

Daniel Shiu-hong KAO

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EDUCATION

- **The Hong Kong University of Science and Technology** Hong Kong S.A.R., China
MPhil in Computer Science and Engineering
Sep 2023 - May 2025
GPA: 4.00/4.30; Supervisor: Professor Chi-Keung Tang (Email: cktang@cs.ust.hk)
Research focus: deep learning, computer vision
- **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 - Jun 2023
GPA: 3.76/4.30, Major GPA: 3.92/4.30; First Class Honors
- **Northwestern University** Illinois, USA
Exchange Student in McCormick School of Engineering
Mar 2022 - Jun 2022
GPA: 4.00/4.00; High Honors

AWARDS

- **Postgraduate Studentship** Academic Year 2023-24
The Hong Kong University of Science and Technology
Research grant for HKUST Research Postgraduate (RPg) students.
- **First Class Honors** Jul 2023
The Hong Kong University of Science and Technology
Undergraduate academic award
- **Chern Class Scholarship** Academic Year 2020-21
The Hong Kong University of Science and Technology
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.
- **Dean's List** 2019-2023
The Hong Kong University of Science and Technology
High GPA at HKUST. Fall 2019, Fall 2020, Spring 2021, Fall 2022, Spring 2023 (5 out of 7 semesters)
- **Dean's List (High Honors)** Spring 2022
Northwestern University
Academic award for a full GPA at NU.

PUBLICATIONS

- **StableKD: Breaking Inter-block Optimization Entanglement for Stable Knowledge Distillation** Dec 2023
Shiu-hong Kao*, Jierun Chen*, Gary S.H. Chan
arXiv preprint arXiv:2312.13223. **Equal contribution.* Under review. We propose a novel framework of knowledge distillation which achieves higher accuracy, faster convergence, and higher data efficiency than SOTA methods.

- Deceptive-NeRF/3DGS: Diffusion-Generated Pseudo-Observations for High-Quality Sparse-View Reconstruction** Jul 2024
 Xinhang Liu, Jiaben Chen, **Shiu-hong Kao**, Yu-Wing Tai, Chi-Keung Tang
 The European Conference on Computer Vision 2024 (ECCV 2024). We enhance sparse-view reconstruction by leveraging a diffusion model pre-trained from multiview datasets to synthesize pseudo-observations.
- InceptionHuman: Controllable Prompt-to-NeRF for Photorealistic 3D Human Generation** Mar 2024
Shiu-hong Kao, Xinhang Liu, Chi-Keung Tang, Yu-Wing Tai
 arXiv preprint arXiv:2311.16499. Under review. InceptionHuman is a novel pipeline leveraging pre-trained diffusion models for 3D human generation with multimodal inputs.
- Run, Don't Walk: Chasing Higher FLOPS for Faster Neural Networks** Mar 2023
 Jierun Chen, **Shiu-hong Kao***, Hao He, Weipeng Zhuo, Song Wen, Chul-Ho Lee, S.-H. Gary Chan
 The IEEE/CVF Conference on Computer Vision and Pattern Recognition 2023 (CVPR 2023). **One of the major contributors.* We introduce partial convolution, as well as a latency-efficient family of network architectures called FasterNet to improve the efficiency of vanilla Convolutional Neural Networks.
- Integer Partition: Further Discussion of the Number of the Integer-side Triangles** Jul 2018
 Shiu-hong Kao, Pohsing Chou, Gerard Jennhwa Chang
Silver medal, Shing-Tung Yau High School Mathematics Award by National Taiwan University. We solve a recursive relationship for positive integer partition to form a polygon, and propose a closed-form solution for convex quadrilaterals.

ACADEMIC SERVICES

- **Reviewer:** BMVC 2023, ICLR 2024, CVPR 2024, ICLR 2025
- **Teaching assistant:** Computer Graphics, Computer Organization

RESEARCH PROJECTS

- AlignKD: A Low-cost Technique for Convolutional Shortcut Removal** Sep 2022 - Dec 2022
 Course project for Deep Learning for Computer Vision
Deep Learning, Convolutional Neural Networks
- Dynamic Neural Network Comparison: Efficiency and Performance** Sep 2021 - Jan 2022
 Undergraduate Research Opportunities Program (UROP), HKUST
Deep Learning, Computer Vision, Dynamic Neural Network
- Press Release Classification on Mobile Application** Feb 2021 - Jun 2021
 Undergraduate Research Opportunities Program (UROP), HKUST
Android Development, Machine Learning, Natural Language Processing

INDUSTRIAL RESEARCH EXPERIENCE

- Microsoft Research Lab, Asia** Jun 2024 - Now
Research Intern, Media Computing Group
 Research and publish paper in conferences with focus on 3D computer vision.
- Hong Kong Applied Science and Technology Research Institute** Jun 2021 - Aug 2021
Summer Intern, Multimedia Systems And Analytics
 Design and develop algorithms to solve problems; research the latest technologies; tasks including image processing, OCR, deep learning, etc.

INVITED TALKS

- **NCKU 2023 AIoT Training Camp with Special Topic on Autonomous Vehicles** Jul 2023
National Cheng Kung University
Invited talks about autonomous vehicles and self-driving technologies.
- **Divide and Distill: Achieving Higher Accuracy, Speed and Data-Efficiency for Knowledge Distillation** May 2023
The Hong Kong University of Science and Technology
Presentation for the undergraduate thesis “Divide and Distill (DnD)”.

LEADERSHIP

- **Head Student Ambassador** Academic Year 2022-23
The Hong Kong University of Science and Technology
Assisting with university’s undergraduate recruitment, including experience sharing, presentations, and other recruiting events.
- **Peer Mentor** Academic Year 2021-22
School of Science, The Hong Kong University of Science and Technology
Mentoring, providing necessary helps, holding orientation events for freshmen in the university.
- **Sub-committee, Mainland Students and Scholars Society, UG Section** Academic Year 2019-20
The Hong Kong University of Science and Technology
- **Student Ambassador** 2019-2023
The Hong Kong University of Science and Technology
- **Taiwanese Student Association** 2019-2023
The Hong Kong University of Science and Technology
- **Taiwanese American Student Association** Spring 2022
Northwestern University

OTHERS

- **Skills:** Artificial Intelligence, deep learning, computer vision, statistical inference, big data systems, edge computing
- **Languages:** Mandarin (native), English (professional), Hokkien (native), Cantonese (medium)
- **Hobbies:** Guitar, singing, cooking, traveling, bartending, snooker, sports