Huiyu Wang

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EDUCATION	**Johns Hopkins University** Ph.D. in Computer Science Advisor: Alan Yuille	Aug 2017 - Dec 2021
	University of California, Los Angeles M.S. in Electrical Engineering GPA: 3.97 / 4.00	Sep 2015 - Dec 2016
	Shanghai Jiao Tong University B.S. in Information Engineering GPA: 90.0 / 100.0	Sep 2011 - Jun 2015
EXPERIENCE	**Facebook AI Research (FAIR), Meta**, New York, NY Research Scientist Manager: Lorenzo Torresani	Feb 2022 - present
	Google Research, Remote Student Researcher Mentors: Liang-Chieh Chen, Yukun Zhu	Aug 2019 - Aug 2021
	Google Research, Seattle, WA Research Intern Mentors: Yukun Zhu, Liang-Chieh Chen	May 2019 - Aug 2019
	Allen Institute for Artificial Intelligence, Seattle, WA Research Intern *AI2 Outstanding Intern of 2018 Award* Mentors: Mohammad Rastegari, Aniruddha Kembhavi, Ali Farhadi	May 2018 - Aug 2018
	Johns Hopkins University, Baltimore, MD Research Assistant Advisor: Alan Yuille	Feb 2017 - Jun 2017
	TuSimple, San Diego, CA Research Engineering Intern Mentor: Xiaodi Hou	Jun 2016 - Nov 2016
	University of California, Los Angeles, Los Angeles, CA Research Assistant Advisors: Ying Nian Wu, Song-Chun Zhu	Apr 2016 - Jun 2016
	Shanghai Jiao Tong University, Shanghai, China Undergraduate Researcher Advisor: Li Song	Dec 2014 - Jun 2015
PH.D. THESIS	**Huiyu Wang**. On Modeling Long-Range Dependencies for Visual Perception. Ph.D. thesis, Johns Hopkins University, Baltimore, MD, January 2022. 230 pages.	

REFEREED
PUBLICATIONS

Yale Song, Gene Byrne, Tushar Nagarajan, **Huiyu Wang**, Miguel Martin, and Lorenzo Torresani. Ego4D Goal-Step: Toward Hierarchical Understanding of Procedural Activities. In *Advances in Neural Information Processing Systems 36: Annual Conference on Neural Information Processing Systems (NeurIPS)*, New Orleans, LA, December 10-16, 2023. **(Spotlight)**

Triantafyllos Afouras, Effrosyni Mavroudi, Tushar Nagarajan, **Huiyu Wang**, and Lorenzo Torresani. HT-Step: Aligning Instructional Articles with How-To Videos. In *Advances in Neural Information Processing Systems 36: Annual Conference on Neural Information Processing Systems (NeurIPS)*, New Orleans, LA, December 10-16, 2023.

Huiyu Wang, Mitesh Kumar Singh, and Lorenzo Torresani. Ego-Only: Egocentric Action Detection without Exocentric Transferring. In *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, pages 5227–5238, Paris, France, October 1-6, 2023.

Chen Wei, Karttikeya Mangalam, Po-Yao Huang, Yanghao Li, Haoqi Fan, Hu Xu, **Huiyu Wang**, Cihang Xie, Alan Yuille, and Christoph Feichtenhofer. Diffusion Models as Masked Autoencoders. In *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, pages 16238–16248, Paris, France, October 1-6, 2023.

Yuanze Lin, Chen Wei, **Huiyu Wang**, Alan Yuille, and Cihang Xie. SMAUG: Sparse Masked Autoencoder for Efficient Video-Language Pre-training. In *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, pages 2459–2469, Paris, France, October 1-6, 2023.

Boxiang Yun, Baiying Lei, Jieneng Chen, **Huiyu Wang**, Song Qiu, Wei Shen, Qingli Li, and Yan Wang. SpecTr: Spectral Transformer for Microscopic Hyperspectral Pathology Image Segmentation. *IEEE Transactions on Circuits and Systems for Video Technology*, 2023.

Yutong Bai, Zeyu Wang, Junfei Xiao, Chen Wei, **Huiyu Wang**, Alan Yuille, Yuyin Zhou, and Cihang Xie. Masked Autoencoders Enable Efficient Knowledge Distillers. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 24256–24265, Vancouver, BC, Canada, June 17-24, 2023.

Qihang Yu, **Huiyu Wang**, Siyuan Qiao, Maxwell Collins, Yukun Zhu, Hartwig Adam, Alan Yuille, and Liang-Chieh Chen. k-means Mask Transformer. In Shai Avidan, Gabriel J. Brostow, Moustapha Cissé, Giovanni Maria Farinella, and Tal Hassner, editors, *Proceedings of the 17th European Conference on Computer Vision (ECCV)*, volume 13689 of *Lecture Notes in Computer Science*, pages 288-307, Tel Aviv, Israel, Springer, Cham, October 23-27, 2022.

Feng Wang, **Huiyu Wang**, Chen Wei, Alan Yuille, and Wei Shen. CP2: Copy-Paste Contrastive Pretraining for Semantic Segmentation. In Shai Avidan, Gabriel J. Brostow, Moustapha Cissé, Giovanni Maria Farinella, and Tal Hassner, editors, *Proceedings of the 17th European Conference on Computer Vision (ECCV)*, volume 13690 of *Lecture Notes in Computer Science*, pages 499-515, Tel Aviv, Israel, Springer, Cham, October 23-27, 2022.

Xianhang Li, **Huiyu Wang**, Chen Wei, Jieru Mei, Alan Yuille, Yuyin Zhou, and Cihang Xie. In Defense of Image Pre-Training for Spatiotemporal Recognition. In Shai Avidan, Gabriel J. Brostow, Moustapha Cissé, Giovanni Maria Farinella, and Tal Hassner, editors, *Proceedings of the 17th European Conference on Computer Vision*

(ECCV), volume 13685 of *Lecture Notes in Computer Science*, pages 675-691, Tel Aviv, Israel, Springer, Cham, October 23-27, 2022.

Qihang Yu, **Huiyu Wang**, Dahun Kim, Siyuan Qiao, Maxwell Collins, Yukun Zhu, Hartwig Adam, Alan Yuille, and Liang-Chieh Chen. CMT-DeepLab: Clustering Mask Transformers for Panoptic Segmentation. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 2560-2570, New Orleans, LA, June 18-24, 2022. **(Oral)**

Dahun Kim, Jun Xie, **Huiyu Wang**, Siyuan Qiao, Qihang Yu, Hong-Seok Kim, Hartwig Adam, In So Kweon, and Liang-Chieh Chen. TubeFormer-DeepLab: Video Mask Transformer. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 13914-13924, New Orleans, LA, June 18-24, 2022.

Sucheng Ren, **Huiyu Wang**, Zhengqi Gao, Shengfeng He, Alan Yuille, Yuyin Zhou, and Cihang Xie. A Simple Data Mixing Prior for Improving Self-Supervised Learning. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 14595-14604, New Orleans, LA, June 18-24, 2022.

Jinghao Zhou, Chen Wei, **Huiyu Wang**, Wei Shen, Cihang Xie, Alan Yuille, and Tao Kong. iBOT: Image BERT Pre-Training with Online Tokenizer. In *Proceedings of the Tenth International Conference on Learning Representations (ICLR)*, Virtual, OpenReview.net, April 25-29, 2022.

Huaijin Pi, **Huiyu Wang**, Yingwei Li, Zizhang Li, and Alan Yuille. Searching for TrioNet: Combining Convolution with Local and Global Self-Attention. In *Proceedings of the 32nd British Machine Vision Conference (BMVC)*, page 141, Virtual, BMVA Press, November 22-25, 2021.

Huiyu Wang, Yukun Zhu, Hartwig Adam, Alan Yuille, and Liang-Chieh Chen. MaX-DeepLab: End-to-End Panoptic Segmentation with Mask Transformers. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 5463-5474, Virtual, Nashville, TN, June 19-25, 2021.

Chen Wei, **Huiyu Wang**, Wei Shen, and Alan Yuille. CO2: Consistent Contrast for Unsupervised Visual Representation Learning. In *Proceedings of the 9th International Conference on Learning Representations (ICLR)*, Virtual, Vienna, Austria, OpenReview.net, May 3-7, 2021.

Huiyu Wang, Yukun Zhu, Bradley Green, Hartwig Adam, Alan Yuille, and Liang-Chieh Chen. Axial-DeepLab: Stand-Alone Axial-Attention for Panoptic Segmentation. In Andrea Vedaldi, Horst Bischof, Thomas Brox, and Jan-Michael Frahm, editors, *Proceedings of the 16th European Conference on Computer Vision (ECCV)*, volume 12349 of *Lecture Notes in Computer Science*, pages 108-126, Glasgow, UK, Springer, Cham, August 23-28, 2020. **(Spotlight)**

Adam Kortylewski, Qing Liu, **Huiyu Wang**, Zhishuai Zhang, and Alan Yuille. Combining Compositional Models and Deep Networks For Robust Object Classification under Occlusion. In *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, pages 1333-1341, Snowmass Village, CO, March 1-5, 2020. **(Spotlight)**

Qing Liu, Lingxi Xie, **Huiyu Wang**, and Alan Yuille. Semantic-Aware Knowledge

Preservation for Zero-Shot Sketch-Based Image Retrieval. In *Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*, pages 3662-3671, Seoul, South Korea, October 27 - November 2, 2019.

Adam Kortylewski, Qing Liu, **Huiyu Wang**, Zhishuai Zhang, and Alan Yuille. Localizing Occluders with Compositional Convolutional Networks. In *Proceedings of the IEEE/CVF International Conference on Computer Vision Workshop (ICCVW)*, pages 2029-2032, Seoul, South Korea, October 27-28, 2019.

Huiyu Wang, Aniruddha Kembhavi, Ali Farhadi, Alan Yuille, and Mohammad Rastegari. ELASTIC: Improving CNNs with Dynamic Scaling Policies. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 2258-2267, Long Beach, CA, June 16-20, 2019. **(Oral)**

Zhixuan Wei, Weidong Chen, Jingchuan Wang, **Huiyu Wang**, and Kang Li. Semantic Mapping for Safe and Comfortable Navigation of a Brain-Controlled Wheelchair. In Jangmyung Lee, Min Cheol Lee, Honghai Liu, and Jee-Hwan Ryu, editors, *Proceedings of the 6th International Conference on Intelligent Robotics and Applications (ICIRA)*, volume 8102 of *Lecture Notes in Computer Science*, pages 307-317, Busan, South Korea, Springer, Berlin, Heidelberg, September 25-28, 2013.

TECHNICAL REPORTS

Mark Weber[*], **Huiyu Wang**[*], Siyuan Qiao[*], Jun Xie, Maxwell D. Collins, Yukun Zhu, Liangzhe Yuan, Dahun Kim, Qihang Yu, Daniel Cremers, Laura Leal-Taixe, Alan Yuille, Florian Schroff, Hartwig Adam, and Liang-Chieh Chen. DeepLab2: A TensorFlow Library for Deep Labeling. *Computing Research Repository*, arXiv:2106.09748, June 2021.

Liang-Chieh Chen, **Huiyu Wang**, and Siyuan Qiao. Scaling Wide Residual Networks for Panoptic Segmentation. *Computing Research Repository*, arXiv:2011.11675, November 2020.

Siyuan Qiao, **Huiyu Wang**, Chenxi Liu, Wei Shen, and Alan Yuille. Micro-batch training with batch-channel normalization and weight standardization. *Computing Research Repository*, arXiv:1903.10520, August 2020.

Siyuan Qiao, **Huiyu Wang**, Chenxi Liu, Wei Shen, and Alan Yuille. Rethinking Normalization and Elimination Singularity in Neural Networks. *Computing Research Repository*, arXiv:1911.09738, November 2019.

Siyuan Qiao, **Huiyu Wang**, Chenxi Liu, Wei Shen, and Alan Yuille. Weight Standardization. *Computing Research Repository*, arXiv:1903.10520, March 2019.

FELLOWSHIPS AND AWARDS

Top Reviewer, NeurIPS	2022
Outstanding Reviewer, CVPR	2021
Outstanding Reviewer, ECCV	2020
AI2 Outstanding Intern	2018
The SCSK® Scholarship	2014
2nd prize, National Undergraduate Electronic Design Contest	2013
1st prize, TI® Cup Electronic Design Contest of SJTU	2013
Academic Excellence Scholarship, 2nd class, SJTU	2012, 2013, 2014

SKILLS

Programming Languages:	Python, C++, Java, Matlab, C#, LaTeX
Deep Learning Tools:	PyTorch, TensorFlow, MXNet, Caffe

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