIES

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- **Head Student Ambassador** Nov 2022 - Current  
**Undergraduate Recruitment and Admissions Office, HKUST**  
*Sharing the university life and experience with prospective students; Assisting in admission affairs.*
- **Peer Mentor** Aug 2021 - Jun 2022  
**School of Science, HKUST**  
*Assisting freshmen to adapt the university environment; Holding welcome events.*
- **Sub-Committee Member** Sep 2019 - May 2020  
**Mainland Student and Scholars Society, UG session, HKUST**  
*Assisting executive group with general affairs.*
- **Deputy Head Student Ambassador** Nov 2021 - Nov 2022  
**Undergraduate Recruitment and Admissions Office, HKUST**
- **Student Ambassador** Nov 2019 - Current  
**Undergraduate Recruitment and Admissions Office, HKUST**
- **Taiwanese Student Association (TSA, HKUST)** Sep 2019 - May 2023  
**Member in TSA, HKUST**
- **Taiwanese American Student Association (TASA, NU)** Mar 2022 - Jun 2022  
**Member in TASA, Northwestern University**