

# Daniel Shiu-hong KAO

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## EDUCATION

- **National University of Singapore** Singapore  
**PhD in Computer Science**  
Jan 2026 - Now
- **The Hong Kong University of Science and Technology** Hong Kong S.A.R., China  
**MPhil in Computer Science and Engineering**  
Sep 2023 - Aug 2025  
GPA: **3.86/4.30**; Supervisor: Professor Chi-Keung Tang (Email: [cktang@cs.ust.hk](mailto:cktang@cs.ust.hk))
- **The Hong Kong University of Science and Technology** Hong Kong S.A.R., China  
**Bsc in Data Science and Technology / Bsc in Computer Science**  
Sep 2019 - Jul 2023  
GPA: **3.76/4.30**, Major GPA: **3.92/4.30**, WES iGPA: **3.83/4.00**; 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

- **Stars of Tomorrow Award of Excellence** Jan 2025  
**Microsoft Research Asia**  
Selected award for interns with outstanding effort and performance at Microsoft Research Asia.
- **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's 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

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- **CoT-RVS: Zero-Shot Chain-of-Thought Reasoning Segmentation for Videos**  
**Shiu-hong Kao**, Yu-Wing Tai, Chi-Keung Tang  
The Fourteenth International Conference on Learning Representations (ICLR 2026). Project page: <https://danielshkao.github.io/cot-rvs.html>.
- **CoT-Seg: Rethinking Segmentation with Chain-of-Thought Reasoning and Self-Correction**  
**Shiu-hong Kao**, Chak-Ho Huang, Huaiqian Liu, Yu-Wing Tai, Chi-Keung Tang  
Arxiv preprint: arXiv:2601.17420. Project page: <https://danielshkao.github.io/cot-seg.html>.
- **Think Before You Segment: High-Quality Reasoning Segmentation with GPT Chain of Thoughts**  
**Shiu-hong Kao**, Yu-Wing Tai, Chi-Keung Tang  
Arxiv preprint: arXiv:2503.07503. Project page: <https://danielshkao.github.io/thinkfirst.html>.
- **StreamGS: Online Generalizable Gaussian Splatting Reconstruction for Unposed Image Streams**  
Yang LI, Jinglu Wang, Lei Chu, Xiao Li, **Shiu-hong Kao**, Ying-Cong Chen, Yan Lu  
International Conference on Computer Vision 2025 (ICCV 2025). *Work done during internship at MSRA*.
- **UVRM: A Scalable 3D Reconstruction Model from Unposed Videos**  
**Shiu-hong Kao**, Xiao Li, Jinglu Wang, Yang Li, Chi-Keung Tang, Yu-Wing Tai, Yan Lu  
Arxiv preprint: arXiv:2501.09347. *Work done during internship at MSRA*.
- **Deceptive-NeRF/3DGS: Diffusion-Generated Pseudo-Observations for High-Quality Sparse-View Reconstruction**  
Xinhang Liu, Jiaben Chen, **Shiu-hong Kao**, Yu-Wing Tai, Chi-Keung Tang  
The European Conference on Computer Vision 2024 (ECCV 2024).
- **InceptionHuman: Controllable Prompt-to-NeRF for Photorealistic 3D Human Generation**  
**Shiu-hong Kao**, Xinhang Liu, Chi-Keung Tang, Yu-Wing Tai  
Arxiv preprint arXiv:2311.16499.
- **Run, Don't Walk: Chasing Higher FLOPS for Faster Neural Networks**  
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).
- **StableKD: Breaking Inter-block Optimization Entanglement for Stable Knowledge Distillation**  
**Shiu-hong Kao\***, Jierun Chen\*, Gary S.H. Chan  
Arxiv preprint arXiv:2312.13223. \*Equal contribution.

## ACADEMIC SERVICES

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- **Reviewer:** ICLR 2025
- **Sub-reviewer:** BMVC 2023, ICLR 2024, CVPR 2024
- **Teaching assistant:** Deep Learning in Computer Vision, Computer Graphics, Computer Organization

## RESEARCH PROJECTS

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- **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