

Wei-Sheng (Jason) Lai

✉ Email | 🏠 Homepage | 🎓 Google Scholar | 🐙 GitHub | 🔗 LinkedIn

Experience

Google LLC

Mountain View, CA, USA

SENIOR SOFTWARE ENGINEER

Nov. 2021 - Present

SOFTWARE ENGINEER

Aug. 2019 - Oct. 2021

Enhance mobile camera imaging quality by computational photography, computer vision, and on-device ML optimization.

- Super Res Zoom (since Pixel 7) [Pixel 7 Luanch]
- Face Unblur (since Pixel 6, SIGGRAPH 2022) [Pixel 6 Luanch]
- Post-ISP Image/Video Denoising (since Pixel 6)
- Face Distortion Correction (SIGGRAPH 2019, TIP 2021)

Nvidia

Santa Clara, CA, USA

RESEARCH INTERN

Sep 2017 - Nov. 2017, May 2018 - Nov. 2018

- Wide-baseline video stitching for linear camera arrays (BMVC 2019)

Adobe

San Jose, CA, USA

RESEARCH INTERN

May 2017 - Aug. 2017

- Blind video temporal consistency (ECCV 2018)

Microsoft

Redmond, WA, USA

RESEARCH INTERN

May 2016 - Aug. 2016

- Hyperlapse generation from 360° video (TVCG 2018)

Education

Ph.D **University of California, Merced**, ELECTRICAL ENGINEERING AND COMPUTER SCIENCE, California, USA 2015 - 2019

M.S **National Taiwan University**, COMMUNICATION ENGINEERING, Taipei, Taiwan 2012 - 2014

B.S **National Taiwan University**, ELECTRICAL ENGINEERING, Taipei, Taiwan 2008 - 2012

Selected Publications

CONFERENCES

Efficient Hybrid Zoom using Camera Fusion on Mobile Phones

SIGGRAPH Asia, 2023

Xiaotong Wu, Wei-Sheng Lai, YiChang Shih, Charles Herrmann, Michael Krainin, Deqing Sun, and Chia-Kai Liang

Vision Transformer for NeRF-Based View Synthesis from a Single Input Image

WACV 2023

Kai-En Lin, Lin Yen-Chen, Wei-Sheng Lai, Tsung-Yi Lin, YiChang Shih, and Ravi Ramamoorthi

Face Deblurring using Dual Camera Fusion on Mobile Phones

SIGGRAPH, 2022

Wei-Sheng Lai, YiChang Shih, Lun-Cheng Chu, Xiaotong Wu, Sung-Fang Tsai, Michael Krainin, Deqing Sun, and Chia-Kai Liang

Stylizing 3D Scene via Implicit Representation and HyperNetwork

WACV, 2022

Pei-Ze Chiang, Meng-Shiun Tsai, Hung-Yu Tseng, Wei-Sheng Lai, and Wei-Chen Chiu

Deep Online Fused Video Stabilization

WACV, 2022

Zhenmei Shi, Fuhao Shi, Wei-Sheng Lai, Chia-Kai Liang and Yingyu Liang

Hybrid Neural Fusion for Full-frame Video Stabilization

ICCV, 2021

Yu-Lun Liu, Wei-Sheng Lai, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang

Real-time Localized Photorealistic Video Style Transfer

WACV, 2021

Xide Xia, Tianfan Xue, Wei-Sheng Lai, Zheng Sun, Abby Chang, Brian Kulis and Jiawen Chen

Dual-Stream Fusion Network for Spatiotemporal Video Super-Resolution

WACV, 2021

Min-Yuan Tseng, Yen-Chung Chen, Yi-Lun Lee, Wei-Sheng Lai, Yi-Hsuan Tsai and Wei-Chen Chiu

Single-Image HDR Reconstruction by Learning to Reverse the Camera Pipeline

CVPR, 2020

Yu-Lun Liu*, Wei-Sheng Lai*, Yu-Sheng Chen, Yi-Lung Kao, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang

Learning to See Through Obstructions

CVPR, 2020

Yu-Lun Liu*, Wei-Sheng Lai*, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang

Visual Question Answering on 360° Images

WACV, 2020

Shih-Han Chou, Wei-Lun Chao, Wei-Sheng Lai, Min Sun, and Ming-Hsuan Yang

Video Stitching for Linear Camera Arrays	BMVC, 2019
<i>Wei-Sheng Lai, Deqing Sun, Jinwei Gu, Orazio Gallo, Ming-Hsuan Yang, and Jan Kautz</i>	
Distortion-Free Wide-Angle Portraits on Camera Phones	SIGGRAPH, 2019
<i>YiChang Shih, Wei-Sheng Lai, and Chia-Kai Liang</i>	
Depth-Aware Video Frame Interpolation	CVPR, 2019
<i>Wenbo Bao, Wei-Sheng Lai, Chao Ma, Xiaoyun Zhang, Zhiyong Gao, and Ming-Hsuan Yang</i>	
Learning Blind Video Temporal Consistency	ECCV, 2018
<i>Wei-Sheng Lai, Jia-Bin Huang, Oliver Wang, Eli Shechtman, Ersin Yumer, and Ming-Hsuan Yang</i>	
Gated Fusion Network for Joint Image Deblurring and Super-Resolution	BMVC, 2018
<i>Xinyi Zhang, Hang Dong, Zhe Hu, Wei-Sheng Lai, Fei Wang, and Ming-Hsuan Yang</i>	
Deep Semantic Face Deblurring	CVPR, 2018
<i>Ziyi Shen, Wei-Sheng Lai, Tingfa Xu, Jan Kautz, and Ming-Hsuan Yang</i>	
Learning a Discriminative Prior for Blind Image Deblurring	CVPR, 2018
<i>Lerenhan Li, Jinshan Pan, Wei-Sheng Lai, Changxin Gao, Nong Sang, and Ming-Hsuan Yang</i>	
Generating a Perspective Image from a Panoramic Image by the Swung-to-Cylinder Projection	ICIP, 2018
<i>Che-Han Chang, Wei-Sheng Lai, and Yung-Yu Chuang</i>	
Semi-Supervised Learning for Optical Flow with Generative Adversarial Networks	NIPS, 2017
<i>Wei-Sheng Lai, Jia-Bin Huang, and Ming-Hsuan Yang</i>	
Deep Laplacian Pyramid Networks for Fast and Accurate Super-Resolution	CVPR, 2017
<i>Wei-Sheng Lai, Jia-Bin Huang, Narendra Ahuja, and Ming-Hsuan Yang</i>	
Learning Fully Convolutional Networks for Iterative Non-blind Deconvolution	CVPR, 2017
<i>Jiawei Zhang, Jinshan Pan, Wei-Sheng Lai, Rynson Lau, Ming-Hsuan Yang</i>	
A Comparative Study for Single-Image Blind Deblurring	CVPR, 2016
<i>Wei-Sheng Lai, Jia-Bin Huang, Zhe Hu, and Ming-Hsuan Yang</i>	
Blur Kernel Estimation using Normalized Color-Line Priors	CVPR, 2015
<i>Wei-Sheng Lai, Jian-Jiun Ding, Yen-Yu Lin, and Yung-Yu Chuang</i>	
JOURNALS	
Deep Image Deblurring: A Survey	IJCV 2022
<i>Kaihao Zhang, Wenqi Ren, Wenhan Luo, Wei-Sheng Lai, Björn Stenger, Ming-Hsuan Yang and Hongdong Li</i>	
Correcting Face Distortion in Wide-Angle Videos	TIP 2021
<i>Wei-Sheng Lai, YiChang Shih, Chia-Kai Liang, and Ming-Hsuan Yang</i>	
Learning to See Through Obstructions with Layered Decomposition	TPAMI 2021
<i>Yu-Lun Liu*, Wei-Sheng Lai*, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang</i>	
Toward Real-World Super-Resolution via Adaptive Downsampling Models	TPAMI 2021
<i>Sanghyun Son*, Jaeha Kim*, Wei-Sheng Lai, Ming-Hsuan Yang, and Kyoung Mu Lee</i>	
Exploiting Semantics for Face Image Deblurring	IJCV 2020
<i>Ziyi Shen, Wei-Sheng Lai, Tingfa Xu, Jan Kautz, and Ming-Hsuan Yang</i>	
Gated Fusion Network for Degraded Image Super-Resolution	IJCV 2020
<i>Xinyi Zhang, Hang Dong, Zhe Hu, Wei-Sheng Lai, Fei Wang, and Ming-Hsuan Yang</i>	
Dynamic Scene Deblurring by Depth Guided Model	TIP 2020
<i>Lerenhan Li, Jinshan Pan, Wei-Sheng Lai, Changxin Gao, Nong Sang, and Ming-Hsuan Yang</i>	
MEMC-Net: Motion Estimation and Motion Compensation Driven Neural Network for Video Interpolation and Enhancement	TPAMI 2019
<i>Wenbo Bao, Wei-Sheng Lai, Xiaoyun Zhang, Zhiyong Gao, Ming-Hsuan Yang</i>	
Blind Image Deblurring vis Deep Discriminative Priors	IJCV 2019
<i>Lerenhan Li, Jinshan Pan, Wei-Sheng Lai, Changxin Gao, Nong Sang, and Ming-Hsuan Yang</i>	
Fast and Accurate Image Super-Resolution with Deep Laplacian Pyramid Networks	TPAMI 2019
<i>Wei-Sheng Lai, Jia-Bin Huang, Narendra Ahuja, and Ming-Hsuan Yang</i>	
Semantic-driven Generation of Hyperlapse from 360° Video	TVCG 2018
<i>Wei-Sheng Lai, Yujia Huang, Neel Joshi, Chris Buehler, Ming-Hsuan Yang and Sing Bing Kang</i>	
PREPRINTS	
Portrait Neural Radiance Fields from a Single Image	arXiv 2021
<i>Chen Gao, YiChang Shih, Wei-Sheng Lai, Chia-Kai Liang and Jia-Bin Huang</i>	

Academic Services

1st and 2nd 360° Perception and Interaction (360PI) Workshops
SIGGRAPH, SIGGRAPH Asia, NeurIPS, CVPR, ICCV, ECCV, ACCV, WACV, AAAI
IJCV, TPAMI, TIP, TCVST, TMM, CVIU, DSP, PR, TCI, TVCJ

Organizer
Conference reviewer
Journal reviewer

Honors & Awards

CVPR Doctoral Consortium Award
Facebook PhD Fellowship Finalist
Snap Research Fellowship Honorable Mention
National Taiwan University Class A Scholarship
National Taiwan University Presidential Award

2019
2018
2017
2013
2009