KWAN, Kin Chung (KC)

Researcher – CG & HCI

I am a researcher in Computer Graphics (CG) and a Ph.D. in Computer Science from the Chinese University of Hong Kong in 2015. My research experience is in Non-Photorealistic Rendering (NPR), augmented reality as well as Human-Computer Interaction (HCI) for 11+ years. I published multiple technical research papers in top conferences and journals, such as SIGGRAPH (Asia), TVCG, CGF, and CHI. I have experience of lecturing and was a teaching assistant for nine different courses, such as multimedia and game development.

Research Interests

Visual computing, computer graphics, human-computer interaction, non-photorealistic rendering, augmented reality

Education

2015 **Ph.D. in Computer Science and Engineering**
The Chinese University of Hong Kong, Hong Kong

2009 **B.Sc. in Computer Science**
The Chinese University of Hong Kong, Hong Kong

Academic Experiences

2020 – present **Postdoctoral Research Fellow**
University of Konstanz, Germany
- First author paper in SIGGRAPH Asia

2018 – 2020 **Senior Research Assistant**

2017 – 2018 **Postdoctoral Research Fellow**
City University of Hong Kong, Hong Kong
- First author papers in SIGGRAPH, SIGCHI, CGF
- Co-author paper in TVCG

2015 – 2017 **Research Fellow**

2014 – 2015 **Research Assistant**
Caritas Institute of Higher Education, Hong Kong
- First author papers in SIGGRAPH Asia, TVCG
- Ph.D. Thesis

2013 – 2014 **Research Assistant**
The Chinese University of Hong Kong, Hong Kong

Teaching Experiences

Teacher, University of Konstanz, Germany
2021 – 2022 Illustrative Computer Graphics (*Bachelor*)

Teaching Assistant, University of Konstanz, Germany
2020 – 2022 Current Trends in Computer Graphics (*Graduate*)

Teaching Assistant, The Chinese University of Hong Kong, Hong Kong
2015 – 2018 Web-Based Graphics and Virtual Reality (*Graduate*)
2014 – 2017 Mobile Apps Design and Implementation (*Graduate*)
2013 – 2019 Computer Game Software Production (*Graduate*)
2013 Multimedia Technology (*Graduate*)
2011 – 2012 Advanced GPU Programming (*Graduate*)
2010 – 2011 Introduction to Multimedia Systems (*Bachelor*)
2010 Principles of Computer Game Software (*Bachelor*)
2009 Introduction to Computing Using Java (*Bachelor*)

Teacher, The Hong Kong Jockey Club, Hong Kong
2015 CUDA Training (*Industry*)

Date of Birth
05 Aug 1987

Gender
Male

Nationality
Chinese (Hong Kong)
British Nationals (Overseas)

Language
Cantonese ■■■■■
English ■■■■□
Mandarin ■■■■□
Japanese ■■□□□
German ■□□□□

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Webpage
kckwan.github.io

Preferred Start Date
2023

Publications (Selected)

Published

- **Autocomplete Repetitive Stroking with Image Guidance**. Y. Chen, K.C. Kwan, L.Y. Wei, and H. Fu. In *SIGGRAPH Asia 2021 Technical Communications*, Tokyo, Japan, ACM, December 2021
- **Multi-class Inverted Stippling** (2021), C. Schulz, K.C. Kwan (joint first author), M. Becher, D. Baumgartner, G. Reina, O. Deussen, and D. Weiskopf. In *ACM Transactions on Graphics (SIGGRAPH Asia 2021 issue).* ACM, 40 (2021), 6. - 245.
- **3D Curve Creation on and around Physical Objects with Mobile AR** (2021), H. Ye, K.C. Kwan, and H. Fu. In *IEEE Transactions on Visualization & Computer Graphics* (TVCG), IEEE, 01: 1-1.
- **Automatic Image Checkpoint Selection for Guider-Follower Pedestrian Navigation** (2020), K.C. Kwan, and H. Fu. In *Computer Graphics Forum (CGF),* Wiley, Vol. 40, No. 1, pp. 357-368.
- **ARAnimator: in-situ character animation in mobile AR with user-defined motion gestures** (2020), H. Ye, K.C. Kwan (joint first author), W. Su, and H. Fu. In ACM Transactions on Graphics *(SIGGRAPH 2020 issue)*, ACM, 39(4), 83-1.
- **Mobi3DSketch: 3D Sketching in Mobile AR** (2019), K.C. Kwan and H. Fu. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI).* ACM, p. 176.
- **Real-time Multi-view Bimanual Gesture Recognition** (2018), G. Poon, K.C. Kwan, and W.-M. Pang, In *IEEE 3rd International Conference on Signal and Image Processing (ICSIP),* IEEE, pp. 19-23.
- **Packing Vertex Data into Hardware-Decompressible Textures** (2017), K.C. Kwan, X. Xu, L. Wan, T.-T. Wong, and W.-M. Pang, In *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, IEEE, 24.5: 1705-1716.
- **Pyramid of Arclength Descriptor for Generating Collage of Shapes** (2016), K.C. Kwan, C. Han, L.-T. Sinn, T.-T. Wong, and C.-W. Fu. In *ACM Transactions on Graphics (SIGGRAPH Asia 2016 issue)*, ACM, 35(6), 229.
- **Locally Scale-Invariant Descriptor for 2D Whole-Shape and Partial-Shape Matching** (2015), K.C. Kwan, *Ph.D. Thesis*, Department of Computer Science & Engineering, The Chinese University of Hong Kong.

Patent

- **Three-Dimensional Sketching in Mobile Augmented Reality** (2019), PWG Application PWG/PA/709/2/2019, approved to file in US.

Unpublished

- **[Title hidden]** (2022). Y. Chen, K.C. Kwan, L.Y. Wei, and H. Fu. Accepted in *Computational Visual Media Conference (CVM)* and recommended for publication in *Computational Visual Media (CVMJ).*
- **Image Abstraction for Region Based Robotic Painting.** M. Gülzow, K.C. Kwan, and O. Deussen. *In preparation for resubmission*.

Other Activates

Helper:	Pacific Graphics 2018
Organizers:	IEEE International Workshop on Intelligent Multimedia Applications and Design for Quality Living 2017
Reviewer:	CADCG, CAG, CGASI, CGI, Chinagraph, EG, GMP, HIS, ICSPCC, ICSC, IJIET, IMAD, ISCMA, PG, SIGCHI, SIGGRAPH (Asia), TVCJ, UIST
Funding:	UGC/FDS11/E03/15 Vision-based Two-hand Gesture Recognition and Evaluation System for Healthcare Training, 2015/16, Hong Kong, Project Leader: Dr. PANG Wai-man
Other:	Practical Grade Piano exams (Grade 8, 2007) Theory of Music (Grade 5, 2002) Japanese Language Proficiency Test (N3, 2013) Archery (Member of The Chinese University of Hong Kong Archery Club) Kendo (Member of Kentokukai Kendo Club)

Awards

Postgraduate Studentship (2009-2011)	Excellent Teaching Assistantship (2010)	Shaw College, Academic Merit (2009)

Skills

C/C++, Swift, CUDA, Java, Python, MATLAB, HTML5, JavaScript, Objective-C, C#, OpenGL, OpenCV, GLSL, OpenCL, Qt, iOS App Development, ARKit

Hobby

Computing, Reading, Video game, Puzzle game, Jogging