

# Meng-Lin Wu

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<https://menglin-wu.github.io/>

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

## Education

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**Purdue University**  
PhD, Computer Science

West Lafayette, Indiana  
2019

## Expertise

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Computational Photography

- Bokeh, HDR imaging, Blurring/deblurring, Multi-perspective acquisition and rendering

Computer Graphics

- AR/VR, 3D photography

## Experience

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**Staff Engineer at Qualcomm Technologies, Inc.**, San Diego, California

2019 – present

- Drive quantization-aware ML training algorithms development of a team of 4. Made yearly releases to internal product teams. Manage feature requests from product teams.
- Mentored graduate students and interns on image restoration, object detection, and semantic image editing.
- Patent filed / received in the areas: i) 3D photography, ii) light field, depth, and HDR sensing, iii) image segmentation and object detection, iv) diffusion models.
- Shipped the first always-sensing mobile camera feature.

**Research Intern at Facebook Reality Labs**, Redmond, Washington

2018

- Researched ML-based adaptive ray casting and sparse image denoising / reconstruction.

**Autonomous Driving Engineering Intern at nuTonomy**, Cambridge, Massachusetts

2017

- Simulated sensors and vehicle dynamics.

**Software Developer Intern at Google**, Montréal, Canada

2016

- Implemented OpenGL ES 3 features and helped open-source SwiftShader

**Intern at VMware**, Palo Alto, California

2014

- Implemented OpenGL 3 features and helped release OpenGL 3.3 in VMware Workstation 12 and Fusion 8.

**Game Planning Specialist at International Games System**, Taipei, Taiwan

2009 – 2010

- Developed a physics engine for arcade racing games.

## Publications

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### **Consistent and multi-scale scene graph transformer for semantic-guided image outpainting**

CA Yang, ML Wu, RA Yeh, YCF Wang

*International Conference on Image Processing (ICIP) 2023*

### **Direct handheld burst imaging to simulated defocus**

ML Wu, VRK Dayana, H Hwang

*International Conference on Image Processing (ICIP) 2022*

### **Scene graph expansion for semantics-guided image outpainting**

CA Yang, CY Tan, WC Fan, CF Yang, ML Wu, YCF Wang

*Conference on Computer Vision and Pattern Recognition (CVPR) 2022*

### **Robust image outpainting with learnable image margins**

CY Tan, CA Yang, SF Chen, ML Wu, YCF Wang

*International Conference on Image Processing (ICIP) 2021*

### **Automatic deictic gestures for animated pedagogical agents**

SRK Kappagantula, N Adamo-Villani, ML Wu, V Popescu

*IEEE Transactions on Learning Technologies, 2019*

### **RGBD temporal resampling for real-time occlusion removal**

ML Wu, V Popescu

*SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D) 2019*

### **Anchored multiperspective visualization for efficient VR navigation**

ML Wu, V Popescu

*International Conference on Virtual Reality and Augmented Reality (EuroVR) 2018*

### **Efficient VR and AR navigation through multiperspective occlusion management**

ML Wu, V Popescu

*IEEE Transactions on Visualization and Computer Graphics, 2017*

*(IEEE Virtual Reality Conference 2018 invited oral presentation)*

### **Digital learning activities delivered by eloquent instructor avatars: scaling with problem instance**

S Anasingaraju, ML Wu, N Adamo-Villani, V Popescu, SW Cook, M Nathan, M Alibali

*SIGGRAPH ASIA 2016 Symposium on Education*

### **Multiperspective focus+context visualization**

ML Wu, V Popescu

*IEEE Transactions on Visualization and Computer Graphics, 2016*

### **Animation killed the video star**

V Popescu, N Adamo-Villani, ML Wu, SD Rajasekaran, MW Alibali, M Nathan, SW Cook

*Proceedings of CHI 2014 Workshop on Gesture-based Interaction Design: Communication and Cognition*

## Shipped Games

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**Speed Driver 4: World Fever** (2012)

**Power Truck** (2011)

**Speed Rider 2** (2011)

**Speed Driver 3: Crash Hour** (2010)