

# Wei-Sheng Lai

## Curriculum Vitae

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

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## 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

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## Research Interests

Computer Vision, Computational Photography, Machine Learning

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

- CVPR 2018 **Deep Semantic Face Deblurring**  
Ziyi Shen, [Wei-Sheng Lai](#), Tingfa Xu, Jan Kautz, and Ming-Hsuan Yang  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018
- CVPR 2018 **Learning a Discriminative Prior for Blind Image Deblurring**  
Lerenhan Li, Jinshan Pan, [Wei-Sheng Lai](#), Changxin Gao, Nong Sang, and Ming-Hsuan Yang  
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2018
- 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 [📄 paper](#) [📄 website](#)
- 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](#)

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## 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

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## Talks

- Invited Talk **Semi-Supervised Learning for Optical Flow with Generative Adversarial Networks**  
CSIE, NTU, Taipei, Taiwan, Jan. 2018.
- 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.

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## 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
- o IEEE Transactions on Multimedia (**TMM**)
  - o IEEE Transaction on Image Processing (**TIP**)
  - o IEEE Transactions on Circuits and Systems for Video Technology (**TCVST**)
  - o Computer Vision and Image Understanding (**CVIU**)
  - o Signal, Image and Video Processing (**SIVP**)
  - o Digital Signal Processing (**DSP**)
  - o Neurocomputing

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## Honors and Awards

- Honorable Mention **Snap Research Fellowship**, Snap Inc, Dec. 2017
- Finalist **Facebook PhD Fellowship**, Facebook Inc, Jan. 2018
- 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

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## Teaching Experience

- Teaching Assistant **EECS, University of California**, Merced, CA, USA
- o CSE 165: Object Oriented Programming [C++ Programming] (Spring 2017)
  - o CSE 165: Object Oriented Programming [C++ Programming] (Spring 2017)
  - o CSE 030: Data Structure [C++ Programming] (Fall 2016)
  - o CSE 185: Introduction to Computer Vision [MATLAB programming] (Spring 2016)
  - o CSE 020: Introduction to Computing [Java Programming] (Fall 2015)
- Teaching Assistant **EE/CSIE, National Taiwan University**, Taipei, Taiwan
- o CSIE 7694: Digital Visual Effects (Spring 2015)
  - o CSIE 5098: Digital Image Synthesis (Fall 2014)
  - o EE 5163: Advanced Digital Signal Processing (Spring 2014)
  - o CommE 5030: Time-Frequency Analysis and Wavelet Transform (Fall 2013)

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## Technical Skills

- Programming C/C++, Python
- Toolbox / Software MATLAB, OpenCV, MatConvNet, Caffe, Torch, PyTorch

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## References

- Ph.D. Advisor **Ming-Hsuan Yang**, *Professor*, University of California, Merced  
✉ mhyang@ucmerced.edu [📄 homepage](#)
- Research Mentor **Jia-Bin Huang**, *Assistant Professor*, Virginia Tech, Virginia  
✉ jbh Huang@vt.edu [📄 homepage](#)
- Research Mentor **Sing Bing Kang**, *Principal Researcher*, Microsoft Research, Redmond  
✉ sbkang@microsoft.com [📄 homepage](#)
- Research Mentor **Yung-Yu Chuang**, *Professor*, National Taiwan University, Taiwan  
✉ cyy@csie.ntu.edu.tw [📄 homepage](#)
- Research Mentor **Yen-Yu Lin**, *Associate Research Fellow*, Academia Sinica, Taiwan  
✉ yylin@citi.sinica.edu.tw [📄 homepage](#)