

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 techniques.

- Face Unblur (since Pixel 6, SIGGRAPH 2022)
- Post-ISP Image/Video Denoising (since Pixel 6)
- Face Distortion Correction (SIGGRAPH 2019, TIP 2021)
- Image Detail Enhancement, Texture Transfer, Flare/Reflection Removal, ML model optimization/quantization.

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

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

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

Wei-Sheng Lai, Deqing Sun, Jinwei Gu, Orazio Gallo, Ming-Hsuan Yang, and Jan Kautz

Distortion-Free Wide-Angle Portraits on Camera Phones

SIGGRAPH, 2019

YiChang Shih, Wei-Sheng Lai, and Chia-Kai Liang

Depth-Aware Video Frame Interpolation

CVPR, 2019

Wenbo Bao, Wei-Sheng Lai, Chao Ma, Xiaoyun Zhang, Zhiyong Gao, and Ming-Hsuan Yang

Learning Blind Video Temporal Consistency <i>Wei-Sheng Lai, Jia-Bin Huang, Oliver Wang, Eli Shechtman, Ersin Yumer, and Ming-Hsuan Yang</i>	<i>ECCV, 2018</i>
Deep Semantic Face Deblurring <i>Ziyi Shen, Wei-Sheng Lai, Tingfa Xu, Jan Kautz, and Ming-Hsuan Yang</i>	<i>CVPR, 2018</i>
Learning a Discriminative Prior for Blind Image Deblurring <i>Lerenhan Li, Jinshan Pan, Wei-Sheng Lai, Changxin Gao, Nong Sang, and Ming-Hsuan Yang</i>	<i>CVPR, 2018</i>
Generating a Perspective Image from a Panoramic Image by the Swung-to-Cylinder Projection <i>Che-Han Chang, Wei-Sheng Lai, and Yung-Yu Chuang</i>	<i>ICIP, 2018</i>
Semi-Supervised Learning for Optical Flow with Generative Adversarial Networks <i>Wei-Sheng Lai, Jia-Bin Huang, and Ming-Hsuan Yang</i>	<i>NIPS, 2017</i>
Deep Laplacian Pyramid Networks for Fast and Accurate Super-Resolution <i>Wei-Sheng Lai, Jia-Bin Huang, Narendra Ahuja, and Ming-Hsuan Yang</i>	<i>CVPR, 2017</i>
A Comparative Study for Single-Image Blind Deblurring <i>Wei-Sheng Lai, Jia-Bin Huang, Zhe Hu, and Ming-Hsuan Yang</i>	<i>CVPR, 2016</i>
Blur Kernel Estimation using Normalized Color-Line Priors <i>Wei-Sheng Lai, Jian-Jiun Ding, Yen-Yu Lin, and Yung-Yu Chuang</i>	<i>CVPR, 2015</i>
JOURNALS	
Correcting Face Distortion in Wide-Angle Videos <i>Wei-Sheng Lai, YiChang Shih, Chia-Kai Liang, and Ming-Hsuan Yang</i>	<i>TIP 2021</i>
Learning to See Through Obstructions with Layered Decomposition <i>Yu-Lun Liu*, Wei-Sheng Lai*, Ming-Hsuan Yang, Yung-Yu Chuang, and Jia-Bin Huang</i>	<i>TPAMI 2021</i>
Toward Real-World Super-Resolution via Adaptive Downsampling Models <i>Sanghyun Son*, Jaeha Kim*, Wei-Sheng Lai, Ming-Hsuan Yang, and Kyoung Mu Lee</i>	<i>TPAMI 2021</i>
Exploiting Semantics for Face Image Deblurring <i>Ziyi Shen, Wei-Sheng Lai, Tingfa Xu, Jan Kautz, and Ming-Hsuan Yang</i>	<i>IJCV 2020</i>
Dynamic Scene Deblurring by Depth Guided Model <i>Lerenhan Li, Jinshan Pan, Wei-Sheng Lai, Changxin Gao, Nong Sang, and Ming-Hsuan Yang</i>	<i>TIP 2020</i>
MEMC-Net: Motion Estimation and Motion Compensation Driven Neural Network for Video Interpolation and Enhancement <i>Wenbo Bao, Wei-Sheng Lai, Xiaoyun Zhang, Zhiyong Gao, Ming-Hsuan Yang</i>	<i>TPAMI 2019</i>
Fast and Accurate Image Super-Resolution with Deep Laplacian Pyramid Networks <i>Wei-Sheng Lai, Jia-Bin Huang, Narendra Ahuja, and Ming-Hsuan Yang</i>	<i>TPAMI 2019</i>
Semantic-driven Generation of Hyperlapse from 360° Video <i>Wei-Sheng Lai, Yujia Huang, Neel Joshi, Chris Buehler, Ming-Hsuan Yang and Sing Bing Kang</i>	<i>TVCG 2018</i>
PREPRINTS	
Vision Transformer for NeRF-Based View Synthesis from a Single Input Image <i>Kai-En Lin, Lin Yen-Chen, Wei-Sheng Lai, Tsung-Yi Lin, YiChang Shih, and Ravi Ramamoorthi</i>	<i>arXiv 2022</i>
Portrait Neural Radiance Fields from a Single Image <i>Chen Gao, YiChang Shih, Wei-Sheng Lai, Chia-Kai Liang and Jia-Bin Huang</i>	<i>arXiv 2021</i>

Academic Services

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

Honors & Awards

CVPR Doctoral Consortium Award	<i>2019</i>
Facebook PhD Fellowship Finalist	<i>2018</i>
Snap Research Fellowship Honorable Mention	<i>2017</i>
National Taiwan University Class A Scholarship	<i>2013</i>
National Taiwan University Presidential Award	<i>2009</i>