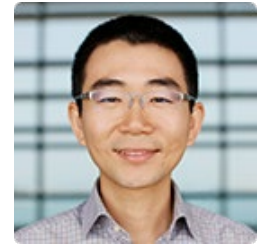


# CHI-HAN PENG

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I am an Assistant Professor at the College of AI at NCTU, Tainan campus.

I was a research scientist at the Visual Computing Center at King Abdullah University of Science and Technology (KAUST), Saudi Arabia, working with Prof. Peter Wonka.

I was a postdoctoral research associate at University College London (UCL), working with Prof. Niloy Mitra. I worked at Nogle, a private company based in Taipei, on the 3D modelling and simulation of clothes for the fashion industries.

I received PhD in Computer Science at Arizona State University. My thesis, Connectivity Control for Quad-Dominant Meshes, was supervised by Prof. Peter Wonka. My research interests include deep learning / AI for indoor environments, computer graphics, geometric modelling, and urban design. During my PhD studies, I also took summer intern at Adobe ATL (supervised by Dr. Nathan Carr and Radomir Mech) and visited TU Vienna, Austria, for research collaborations.

Prior to my PhD study, I received my B.S. and M.S. in Computer Science at National Chiao Tung University (NCTU), Taiwan. I worked at CyberLink, the maker of PowerDVD video players, as a software engineer for four years. I was also the co-founder of an online taxi carpooling service serving the Taipei metropolitan area.

## EDUCATION

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### Arizona State University, USA

2010-2014     **Ph.D. Computer Science / GPA: 4.00** (University Graduate Fellowship Award - summer 2014)

### National Chiao Tung University, Taiwan

2003-2005     **M.S. Computer Science / GPA: 3.83 / Thesis:** User-Assisted Mesh Simplification

1999-2003     **B.S. Computer Science / GPA: 3.78** (Ranked 3<sup>rd</sup> among 56. Won academic achievement award twice.)

## PUBLICATIONS

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- 2019     **Checkboard Patterns with Black Rectangles.** Chi-Han Peng, Caigui Jiang, Peter Wonka, and Helmut Pottmann, ACM Transactions on Graphics (Proceedings of ACM SIGGRAPH ASIA), 2019.
- 2019     **DuLa-Net: A Dual-Projection Network for Estimating Room Layouts from a Single RGB Panorama.** Shang-Ta Yang, Fu-En Wang, Chi-Han Peng, Peter Wonka, Min Sun, and Hung-Kuo Chu. IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019.
- 2018     **Designing Patterns using Triangle-Quad Hybrid Meshes.** Chi-Han Peng, Helmut Pottmann, and Peter Wonka. ACM Transactions on Graphics (Proceedings of ACM SIGGRAPH), 2018.
- 2016     **Computational Network Design from Functional Specifications.** Chi-Han Peng, Yong-Liang Yang, Fan Bao, Daniel Fink, Dong-Ming Yan, Peter Wonka, and Niloy J. Mitra. ACM Transactions on Graphics (Proceedings of ACM SIGGRAPH), 2016.
- 2014     **Computing Layouts with Deformable Templates.** Chi-Han Peng, Yong-Liang Yang, and Peter Wonka. ACM Transactions on Graphics (Proceedings of ACM SIGGRAPH), 2014.
- 2014     **Exploring Quadrangulations.** Chi-Han Peng, Michael Barton, Caigui Jiang, and Peter Wonka. ACM Transactions on Graphics (Proceedings of ACM SIGGRAPH), 2014.

- 2013      **Connectivity Editing for Quad-Dominant Meshes.** Chi-Han Peng and Peter Wonka. Eurographics Symposium on Geometry Processing (SGP), 2013.
- 2011      **Connectivity Editing for Quadrilateral Meshes.** Chi-Han Peng, Eugene Zhang, Yoshihiro Kobayashi, and Peter Wonka. ACM Transactions on Graphics (Proceedings of ACM SIGGRAPH ASIA), 2011.
- 2006      **User-Assisted Mesh Simplification.** Tan-Chi Ho, Yi-Chun Lin, Jung-Hong Chuang, Chi-Han Peng, and Yu-Jung Cheng. ACM Virtual Reality Continuum and Its Applications (VRCIA) 2006.

## CONFERENCE PAPERS

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- 2018      **PanoAnnotator: A Semi-Automatic Tool for Indoor Panorama Layout Annotation.** Shang-Ta Yang, Chi-Han Peng, Peter Wonka, Hung-Kuo Chu. Siggraph Asia 2018 Poster.
- 2014      **Connectivity Control for Quad-Dominant Meshes with Applications in Urban Design.** Chi-Han Peng. Advances in Architectural Geometry (AAG) 2014 Poster.
- 2011      **Feature Detection in Aerial Images.** Cheng Pan, Yifan Zhang, and Chi-Han Peng. SIAM Data Mining Conference (SDM) 2011, Doctoral Forum. Advisors: John Femiani, Anshuman Razdan, Peter Wonka.

## U.S. PATENTS

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- 2017      **System and method for three-dimensional garment mesh deformation and layering for garment fit visualization.** Jonathan Leong Zhan Hua and Chi-Han Peng. Publication Number: US9754410B2.
- 2006      **System and method for implementing remote control functions in a mouse in a video playback system.** Yi-Chao Tsai, Fu-Kai Juang, and Chi-Han Peng. Publication Number: US20080022219A1.

## TEACHING EXPERIENCE

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### **Siggraph Asia 2018**

- 2018      Lecturer, Siggraph Asia 2018 Courses  
I am a lecturer in a course at Siggraph Asia 2018 Toyo, titled “Integer Programming for Visual Computing”, hosted by Prof. Peter Wonka.

### **KAUST**

- 2018 Fall      Teaching Assistant, CS248 Computer Graphics  
I am the TA for a Computer Graphics course for Master/PhD level students.

### **Arizona State University**

- 2003 Spring      Guest Lecturer, CPI411 Graphics for Games, Prof. Yalin Wang  
I gave a guest lecture about real-time rendering and shader programming using the Microsoft XNA 3.x framework.

## ACADEMIC SERVICE

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### **Academic Paper Reviewer:**

Siggraph / Siggraph Asia,  
Computer Graphics Forum / Eurographics / Pacific Graphics,  
European Journal of Operational Research,  
Automation in Construction,  
Computer-Aided Design,  
IEEE Computer Graphics and Applications.

### **Industry Technical Reviewer:**

2007      **Programming HD DVD and Blu-ray Disc**, ISBN: 9780071496704.  
I reviewed several chapters about authoring HDDVD Advanced Content.

## WORK EXPERIENCE

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### **NCTU Tainan Campus**

2020-      **Assistant Professor.** College of AI.

### **KAUST**

2017-2019      **Research Scientist.** Visual Computing Center.

### **Nogle, Taiwan**

2016-2017      **Software Engineer.** 3D modeling and simulation for real-world clothes.

### **University College London (UCL), UK**

2015-2016      **Postdoctoral research associate.** Working for Prof. Niloy Mitra, Dept. of Computer Science, UCL.

### **Vienna University of Technology (TU Wien), Austria**

2013      **Visitor.** I visited the computer graphics group at TU Wien (hosted by Prof. Michael Wimmer) during the 2013 summer for research collaborations.

### **Adobe Advanced Technology Lab (ATL), San Jose, CA**

2012 Summer      **Research intern** advised by Dr. Nathan Carr and Radomir Mech.

### **King Abdullah University of Science and Technology (KAUST), Saudi Arabia**

2011, 2012      **Visitor.** I visited GMSV, KAUST during the 2011 and 2012 winter breaks for research collaborations.

### **Peace Network Co., Ltd. (www.mytaxi.tw)**

2009-2010      **Co-Founder.** My wife and I co-founded an online taxi carpooling service targeting commuters in Taipei. The taxi drivers are provided by a local taxi fleet. I collaborated with a website design house to build the website using PHP framework Codeigniter and MySQL.

### **CyberLink Corp.**

2007-2010      **Senior Engineer.** In addition to HDDVD players, I was also in charge of the OEM customization of the navigator, content protection (BD+), and video protection protocols (COPP/OPM) of our Blu-ray software, which accumulated to more than 200,000 lines of codes. I also integrated the anti-reverse engineering technologies, such as AACS and code obfuscation, into our video playback software.

2006-2007      **Engineer.** I improved the quality of the navigator and scripting engine (HDi) components of our HDDVD software to shipping quality. I shipped components to OEM customers such as HP, Dell, Asus, and Acer.

### **National Center for High-Performance Computing (NCHC)**

2002-2004      **Undergraduate Research Assistant.** I developed several programs for the visualization department, including a web-based remote stereo-image display system using Java3D.

## REFERENCES

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**Prof. Dr. Peter Wonka**

Professor, Visual Computing Center, King Abdullah University of Science and Technology (KAUST), Saudi Arabia  
Associate Professor, Department of Computer Science (CIDSE), Arizona State University, USA  
[pwonka@gmail.com](mailto:pwonka@gmail.com)

**Prof. Dr. Helmut Pottmann**

Professor, Visual Computing Center, King Abdullah University of Science and Technology (KAUST), Saudi Arabia  
Director, Geometric Modeling and Industrial Geometry Group, Vienna University of Technology, Austria  
[helmut.pottmann@kaust.edu.sa](mailto:helmut.pottmann@kaust.edu.sa)

**Prof. Dr. Hung-Kuo Chu**

Associate Professor, National Tsing Hua University, Taiwan  
[hkchu@cs.nthu.edu.tw](mailto:hkchu@cs.nthu.edu.tw)

**Prof. Dr. Eugene Zhang**

Professor, Department of Computer Science, Oregon State University, USA  
[zhange@eecs.oregonstate.edu](mailto:zhange@eecs.oregonstate.edu)