



# Li Niu

---

**CONTACT INFORMATION** Department of Computer Science and Engineering  
Shanghai, China  18117093509  
 ustcnewly@gmail.com

**RESEARCH INTERESTS** Image composition, Image synthesis and editing

**EDUCATION** **Nanyang Technological University (NTU)** Aug 2013 – Mar 2017

- *Ph.D.* in Computer Science and Engineering
- GPA: 4.5/5.0

**University of Science and Technology of China (USTC)** Sep 2007 – Jul 2011

- *B.Sci.* in Computer Science
- GPA: 87.26/100 Rank: 7/155 (5%)

**PROFESSIONAL EXPERIENCE** **Shanghai Jiaotong University, Shanghai, China** Sep 2018 – present

- *Associate Professor*
- Leading a research lab with 10+ graduate students in Shanghai Jiao Tong University, one of top 5 universities in China. The research projects in my lab involve a wide range of learning paradigms and computer vision tasks. The representative research works are concentrated in image/video composition.

**Rice University, Houston, TX, U.S.** Apr 2017 – Aug 2018

- *Postdoc Associate*
- Working on FLASH (Family-Level Assessment of Screen use in the Home): create a platform to automatically, accurately and non-intrusively monitor the screen time usage of adults and children in their homes. Involved technics are including but not limited to face detection, face tracking, face recognition, and gaze estimation.

**Amazon, Berlin, Germany** Jul 2016 – Oct 2016

- *Research Scientist Intern*
- Developing computer vision algorithms for “Amazon Fresh” project, specifically, exploiting multi-instance learning techniques for produce (*i.e.*, fruit and vegetable) quality classification and defect localization based on multi-spectrum image.

**Nanyang Technological University, Singapore** Aug 2013 – Mar 2017

- *Ph.D. Candidate*
- Developing algorithms on learning from loosely labeled heterogeneous web data (*e.g.*, images, videos, and text) or multi-view data (*e.g.*, RGB-D data) for computer vision tasks (*e.g.*, image classification, video action recognition, and video event recognition).

**Stony Brook University, New York, U.S.** Sep 2011 – May 2013

- *Research Assistant*

- Working on Flora-2 compiler in SILK (Semantic Inferencing on Large Knowledge) project, which is an advanced object-oriented reasoning system based on F-logic, HiLog, and Transaction logic.

**Motorola Solutions**, Shanghai, China

Feb 2011 – Jun 2011

- *Engineer Intern*
- Developing a software which can extract the textual region from a photo of envelope based on template matching.

**Chinese Academy of Sciences**, Beijing, China

Jul 2010 – Jan 2011

- *Engineer Intern*
- Developing a tool for visualizing the decoding procedure in machine translation and another tool for multi-lingual sentence segmentation/alignment.

**University of Sci. and Tech. of China**, Hefei, China

Oct 2009 – May 2010

- *B.Sci. Candidate*
- Working on AOAB (Automated Optimization Algorithm Benchmarking) system which can evaluate the genetic algorithms uploaded by users on benchmark functions and then send the feedback report to users automatically.

## JOURNAL PUBLICATIONS

- Zhangxuan Gu, Ziyuan Zhou, **Li Niu\***, Zihan Zhao, Liqing Zhang\*. "From Pixel to Patch: Synthesize Context-aware Features for Zero-shot Semantic Segmentation." *accepted by IEEE Transactions on Neural Networks and Learning Systems (T-NNLS)*, 2022.
- Junjie Chen, **Li Niu\***, Liqing Zhang\*. "Depth Privileged Scene Recognition via Dual Attention Hallucination." *accepted by IEEE Transactions on Image Processing (T-IP)*, 2021.
- Jiangtong Li, Liu Liu, **Li Niu\***, Liqing Zhang\*. "Memorize, Associate and Match: Embedding Enhancement via Fine-grained Alignment for Image-Text Retrieval." *accepted by IEEE Transactions on Image Processing (T-IP)*, 2021.
- Zhangxuan Gu, **Li Niu\***, Haohua Zhao, Liqing Zhang\*. "Hard Pixel Mining for Depth Privileged Semantic Segmentation." *accepted by IEEE Transactions on Multimedia (T-MM)*, 2020.
- Jianfu Zhang, **Li Niu\***, Liqing Zhang\*. "Person Re-Identification with Reinforced Attribute Attention Selection." *accepted by IEEE Transactions on Image Processing (T-IP)*, 2020.
- **Li Niu**, Jianfei Cai, and Ashok Veeraraghavan. "Zero-Shot Learning via Category-Specific Visual-Semantic Mapping." *accepted by IEEE Transactions on Image Processing (T-IP)*, 2018.
- **Li Niu**, Wen Li, Dong Xu, and Jianfei Cai. "An Exemplar-based Multi-view Domain Generalization Framework for Visual Recognition." *accepted by IEEE Transactions on Neural Networks and Learning Systems (T-NNLS)*, 2017.
- **Li Niu**, Wen Li, and Dong Xu. "Visual Recognition by Learning from Web Data via Weakly Supervised Domain Generalization." *accepted by IEEE Transactions on Neural Networks and Learning Systems (T-NNLS)*, 2016.

- **Li Niu**, Wen Li, and Dong Xu. "Exploiting Privileged Information from Web Data for Action and Event Recognition." *accepted by International Journal of Computer Vision (IJCV)*, 2015.
- **Li Niu**, Xinxing Xu, Lin Chen, Lixin Duan, and Dong Xu. "Action and Event Recognition in Videos by Learning from Heterogeneous Web Sources." *accepted by IEEE Transactions on Neural Networks and Learning Systems (T-NNLS)*, 2015.

#### CONFERENCE PUBLICATIONS

- Bo Zhang, Jiacheng Sui, **Li Niu**\*. "Foreground Object Search by Distilling Composite Image Feature." *accepted by Proceedings of IEEE International Conference on Computer Vision (ICCV)*, 2023.
- Jiangtong Li, **Li Niu**\*, Liqing Zhang\*. "Knowledge Proxy Intervention for Deconfounded Video Question Answering." *accepted by Proceedings of IEEE International Conference on Computer Vision (ICCV)*, 2023.
- **Li Niu**\*, Junyan Cao, Wenyan Cong, Liqing Zhang. "Deep Image Harmonization with Learnable Augmentation." *accepted by Proceedings of IEEE International Conference on Computer Vision (ICCV)*, 2023.
- **Li Niu**\*, Linfeng Tan, Xinhao Tao, Junyan Cao, Fengjun Guo, Teng Long, Liqing Zhang. "Deep Image Harmonization with Globally Guided Feature Transformation and Relation Distillation." *accepted by Proceedings of IEEE International Conference on Computer Vision (ICCV)*, 2023.
- **Li Niu**\*, Xing Zhao, Bo Zhang, Liqing Zhang. "Fine-grained Visible Watermark Removal." *accepted by Proceedings of IEEE International Conference on Computer Vision (ICCV)*, 2023.
- Chao Wang, **Li Niu**\*, Bo Zhang, Liqing Zhang\*. "Image Cropping with Spatial-aware Feature and Rank Consistency." *accepted by Proceedings of IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.
- Ziqi Pan, **Li Niu**\*, Liqing Zhang\*. "UniGAN: Reducing Mode Collapse in GANs using a Uniform Generator." *accepted by Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- Junjie Chen, **Li Niu**\*, Siyuan Zhou, Jianlou Si, Chen Qian, Liqing Zhang\*. "Weak-shot Semantic Segmentation via Dual Similarity Transfer." *accepted by Advances in Neural Information Processing Systems (NeurIPS)*, 2022.
- Siyuan Zhou, Liu Liu, **Li Niu**\*, Liqing Zhang. "Learning Object Placement via Dual-path Graph Completion." *accepted by Proceedings of European Conference on Computer Vision (ECCV)*, 2022.
- Bo Zhang, **Li Niu**\*, Xing Zhao, Liqing Zhang. "Human-centric Image Cropping with Partition-aware and Content-preserving Features." *accepted by Proceedings of European Conference on Computer Vision (ECCV)*, 2022.
- Yan Hong, **Li Niu**\*, Jianfu Zhang, Liqing Zhang. "Towards Diverse Few-shot Image Generation with Sample-Specific Delta." *accepted by Proceedings of European Conference on Computer Vision (ECCV)*, 2022.
- Wenyan Cong, Xinhao Tao, **Li Niu**\*, Jing Liang, Xuesong Gao, Qihao Sun, Liqing Zhang\*. "High-Resolution Image Harmonization via Collaborative Dual Transformations." *accepted by Proceedings of IEEE International Conference on Computer Vision*

and Pattern Recognition (CVPR), 2022.

- Jiangtong Li, **Li Niu**\*, Liqing Zhang\*. "From Representation to Reasoning: Towards both Evidence and Commonsense Reasoning for Video Question-Answering." *accepted by Proceedings of IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022.
- Wentao Wang, **Li Niu**\*, Jianfu Zhang, Xue Yang, Liqing Zhang\*. "Dual-path Image Inpainting with Auxiliary GAN Inversion." *accepted by Proceedings of IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2022.
- Yan Liu, Zhijie Zhang, **Li Niu**\*, Junjie Chen, Liqing Zhang\*. "Mixed Supervised Object Detection by Transferring Mask Prior and Semantic Similarity." *accepted by Advances in Neural Information Processing Systems (NeurIPS)*, 2021.
- Junjie Chen, **Li Niu**\*, Liu Liu, Liqing Zhang\*. "Weak-shot Fine-grained Classification via Similarity Transfer." *accepted by Advances in Neural Information Processing Systems (NeurIPS)*, 2021.
- Wentao Wang, Jianfu Zhang, **Li Niu**\*, Haoyu Ling, Xue Yang, Liqing Zhang\*. "Parallel Multi-Resolution Fusion Network for Image Inpainting." *accepted by Proceedings of IEEE International Conference on Computer Vision (ICCV)*, 2021.
- Wenyan Cong, Jianfu Zhang, **Li Niu**\*, Liu Liu, Zhixin Ling, Weiyuan Li, Liqing Zhang. "DoveNet: Deep Image Harmonization via Domain Verification." *accepted by Proceedings of IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020.
- Yi Tu, **Li Niu**\*, Junjie Chen, Dawei Cheng, Liqing Zhang\*. "Learning from Noisy Web Data with Category-level Supervision." *accepted by Proceedings of IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020.
- **Li Niu**, Qingtao Tang, Ashok Veeraraghavan, and Ashu Sabharwal. "Learning from Noisy Web Data with Category-level Supervision." *accepted by Proceedings of IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018.
- **Li Niu**, Ashok Veeraraghavan, and Ashu Sabharwal. "Webly Supervised Learning Meets Zero-shot Learning: A Hybrid Approach for Fine-grained Classification." *accepted by Proceedings of IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2018.
- **Li Niu**, Jianfei Cai, and Dong Xu. "Domain Adaptive Fisher Vector for Visual Recognition." *accepted by Proceedings of European Conference on Computer Vision (ECCV)*, 2016.
- **Li Niu**, Wen Li, and Dong Xu. "Multi-view Domain Generalization for Visual Recognition." *accepted by Proceedings of IEEE International Conference on Computer Vision (ICCV)*, 2015.
- **Li Niu**, Wen Li, and Dong Xu. "Visual Recognition by Learning from Web Data: A Weakly Supervised Domain Generalization Approach." *accepted by Proceedings of IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)*, 2015.
- **Li Niu**#, Wen Li#, and Dong Xu. "Exploiting Privileged Information from Web Data for Image Categorization." *accepted by Proceedings of European Conference on Computer Vision (ECCV)*, 2014.