

# Yu-Ting Wu

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<https://kevincosner.github.io/>

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## Research Interests

- Computer graphics, computational photography, computer vision, augmented/virtual reality, machine learning

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## Education

- **National Taiwan University** **Taipei, Taiwan**  
*Ph.D. in Computer Science* *Sep. 2009 - June 2014*  
Advisor: Yung-Yu Chuang  
Dissertation: Sampling and Reconstruction Techniques for Efficient Monte Carlo Rendering
- **National Chiao Tung University** **Hsinchu, Taiwan**  
*Master in Computer Science* *Sep. 2007 - June 2009*  
Advisor: Zen-Chung Shih  
Thesis: Visibility-Guided Importance Sampling
- **National Chiao Tung University** **Taipei, Taiwan**  
*Bachelor in Computer Science* *Sep. 2003 - June 2007*  
Rank 1st in class, 7 times Academic Excellence Award (top 5%)  
Member of Phi-Tau-Phi Scholastic Honor Society in 2007

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## Experiences

- **Postdoctoral researcher - National Taiwan University**, Taipei, Taiwan *Feb. 2020 - Present*  
Host: Yung-Yu Chuang
- **Senior Algorithm Developer - Toppano Inc. (startup)**, Taipei, Taiwan *May 2018 - Jan. 2020*
- **Principal Engineer - HTC Inc.**, New Taipei City, Taiwan *Sep. 2014 - Apr. 2018*
- **Summer Intern - Digimax Inc.**, Taipei, Taiwan *July 2011 - Sep. 2011*

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## Publications

- **ClipFlip: Multi-view Clipart Design**  
I-Chao Shen, Kuan-Hung Liu, Li-Wen Su, Yu-Ting Wu, Bing-Yu Chen  
In Computer Graphics Forum, volume 40, number 1, page 327-340, February 2021  
SCI, JCR 2021 IF: to appear
- **Dual-Matrix Sampling for Scalable Translucent Material Rendering**  
Yu-Ting Wu, Tzu-Mao Li, Yu-Hsun Lin, Yung-Yu Chuang  
In IEEE Transactions on Visualization and Computer Graphics (TVCG), volume 21, number 3, page 363-374, March 2015  
SCI, JCR 2015 IF: 1.400, Computer Science, Software Engineering, Rank 25 of 106, Q1
- **VisibilityCluster: Average Directional Visibility for Many-Light Rendering**  
Yu-Ting Wu, Yung-Yu Chuang  
In IEEE Transactions on Visualization and Computer Graphics (TVCG), volume 19, number 9, page 1566-1578, September 2013.  
SCI, JCR 2013 IF: 1.919, Computer Science, Software Engineering, Rank 13 of 105, Q1
- **SURE-based Optimization for Adaptive Sampling and Reconstruction**  
Tzu-Mao Li, Yu-Ting Wu, Yung-Yu Chuang  
In ACM Transactions on Graphics (Proceedings of ACM SIGGRAPH Asia 2012), volume 31, number 6, article 194, Singapore, November 2012. (*selected as a highlight paper by the chair*)  
SCI, JCR 2012 IF: 3.361, Computer Science, Software Engineering, Rank 1 of 105, Q1

## Workshop Papers, Short Papers, Posters

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- **VisibilityChunk: Average Directional Visibility for Importance Sampling**  
Yu-Ting Wu, Yung-Yu Chuang  
In ACM SIGGRAPH Asia 2012 Poster, article 44, Singapore, November 2012 (*selected as a highlight poster by the chair*)
- **Improved Reflective Shadow Maps with Visibility Approximation**  
Mifan Bang, Yu-Ting Wu, Yung-Yu Chuang  
In Computer Graphics Workshop (CGW), Taipei Taiwan, July 2011
- **Horizon Occlusion Culling for 3D Navigation**  
Yun-Feng Chou, Yu-Ting Wu, Shiang-Chun Chang, Mu-Heng Li, I-Chen Lin, Zen-Chung Shih, Rung-Ren Lin  
In International Workshop on Advanced Image Technology (IWAIT) 2008 Poster, Hsinchu, Taiwan

## Teaching Experiences

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- **Teaching Assistant**
  - Digital Image Synthesis, *National Taiwan University* Sep. 2013 - Jan. 2014
  - Digital Image Synthesis, *National Taiwan University* Sep. 2012 - Jan. 2013
  - Digital Image Synthesis, *National Taiwan University* Sep. 2011 - Jan. 2012
  - Digital Image Synthesis, *National Taiwan University* Sep. 2010 - Jan. 2011
  - Digital Image Synthesis, *National Taiwan University* Sep. 2009 - Jan. 2010
  - Computer Graphics, *National Chiao Tung University* Sep. 2008 - Jan. 2009

## Selected Projects

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- **3D Face Reconstruction from a Single Image**, *National Taiwan University* Mar. 2021 - Present
- **Rendering with Reinforcement Learning**, *National Taiwan University* Mar. 2020 - Present
- **Learning to Enhance Document Images**, *National Taiwan University* Mar. 2020 - Feb. 2021
- **Inception - Virtual Studio System**, *Toppano Inc.* May 2018 - Jan. 2020
  - A powerful virtual studio system with several features: RGB-D video enhancement, real-time matting, virtual lighting augmentation, and mixed reality preview
  - Support Unity and Unreal Engine
- **LightProbeGen - AR/MR Lighting Tool**, *HTC Inc.* Oct. 2017 - Mar. 2018
  - An intuitive tool for generating realistic, real-world lighting for AR/MR applications using HTC VIVE
- **TrueColor - VR Game**, *HTC Inc.*, [Link] Apr. 2017 - Mar. 2018
  - An interesting VR game for spray painting and pen drawing
- **Arcade Saga - VR Game**, *HTC Inc.*, [Link] Apr. 2016 - Mar. 2017
  - The first exclusive VR game for HTC VIVE

## Professional Services

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- **Reviewer for International Conference and Workshop**
  - IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
  - European Conference on Computer Vision (ECCV)
  - International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision (WSCG)
  - Asia-Pacific Workshop on Mixed and Augmented Reality (APMAR)

- **Reviewer for International Journals**

- The Visual Computer (TVC)
- Journal of Information Science and Engineering (JISE)

- **Invited Talks**

- Virtual Reality: Technology and Content Development, National Cheng Kung University, Tainan, Taiwan, May 2016
- Virtual Reality: Technology and Content Development, Yuan Ze University, Taoyuan, Taiwan, May 2016
- Introduction to Physically-Based Ray Tracing, Industrial Technology Research Institute (ITRI), Hsinchu, Taiwan, Dec. 2013