

Wei-Sheng Lai

Curriculum Vitae

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📄 <http://graduatestudents.ucmerced.edu/wlai24/>

Education

- Ph.D. Candidate **University of California, Merced, CA, USA**
2015 – Present, Electrical Engineering and Computer Science
Vision and Learning Lab [link](#)
- Masters of Science **National Taiwan University, Taipei, Taiwan**
2012 – 2014, Communication Engineering
- Bachelor of Science **National Taiwan University, Taipei, Taiwan**
2008 – 2012, Electrical Engineering

Research Interests

Computer Vision, Computational Photography, Machine Learning

Publications [\(Google Scholar profile\)](#)

- NIPS 2017 **Semi-Supervised Learning for Optical Flow with Generative Adversarial Networks**
[Wei-Sheng Lai](#), Jia-Bin Huang, and Ming-Hsuan Yang
Neural Information Processing Systems (NIPS), 2017
- TVCG 2017 **Semantic-driven Generation of Hyperlapse from 360° Video**
[Wei-Sheng Lai](#), Yujia Huang, Neel Joshi, Chris Buehler, Ming-Hsuan Yang and Sing Bing Kang
IEEE Transactions on Visualization and Computer Graphics (TVCG) [paper](#) [website](#)
- CVPR 2017 **Deep Laplacian Pyramid Networks for Fast and Accurate Super-Resolution**
[Wei-Sheng Lai](#), Jia-Bin Huang, Narendra Ahuja, and Ming-Hsuan Yang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017 [paper](#) [website](#)
- CVPR 2017 **Learning Fully Convolutional Networks for Iterative Non-blind Deconvolution**
Jiawei Zhang, Jinshan Pan, [Wei-Sheng Lai](#), Rynson Lau, Ming-Hsuan Yang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017 [paper](#)
- CVPR 2016 **A Comparative Study for Single-Image Blind Deblurring**
Spotlight [Wei-Sheng Lai](#), Jia-Bin Huang, Zhe Hu, and Ming-Hsuan Yang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016 [paper](#) [website](#)
[Talk](#)
- CVPR 2015 **Blur Kernel Estimation using Normalized Color-Line Priors**
[Wei-Sheng Lai](#), Jian-Jiun Ding, Yen-Yu Lin, and Yung-Yu Chuang
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2015 [paper](#) [website](#)
- ISCAS 2013 **Improved Structural Similarity Measurement for Vocal Signals**
[Wei-Sheng Lai](#), Chi-Jung Tseng, and Jian-Jiun Ding
IEEE International Symposium on Circuits and Systems (ISCAS), 2013 [paper](#)

Research Experience

- Research Assistant **EECS, University of California, Merced, CA, USA**
- Aug. 2015 – Present
 - Advisor: Ming-Hsuan Yang
 - Topics: Image Motion Deblurring, Image Super-Resolution, Optical Flow Estimation

- Research Intern **Nvidia Research**, Santa Clara, CA, USA
- Sep. 2017 – Nov. 2017
 - Mentors: Ming-Hsuan Yang, Jan Kautz
 - Project: Aliasing-Aware Image Super-Resolution
- Research Intern **Adobe Research**, San Jose, CA, USA
- May 2017 - Aug. 2017
 - Mentors: Ersin Yumer, Oliver Wang and Eli Shechtman
 - Project: Learning Feature Representation from Motion Tracks
- Research Intern **Microsoft Research**, Redmond, WA, USA
- May 2016 - Aug. 2016
 - Mentors: Sing Bing Kang, Neel Joshi and Chris Buehler
 - Project: Semantic-Driven Hyperlapse Generation from 360° Videos
- Research Assistant **CSIE, National Taiwan University**, Taipei, Taiwan
- Jul. 2014 – Jul. 2015
 - Advisor: Yung-Yu Chuang
 - Projects: Content-Aware Wide-angle Image Warping, Blur Kernel Estimation using Normalized Color-Line Priors
- Research Assistant **Academia Sinica**, Taipei, Taiwan
- Jul. 2014 – Jun. 2015
 - Mentor: Yen-Yu Lin
 - Projects: Convolutional Neural Network for Dimensionality Reduction, Blur Kernel Estimation using Normalized Color-Line Priors

Talks

- Invited Talk **Fast and Accurate Image Super-Resolution with Laplacian Pyramid Networks**
Advanced Computer Vision Workshop, Academia Sinica, Taipei, Taiwan, Dec. 2017.
- Guest Lecture **Deep Laplacian Pyramid Networks for Fast and Accurate Super-Resolution**
EECS282, UC Merced, USA, Aug. 2017.
- Guest Lecture **Introduction to Single-Image Super Resolution**
EECS286, UC Merced, USA, Oct. 2016.
- Spotlight Presentation **A Comparative Study for Single-Image Blind Deblurring**
CVPR, Las Vegas, USA, Jun. 2016.

Professional Activities

- Conference Reviewer
- IEEE International Conference on Computer Vision (**ICCV**), 2017
 - IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2017, 2018
 - European Conference on Computer Vision (**ECCV**), 2016
 - Asian Conference on Computer Vision (**ACCV**), 2016
 - Neural Information Processing Systems (**NIPS**), 2016
 - Pacific Graphics (**PG**), 2016
- Journal Reviewer
- IEEE Transaction on Image Processing (**TIP**)
 - IEEE Transactions on Circuits and Systems for Video Technology (**TCVST**)
 - Computer Vision and Image Understanding (**CVIU**)
 - Signal, Image and Video Processing (**SIVP**)
 - Digital Signal Processing (**DSP**)

Honors and Awards

- Award **Snap Research Fellowship, Honorable Mention Award**, Snap Inc, Dec. 2017

Scholarship **Class A Scholarship**, National Taiwan University, Sep. 2013

Top 10% of students in one academic year

Award **Presidential Award**, *Award*, National Taiwan University, Jan. 2009, Jun. 2009

Top 5% of students in one semester

Teaching Experience

Teaching Assistant **EECS, University of California**, Merced, CA, USA

- CSE 165: Object Oriented Programming [C++ Programming] (Spring 2017)
- CSE 030: Data Structure [C++ Programming] (Fall 2016)
- CSE 185: Introduction to Computer Vision [MATLAB programming] (Spring 2016)
- CSE 020: Introduction to Computing [Java Programming] (Fall 2015)

Teaching Assistant **EE/CSIE, National Taiwan University**, Taipei, Taiwan

- CSIE 7694: Digital Visual Effects (Spring 2015)
- CSIE 5098: Digital Image Synthesis (Fall 2014)
- EE 5163: Advanced Digital Signal Processing (Spring 2014)
- CommE 5030: Time-Frequency Analysis and Wavelet Transform (Fall 2013)

Technical Skills

Programming C/C++, Python

Toolbox / Software MATLAB, OpenCV, MatConvNet, Caffe, Torch, PyTorch

References

Ph.D. Advisor **Ming-Hsuan Yang**, *Professor*, University of California, Merced

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Research Mentor **Jia-Bin Huang**, *Assistant Professor*, Virginia Tech, Virginia

✉ jbhuang@vt.edu [f](#) [homepage](#)

Research Mentor **Sing Bing Kang**, *Principal Researcher*, Microsoft Research, Redmond

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Research Mentor **Yung-Yu Chuang**, *Professor*, National Taiwan University, Taiwan

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Research Mentor **Yen-Yu Lin**, *Associate Research Fellow*, Academia Sinica, Taiwan

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