

# 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

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|------|--|
| 2015 | <b>Ph.D. in Computer Science and Engineering</b><br>The Chinese University of Hong Kong, Hong Kong |
| 2009 | <b>B.Sc. in Computer Science</b><br>The Chinese University of Hong Kong, Hong Kong                 |

## Academic Experiences

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|----------------|---|
| 2020 – present | <b>Postdoctoral Research Fellow</b><br>University of Konstanz, Germany <ul style="list-style-type: none"><li>First author paper in SIGGRAPH Asia</li></ul>  |
| 2018 – 2020    | <b>Senior Research Assistant</b>  |
| 2017 – 2018    | <b>Postdoctoral Research Fellow</b><br>City University of Hong Kong, Hong Kong <ul style="list-style-type: none"><li>First author papers in SIGGRAPH, SIGCHI, CGF</li><li>Co-author paper in TVCG</li></ul> |
| 2015 – 2017    | <b>Research Fellow</b>  |
| 2014 – 2015    | <b>Research Assistant</b><br>Caritas Institute of Higher Education, Hong Kong <ul style="list-style-type: none"><li>First author papers in SIGGRAPH Asia, TVCG</li><li>Ph.D. Thesis</li></ul>               |
| 2013 – 2014    | <b>Research Assistant</b><br>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 ( <i>Graduate</i> )
2014 – 2017	Mobile Apps Design and Implementation ( <i>Graduate</i> )
2013 – 2019	Computer Game Software Production ( <i>Graduate</i> )
2013	Multimedia Technology ( <i>Graduate</i> )
2011 – 2012	Advanced GPU Programming ( <i>Graduate</i> )
2010 – 2011	Introduction to Multimedia Systems ( <i>Bachelor</i> )
2010	Principles of Computer Game Software ( <i>Bachelor</i> )
2009	Introduction to Computing Using Java ( <i>Bachelor</i> )

### 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	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
English	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Mandarin	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Japanese	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
German	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

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Konstanz, Germany

## Google Scholar

<https://scholar.google.com/citations?hl=en&user=lxV7fuwAAAAJ>

## Webpage

[kckwan.github.io](https://github.com/kckwan)

## 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

- **Image Abstraction for Region Based Robotic Painting.** M. Gülzow, K.C. Kwan, and O. Deussen. *In preparation for resubmission.*

## Other Activates

<b>Helper:</b>	Pacific Graphics 2018
<b>Organizers:</b>	IEEE International Workshop on Intelligent Multimedia Applications and Design for Quality Living 2017
<b>Reviewer:</b>	CADCG, CAG, CGASI, CGI, Chinagraph, EG, GMP, HIS, ICSPCC, ICSC, IJIT, IMAD, ISMA, PG, SIGCHI, SIGGRAPH (Asia), TVCJ, UIST
<b>Funding:</b>	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
<b>Other:</b>	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