Yu-Ting Wu

kevincosnerwu@gmail.com +886963111450
https://kevincosner.github.io/

Research Interests

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

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** Hsinchu, 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

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

Publications

- **Multi-Resolution Shared Representative Filtering for Real-Time Depth Completion**
  Yu-Ting Wu, Tzu-Mao Li, I-Chao Shen, Hong-Shiang Lin, Yung-Yu Chuang
  Accepted to High-Performance Graphics 2021, July 2021
- **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. 2019 5-Year IF: 2.333.

- **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

- **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

Patents

- **Electronic device, method for displaying an augmented reality scene and non-transitory computer-readable medium**
  Yu-Ting Wu, Ching-Yang Chen
  ROC Patent No: I711966. December 01, 2020
  US Patent No: 10636200, April 28, 2020
- **Virtual reality device, image processing method, and non-transitory computer-readable medium**
  Yu-Ting Wu, Chun-Wen Cheng, Ching-Yang Chen
  ROC Patent No: I684163, February 01, 2020
- **Three-dimensional modeling method and electronic apparatus thereof**
  Sheng-Jie Luo, Liang-Kang Huang, Yu-Ting Wu, Tung-Peng Wu
  US Patent No: 10152827, December 11, 2018

Selected Projects

- **Stylized 3D Face Reconstruction with GAN**, *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
  - A technical paper is published in High-Performance Graphics 2021
- **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
  - Patent invention: ROC Patent No: I71196, US Patent No: 106362.
- **TrueColor - VR Game**, *HTC Inc.*, [Link] *Apr. 2017 - Mar. 2018*
  - An interesting VR game for spray painting and pen drawing
  - Patent invention: ROC Patent No: I684163.
- **Arcade Saga - VR Game**, *HTC Inc.*, [Link] *Apr. 2016 - Mar. 2017*
  - The first exclusive VR game for HTC VIVE
- **3D Face Reconstruction from a Single Image**, *HTC Inc.* *Sep. 2014 - Aug. 2015*
  - Patent invention: US Patent No: 10152827.

Professional Services

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