

# Sifei Liu

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## Education

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<b>University of California, Merced</b> Ph.D. Student in EECS Advisor: Prof. Ming-Hsuan Yang Awarded Baidu Fellowship and UC Merced Bobcat Fellowship	Merced, CA, USA 2012 - 2017
<b>University of Science and Technology of China</b> M.S. in Electronic Science and Technology Advisor: Prof. Stan Z. Li and Bin Li	Auhui, China 2008 - 2011
<b>North China Electric Power University</b> B.S. in Control Science	Beijing, China 2004 - 2008

## Academic Experience

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<b>NVIDIA, Learning and Perception Research (LPR)</b> Research Scientist	Nov 2017 - Now
<b>NVIDIA, Learning and Perception Research (LPR)</b> Research Intern (Supervisor: Dr. Shalini De Mello and Dr. Jinwei Gu)	March 2017 - Aug 2017
<b>Chinese University of Hong Kong, Multimedia Laboratory (MMLab)</b> Visitor (Supervisor: Prof. Xiaoou Tang)	July 2015 - Dec 2015
<b>Institute of Deep Learning (IDL) in Baidu, Inc.</b> Intern (Supervisor: Dr. Chang Huang)	May 2013 - Jan 2015

## Selected Awards

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- NVIDIA Pioneering Research Award 2017
- Baidu Fellowship 2018
- Doctoral Consortium, CVPR 2016 2016
- Honorable Mention, American Mathematical Contest Modeling (MCM) 2007, 2008
- Honorable Mention, Undergraduate Electronic Design Contest, Beijing, 2006

## Peer-Reviewed Publications

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- [1] Xueting Li\*, **Sifei Liu\***, Jan Kautz and Ming-Hsuan Yang  
*Learning Linear Transformations for Fast Image and Video Style Transfer*  
in Computer Vision and Pattern Recognition (CVPR), 2019.
- [2] Xueting Li, **Sifei Liu**, Kihwan Kim, Xiaolong Wang, Ming-Hsuan Yang, and Jan Kautz  
*Putting Humans in a Scene: Learning Affordance in 3D Indoor Environments*  
in Computer Vision and Pattern Recognition (CVPR), 2019.
- [3] Wei-Chih Hung, Varun Jampani, **Sifei Liu**, Pavlo Molchanov, Ming-Hsuan Yang, and Jan Kautz  
*SCOPS: Self-Supervised Co-Part Segmentation*  
in Computer Vision and Pattern Recognition (CVPR), 2019.
- [4] **Sifei Liu**, Guangyu Zhong, Shalini De Mello, Jinwei Gu, Varun Jampani, Ming-Hsuan Yang, Jan Kautz.  
*Switchable temporal propagation network*  
in European Conference on Computer Vision (ECCV), 2018.

- [5] Xiangyu Xu, Deqing Sun, **Sifei Liu**, Wenqi Ren, Yu-Jin Zhang, Ming-Hsuan Yang, Jian Sun  
*Rendering Portraits from Monocular Camera and Beyond*  
in European Conference on Computer Vision (ECCV), 2018.
- [6] Chih-Yuan Yang, **Sifei Liu**, Ming-Hsuan Yang  
*Hallucinating compressed face images*  
in International Journal of Computer Vision (IJCV), page 1-18, 2018.
- [7] Donghoon Lee, **Sifei Liu**, Jinwei Gu, Ming-Yu Liu, Ming-Hsuan Yang, Jan Kautz  
*Context-Aware Synthesis and Placement of Object Instances*  
in Neural Information Processing Systems (NeurIPS), 2018.
- [8] Guangyu Zhong, Yi-Hsuan Tsai, **Sifei Liu**, Zhixun Su, Ming-Hsuan Yang  
*Learning Video-Story Composition via Recurrent Neural Network*  
in Winter Conference on Applications of Computer Vision (WACV), 2018.
- [9] Jinshan Pan, **Sifei Liu**, Deqing Sun, Jiawei Zhang, Yang Liu, Jimmy Ren, Zechao Li, Jinhui Tang, Huchuan Lu, Yu-Wing Tai, Ming-Hsuan Yang  
*Learning Dual Convolutional Neural Networks for Low-Level Vision*  
in Computer Vision and Pattern Recognition (CVPR), 2018.
- [10] **Sifei Liu**, Shalini De Mello, Jinwei Gu, Guangyu Zhong, Ming-Hsuan Yang, Jan Kautz.  
*Learning Affinity via Spatial Propagation Networks*  
in Neural Information Processing Systems (NeurIPS), 2017.
- [11] **Sifei Liu**, Jianping Shi, Ji Liang, Ming-Hsuan Yang  
*Face Parsing via Recurrent Propagation*  
in British Machine Vision Conference (BMVC), 2017.  
**(Spotlight Oral Presentation)**
- [12] Kihyuk Sohn, **Sifei Liu**, Guangyu Zhong, Xiang Yu, Ming-Hsuan Yang, Manmohan Chandraker  
*Unsupervised Domain Adaption for Face Recognition in Unlabeled Videos*  
in International Conference on Computer Vision (ICCV), 2017.
- [13] Jingchun Cheng, **Sifei Liu**, Yi-Hsuan Tsai, Wei-Chih Hung, Shalini De Mello, Jinwei Gu, Jan Kautz, Shengjin Wang, Ming-Hsuan Yang  
*Learning to Segment Instances in Videos with Spatial Propagation Network*  
in Computer Vision and Pattern Recognition (CVPR workshop), 2017.
- [14] Yijun Li, **Sifei Liu**, Jimei Yang, and Ming-Hsuan Yang  
*Generative Face Completion*  
in Computer Vision and Pattern Recognition (CVPR), 2017.
- [15] **Sifei Liu**, Jinshan Pan and Ming-Hsuan Yang  
*Learning Recursive Filters for Low-Level Vision via a Hybrid Neural Network*  
in European Conference on Computer Vision (ECCV), 2016.  
**(Oral Presentation)**
- [16] Shizhan Zhu, **Sifei Liu** and Chen-Change Loy  
*Deep Cascaded Bi-Network for Face Hallucination*  
in European Conference on Computer Vision (ECCV), 2016.
- [17] **Sifei Liu**, Jimei Yang, Chang Huang, and Ming-Hsuan Yang  
*Multi-Objective Convolutional Learning for Face Labeling*  
in Computer Vision and Pattern Recognition (CVPR), 2015.
- [18] **Sifei Liu**, Ming-Hsuan Yang  
*Compressed Face Hallucination*  
in International Conference on Image Processing (ICIP), 2014.  
**(Oral Presentation)**
- [19] Chih-Yuan Yang, **Sifei Liu**, and Ming-Hsuan Yang  
*Structured Face Hallucination*

in Computer Vision and Pattern Recognition (CVPR), 2013.

- [20] **Sifei Liu**, Dong Yi, Zhen Lei, Stan Z. Li  
*Heterogeneous Face Image Matching Using Multi-scale Features*  
in IAPR/IEEE conference on Biometrics (ICB), 2012.
- [21] **Sifei Liu**, Dong Yi, Bin Li, Stan Z. Li  
*Face Alignment under Partial Occlusion in Near Infrared Images*  
in Chinese Conference on Pattern Recognition (CCPR), 2012.  
**(Best Paper Candidate)**
- [22] Jianfei Zhu, Zhen Ray, **Sifei Liu**, Stan Z. Li  
*Discriminant Analysis with Gabor Phase for Robust Face Recognition*  
in IAPR/IEEE conference on Biometrics (ICB), 2012
- [23] Zhiwei Zhang, Junjie Yan, **Sifei Liu**, Zhen Lei, Dong Yi, Stan Z. Li  
*Anti-spoofing Attacks in Face Biometrics: A Comprehensive Database and A Baseline*  
in International Conference on Image Processing (ICIP), 2011.

## Talks

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- *Data-Driven Affordance Learning in 2D and 3D Scenes*  
GPU technology conference (GTC) San Jose Mar 2019
- *Context-Aware Synthesis and Placement of Object Instances*  
NTECH Engineering Conference, NVIDIA Sept 2018
- *Propagation Networks*  
Invited talk in The Jiangmen May 2018
- *Learning Affinity via Spatial and Temporal Propagation Networks*  
GPU technology conference (GTC) San Jose Mar 2018
- *Learning Affinity to Parse Images*  
PhD Thesis Defense, University of California, Merced Sept 2017
- *Learning Affinity via Spatial Propagation Networks*  
NTECH Engineering Conference, NVIDIA Sept 2017
- *Learning Recursive Filters for Low-Level Vision via a Hybrid Neural Network*  
Oral Presentation, ECCV Oct 2016  
Invited talk in The VALSE Dec 2016
- *Neural Network for Fast Face Parsing and General Low-Level Vision*  
Invited talk in NEC Lab, Cupertino July 2016
- *Learning to Parser Face Images*  
PhD Speaking Qualifier, University of California, Merced Dec 2014
- *Compressed Face Hallucination*  
Oral Presentation, ICIP Oct 2014

## Technology Transfer

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### Real-time Image and Video Style Transfer

For Nvidia Turing, 2018

### Face Beautification in *Photo Wonder*

For Baidu App, 2013

## Academic Services

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### Conference Area Chair

ICCV 2019

### Tutorial Organizer

Learning Representations via Graph-structured Networks Tutorial, CVPR 2019

### Journal Reviewer

IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)

International Journal of Computer Vision (IJCV)

Computer Vision and Image Understanding (CVIU)

IEEE Transactions on Image Processing (TIP)

### Conference Reviewer

Computer Vision and Pattern Recognition (CVPR)

European Conference on Computer Vision (ECCV)

International Conference on Computer Vision (ICCV)

Conference on Neural Information Processing Systems (NeurIPS)

International Conference on Machine Learning (ICML)

### Teaching Assistant

UCM CSE20, Introduction to Computing (Java)

2012-2015

UCM ENGR190, Capstone

2016

## Mentorship

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### Mentees

Donghoon Lee, Seoul National University

Feb-June 2018

Xueting Li, University of California, Merced

May-Dec 2018

### Thesis committee member

Xueting Li

TBD

University of California, Merced, EECS PhD, *Advisor*: Ming-Hsuan Yang