

Xihui Liu

Assistant Professor at The University of Hong Kong

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[Google Scholar Link](#)

Employment

- 07/2022-now **The University of Hong Kong**
Assistant Professor at the Department of Electronic and Electrical Engineering and Institute of Data Science.
- 08/2021-07/2022 **UC Berkeley**
Postdoc in EECS Department and Berkeley Artificial Intelligence Research (BAIR)
Advisor: Prof. Trevor Darrell

Education

- 07/2021 **The Chinese University of Hong Kong**
Ph.D. in Electronic Engineering.
Advisors: Prof. Xiaogang Wang, Prof. Hongsheng Li.
- 07/2017 **Tsinghua University**
B.Eng. in Electronic Engineering.
Outstanding Graduate Award.

Publications

- [1] Back to the Source: Diffusion-Driven Test-Time Adaptation
Jin Gao*, Jialing Zhang*, **Xihui Liu**, Trevor Darrell, Evan Shelhamer*, Dequan Wang*.
arXiv 2022.
- [2] MILES: Visual BERT Pre-training with Injected Language Semantics for Video-text Retrieval
Yuying Ge, Yixiao Ge, **Xihui Liu**, Alex Jinpeng Wang, Jianping Wu, Ying Shan, Xiaohu Qie, Ping Luo.
European Conference on Computer Vision (ECCV) 2022.
- [3] Bridging Video-text Retrieval with Multiple Choice Questions
Yuying Ge, Yixiao Ge, **Xihui Liu**, Dian Li, Ying Shan, Xiaohu Qie, Ping Luo.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2022.
- [4] More Control for Free! Image Synthesis with Semantic Diffusion Guidance
Xihui Liu, Dong Huk Park, Samaneh Azadi, Gong Zhang, Arman Chopikyan, Yuxiao Hu, Humphrey Shi, Anna Rohrbach, Trevor Darrell.
arXiv 2021.
- [5] Benchmark for Compositional Text-to-Image Synthesis
Dong Huk Park*, Samaneh Azadi*, **Xihui Liu**, Trevor Darrell, Anna Rohrbach. (* equal contribution)
Conference on Neural Information Processing Systems (NeurIPS) Dataset and Benchmark Track, 2021.

- [6] Open-Edit: Open-Domain Image Manipulation with Open-Vocabulary Instructions
Xihui Liu, Zhe Lin, Jianming Zhang, Handong Zhao, Quan Tran, Xiaogang Wang, Hongsheng Li.
European Conference on Computer Vision (ECCV), 2020.
- [7] Learning to Predict Layout-to-image Conditional Convolutions for Semantic Image Synthesis
Xihui Liu, Guojun Yin, Jing Shao, Xiaogang Wang, Hongsheng Li.
Conference on Neural Information Processing Systems (NeurIPS), 2019.
- [8] CAMP: Cross-Modal Adaptive Message Passing for Text-Image Retrieval
Zihao Wang*, **Xihui Liu***, Hongsheng Li, Lu Sheng, Junjie Yan, Xiaogang Wang, Jing Shao. (* equal contribution)
IEEE International Conference on Computer Vision (ICCV), 2019.
- [9] Improving Referring Expression Grounding with Cross-modal Attention-guided Erasing
Xihui Liu, Zihao Wang, Hongsheng Li, Jing Shao, Xiaogang Wang.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019.
- [10] Show, Tell and Discriminate: Image Captioning by Self-Retrieval with Partially Labeled Data
Xihui Liu, Hongsheng Li, Jing Shao, Dapeng Chen, Xiaogang Wang.
European Conference on Computer Vision (ECCV), 2018.
- [11] Improving Deep Visual Representation for Person Re-identification by Global and Local Image-Language Association
Dapeng Chen, Hongsheng Li, **Xihui Liu**, Yantao Shen, Jing Shao, Zejian Yuan, Xiaogang Wang.
IEEE International Conference on Computer Vision (ICCV), 2018.
- [12] Localization Guided Learning for Pedestrian Attribute Recognition
Pengze Liu, **Xihui Liu**, Junjie Yan, Jing Shao.
British Machine Vision Conference (BMVC), 2018.
- [13] Hydraplus-Net: Attentive Deep Features for Pedestrian Analysis
Xihui Liu*, Haiyu Zhao*, Maoqing Tian, Lu Sheng, Jing Shao, Shuai Yi, Junjie Yan, Xiaogang Wang. (* equal contribution)
IEEE International Conference on Computer Vision (ICCV), 2017.
- [14] Orientation Invariant Feature Embedding and Spatial Temporal Regularization for Vehicle Re-identification
Zhongdao Wang, Luming Tang, **Xihui Liu**, Zhuliang Yao, Shuai Yi, Jing Shao, Junjie Yan, Shengjin Wang, Hongsheng Li, Xiaogang Wang.
IEEE International Conference on Computer Vision (ICCV), 2017.
- [15] Object Detection in Videos with Tubelet Proposal Networks
Kai Kang, Hongsheng Li, Tong Xiao, Wanli Ouyang, Junjie Yan, **Xihui Liu**, Xiaogang Wang.
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017.

Awards and Honors

- 2022 WAIC Rising Star Award.
- 2021 **MIT EECS Rising Stars**.
- 2021 CVPR Doctoral Consortium (mentored by Prof. Antonio Torralba at MIT).
- 2021 ICLR Outstanding Reviewer Award.
- 2020 **Adobe Research Fellowship** (10 awardees globally each year).

- 2019 CVPR Outstanding Reviewer Award.
- 2017 Outstanding Graduate in Tsinghua University.
- 2016 Champion of ImageNet Video Object Detection Challenge (as a member of CUVideo team)
- 2014,2015,2016 Comprehensive Excellent Scholarship in Tsinghua University
- 2016 Research and Innovation Scholarship in Tsinghua University
- 2014,2015,2016 Academic Scholarship in Tsinghua University
- 2012 First Price in High-School National Mathematical Olympiad in China

Research Internships

- 2020 summer Research Intern in NVIDIA Research
Mentors: Dr. Ming-Yu Liu and Dr. Ting-Chun Wang
- 2019 summer Research Intern in Adobe Research
Mentors: Dr. Zhe Lin, Dr. Jianming Zhang, Dr. Handong Zhao, Dr. Quan Tran.
- 2016 summer Research Assistant at The Chinese University of Hong Kong
Advisor: Prof. Xiaogang Wang.

Professional Services

Conference Reviewer:

- 2022 Conference on Neural Information Processing Systems (NeurIPS)
- 2022 International Conference on Machine Learning (ICML)
- 2022 European Conference on Computer Vision (ECCV)
- 2022 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- 2022 AAAI Conference on Artificial Intelligence (AAAI)
- 2021 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- 2021 IEEE International Conference on Computer Vision (ICCV)
- 2021 Conference on Neural Information Processing Systems (NeurIPS)
- 2021 International Conference on Machine Learning (ICML)
- 2021 International Conference on Learning Representations (ICLR)
- 2021 AAAI Conference on Artificial Intelligence (AAAI)
- 2020 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- 2020 European Conference on Computer Vision (ECCV)
- 2020 Conference on Neural Information Processing Systems (NeurIPS)
- 2020 International Conference on Learning Representations (ICLR)
- 2020 AAAI Conference on Artificial Intelligence (AAAI)
- 2019 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- 2019 IEEE International Conference on Computer Vision (ICCV)
- 2019 Conference on Neural Information Processing Systems (NeurIPS)

Journal Reviewer (20+ times):

- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- International Journal of Computer Vision (IJCV)
- IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)
- IEEE Transactions on Multimedia (TMM)

Teaching Experiences

Teaching assistant of the following courses at CUHK:

- Spring 2021 ENGG 2740A, Differential Equations for Engineers.
- Fall 2020 ENGG 2450A, Probability and Statistics for Engineers.
- Spring 2020 ENGG 5202, Pattern Recognition.
- Fall 2019 ENGG 2420B, Complex Analysis and Differential Equations for Engineers.
- Spring 2019 ELEG 5491, Introduction to Deep Learning.
- Fall 2018 ELEG 5760, Machine Learning for Signal Processing Applications.
- Summer 2018 Potential Inspiration of Electronic Engineering.
- Spring 2018 ENGG 2450A, Probability and Statistics for Engineers.
- Fall 2017 ENGG 5202, Pattern Recognition.