Yu-Ting Wu

kevincosnerwu@gmail.com +886963111450
https://kevincosner.github.io/
Room 501, CSIE Building, National Taiwan University

Research Interests

Field: computer graphics, computational photography, computer vision, AR/MR/VR, machine learning

Current Position

Feb. 2020 -- Present — **Postdoctoral Researcher** — Taipei, Taiwan
National Taiwan University
Communication and Multimedia Lab.

Education

Sep. 2009 – Jun. 2014 — **Ph.D. in Computer Science** — Taipei, Taiwan
National Taiwan University
Advisor: Yung-Yu Chuang
Dissertation: *Sampling and Reconstruction Techniques for Efficient Monte Carlo Rendering*

Sep. 2007 – Jun. 2009 — **M.S. in Computer Science** — Hsinchu, Taiwan
National Chiao Tung University
Advisor: Zen-Chung Shih
Thesis: *Visibility-Guided Importance Sampling*

Sep. 2003 – Jun. 2007 — **B.S. in Computer Science** — Hsinchu, Taiwan
National Chiao Tung University
Rank 1st in class
Member of Phi-Tau-Phi Scholastic Honor Society in 2007
7 times Academic Excellence Award (top 5%)

Employment History

May. 2018 – Jan. 2020 — **Sr. Algorithm Developer** — Taipei, Taiwan
TopPano Inc.
Develop computer vision and AR/MR algorithms

Projects

Inception (Virtual Studio System)

Inception is an intuitive and powerful virtual studio system implemented with *Unity* and *Unreal Engine*. It provides features including RGB-D video enhancement, real-time matting, virtual lighting augmentation, and mixed reality preview. The system had been used to assist the final projects of Department of Digital Culture Creation and Multimedia, China University of Science and Technology from 2019 to 2020.

Batman (Multi-object Tracking System)

Batman is a high-accuracy system for multi-object tracking, consisting of both hardware devices and software algorithms.

Sep. 2014 – Apr. 2018 | **Pr. Engineer** | New Taipei City, Taiwan

HTC Inc.

Develop computer vision and AR/MR algorithms

LightProbeGen (AR/MR Lighting Tool)

LightProbeGen is an intuitive and fun tool for assisting AR/MR applications to construct real-world lighting environment.

TrueColor (VR App. for Painting and 3D Model Texture Design)

TrueColor is an interesting VR game for spray painting and pen drawing. It can also be used as an professional VR editor for designing the textures of 3D models. The tool is launched already on *VIVEPORT*.

Arcade Saga (VR Game)

Arcade Saga is the first exclusive VR game for HTC VIVE HMD. It has already hit the store shelves on *VIVEPORT* and *Steam*.

3D Face Reconstruction

An algorithm for creating a 3D face model from a single image

Jul. 2011 – Sep. 2011 | **Summer Intern** | Taipei, Taiwan

Digimax Inc.

Fall 2009 – 2013 | **Teaching Assistant** | Taipei, Taiwan

National Taiwan University

Course: Digital Image Synthesis

Academic Activities

May. 2016 | **Invited Talk** | Tainan, Taiwan

National Cheng Kung University

Topic: Virtual Reality: Technology and Content Development

May. 2016 | **Invited Talk** | Taoyuan, Taiwan

Yuan Ze University

Topic: Virtual Reality: Technology and Content Development

Dec. 2013 | **Invited Talk** | Hsinchu, Taiwan

Industrial Technology Research Institute (ITRI)

Topic: Introduction to Physically Based Ray Tracing

Publications

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.

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.

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)

International Short Papers and Posters

VisibilityChunk: Average Directional Visibility for Importance Sampling

Yu-Ting Wu, Yung-Yu Chuang

ACM SIGGRAPH Asia 2012 Poster, article 44, Singapore, November 2012 (selected as a highlight poster by the chair)

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

International Workshop on Advanced Image Technology (IWAIT) 2008 Poster, Hsinchu, Taiwan, January 2008

Domestic Publications

Improved Reflective Shadow Maps with Visibility Approximation

Mifan Bang, Yu-Ting Wu, Yung-Yu Chuang

Computer Graphics Workshop (CGW) 2011, Taipei Taiwan, July 2011

Technical Reports and Preprints

ClipFlip: Multi-view Clipart Design

I-Chao Shen, Kuan-Hung Lin, Li-Wen Su, Yu-Ting Wu, Bing-Yu Chen

arXiv:2008.12933 [cs.GR], August 2020