Kai-En **Lin**

(+1) 858-337-2646 | k2lin@ucsd.edu | kaienlin2576

Research Interests

Image-based Rendering, View Synthesis, and AR/VR.

Education

University of California, San Diego

San Diego, United States

PH.D. IN COMPUTER SCIENCE

Sept. 2018 - PRESENT

National Taiwan University (NTU)

Taipei, Taiwan

B.S. IN ELECTRICAL ENGINEERING

Sept. 2013 - June 2017

- **Dean's List Award (2016 Spring):** Ranked 1st out of 185 students
- **Overall GPA:** 4.12/4.30 (3.94/4.00)

Research Experience

Facebook Reality Labs

Seattle, United States

RESEARCH INTERN

June 2020 - Sept. 2020

- Display Systems Research Intern

Adobe Research

San Jose, United States

RESEARCH INTERN

June 2019 - Sept. 2019

- Graphics Intelligence Lab Intern
- Research on 6-DoF panoramic view synthesis

Center for Visual Computing, UCSD

San Diego, United States

GRADUATE STUDENT RESEARCHER

Sept. 2018 - PRESENT

- **Advisor:** Prof. Ravi Ramamoorthi
- Research on view interpolation from sparse 360 image capture
- Worked on theoretical sampling constraints for multiplane images (MPI)
- Developing deep learning algorithms for view synthesis from panoramic inputs

Multimedia Processing and Communications Lab, NTU

Taipei, Taiwan

UNDERGRADUATE RESEARCHER

Jan. 2016 - Dec. 2017

- **Advisor:** Prof. Homer H. Chen
- Surveyed and implemented a computer vision algorithm, dark channel prior
- Proposed a method for haze removal using augmented reality
- Participated in the light field VR project
- Surveyed and applyed the face recognition algorithm, FaceNet, on both PC and mobile platform

Publications & Presentations

Deep Multi Depth Panoramas for View Synthesis

Glasgow, United Kingdom

KAI-EN LIN, ZEXIANG XU, BEN MILDENHALL, PRATUL P. SRINIVASAN, YANNICK HOLD-GEOFFROY, STEPHEN DIVERDI, QI SUN, KALYAN SUNKAVALLI, RAVI RAMAMOORTHI - EUROPEAN CONFERENCE ON COMPUTER VISION (ECCV) 2020

Aug. 2020

- Introduced a novel 3D representation for view synthesis on 360 images

Enhancing the Perception of a Hazy Visual World Using a See-through Head-mounted Device

Beijing, China

KAI-EN LIN, KUANG-TSU SHIH, HOMER CHEN - INTERNATIONAL CONFERENCE ON IMAGE PROCESSING (ICIP) 2017

Sept. 2017

- Introduced a novel method to perform haze removal for augmented reality using the perceptual properties of human visual system

Dehazing With a See-Through Near-Eye Display

San Diego, United States

KUANG-TSU SHIH, **KAI-EN LIN**, HOMER CHEN - INTERNATIONAL CONFERENCE ON MULTIMEDIA AND EXPO (ICME) 2018

July 2018

- **Best Demo Papers Award:** Demonstrated the implementation of the ICIP paper

Selected Course Projects

Light Field Renderer

Final Project of Computer Graphics II: Rendering *2020*

- Implemented a light field renderer with Python and OpenGL
- Used multitexturing and projective texture to combine multiple views

Convex Optimization in Image Processing

Final Project of Convex Optimization Algorithms *2019*

- Surveyed primal-dual algorithm for solving image processing problems

Non-Local Means Filtering for Monte Carlo Denoising

Final Project of Selected Topics in Computer Graphics *2018*

- Implemented non-local means filter on Mitsuba for Monte Carlo Denoising

Related Skills

Programming Skills: C++, LaTeX, MATLAB, Linux, Python
Libraries/Tools: PyTorch, OpenCV, OpenGL