

Jingdong Wang

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Education

Ph.D, Computer Science 2004.09 - 2007.08
The Hong Kong University of Science and Technology

M.Eng, Automation 2001.09 - 2004.07
Tsinghua University
Excellent master degree thesis award

B.Eng, Automation (Rank: 1/150) 1997.09 - 2001.07
Tsinghua University

Research Interests

Computer vision and multimedia search

Neural architecture design, human pose estimation, semantic segmentation, object detection, image classification, large scale indexing, large scale image search, salient object detection.

Machine learning and pattern recognition

Large scale learning, graph-based learning, probabilistic graphical modeling, kernel methods, spectral clustering.

Work Experience

Chief Architect for Computer Vision 2021.09 - present
AI Group, Baidu

Senior Principal Research Manager (formerly Principal Research Manager) 2019.09 - 2021.08
Microsoft Research Asia

Ph.D Supervisor 2017.09 - present
University of Science and Technology, China

Principal Researcher (formerly Senior Researcher) 2017.09 - 2019.08
Microsoft Research Asia

Principal Researcher (formerly Lead Researcher) 2015.09 - 2017.08
Microsoft Research Asia

Senior Researcher (formerly Lead Researcher) 2013.09 - 2015.08
Microsoft Research Asia

Senior Researcher (formerly Researcher) 2012.03 - 2013.08
Microsoft Research Asia

Researcher (formerly Associate Researcher) 2007.09 - 2012.02

Microsoft Research Asia

Research and Teaching Assistants 2004.09 - 2007.08
The Hong Kong University of Science and Technology
Advisor: Long Quan

Research Intern 2005.07 - 2005.12
Microsoft Research Asia 2003.09 - 2004.05
Mentor: Heung-Yeung Shum

Research Assistant 2001.09 - 2004.07
Tsinghua University
Advisor: Changshui Zhang

Professional Activities

Area/track chair

AAAI 2022, CVPR 2021, AAAI 2021, IJCAI 2021, ECCV 2020, CVPR 2020, IJCAI 2020, ICCV 2019, IJCAI 2019, ACMMM 2018, ICCV 2017, CVPR 2017, ECCV 2016, ACMMM 2015, ICPR 2018, ICIP 2017, ICME 2015, ICME 2012

Senior programme committee member

AAAI 2019, IJCAI 2018, AAAI 2018

Conference organizers

ACMMM 2021, open source software chair

ACMMM Asia 2020, general chair

ICME 2019, workshop co-chair

ACM ICMR 2014, special session co-chair

Associate editors/editorial board members

International Journal of Computer Vision (Aug. 2021 -)

IEEE Transactions on Pattern Analysis and Machine Intelligence (Sept. 2018 -)

IEEE Transactions on Circuits and Systems for Video Technology (Jan. 2018 -)

IEEE Transactions on Multimedia (May 2016 - May 2020)

Neurocomputing (April 2015 - May 2017)

Multimedia Tools and Applications (October 2011 -)

Workshop organizers

The 2nd workshop and challenge on Target Re-Identification and Multi-Target Multi-Camera Tracking (CVPR 2019)

The 2nd International Workshop on Deep Learning for Pattern Recognition (DLPR2018), (ICPR 2018)

The 1st workshop on Target Re-Identification and Multi-Target Multi-Camera Tracking (CVPR 2017)

The 1st International Workshop on Deep Learning for Pattern Recognition (DLPR2016), (ICPR 2016)

Big Media Data: Understanding, Search, and Mining (ICDM 2015)

Advances in LargeScale Multimedia Data Collection, Mining and Retrieval (ICME 2012)

Special issue guest editor

Fine-grained image categorization (*IEEE Trans. Pattern Anal. Mach. Intell.*, ongoing)

Intelligent urban computing with big data (*Machine Vision and Applications*, 2017)

Big Media Data: Understanding, Search, and Mining (*IEEE Transactions on Big Data*, 2016)

Ad Hoc Web Multimedia Analysis with Limited Supervision (*Multimedia Tools and Applications*, 2015)

Programme committee members or conference reviewers

ICML (2018), ICLR (2018 - 2019), CVPR (2009 - 2016, 2018), ICCV (2007/09/11/13/15), ECCV (2010/12/14), ACMMM (2009/12/13/14/17), NIPS (2014 - 2018) SIGIR (2011/13), SIGGRAPH Asia (2010), SIGKDD (2010), SIGCHI (2010), IJCAI (2011/13), ICMR (2011/12), ICME (2009/10/11), CIVR (2010), IJCNN (2007/09), ACCV (2007), ICPR (2006)

Journal reviewers

TPAMI, IJCV, JMLR, TIP, TKDE, TCSVT, TMM, PR, TOIS, TOSN, TOMM, TIST, CVIU, MVA, IVC

Honors and Awards

Outstanding service award	ICME	2019
ACM Distinguished Member		2018
COCO keypoints detection challenge	Second place (ECCV 2018)	2018
IAPR Fellow		2018
Best paper runner up	Workshop on Big Data Analytics for Social Computing	2018
Best paper award finalist	ACMMM	2015
Outstanding reviewer	CVPR	2014
Gold star	Microsoft	2009
Graduate Fellowship	HKUST	2004 - 2007
Excellent Master Degree Thesis Award	Tsinghua University	2004
Excellent Master Scholarship	Tsinghua University	2003
Title of Graduate with Honors (top 5%)	Tsinghua University	2001
Rockwell Scholarship	Tsinghua University	2000
Friend-Eastern Communications Scholarship	Tsinghua University	1999
Outstanding Student Scholarship	Tsinghua University	1998

Publications (Google Scholar citations: 24795, h-index: 70)

Google Scholar citations to my articles (PDF Document Clickable Link):

<https://scholar.google.com/citations?user=z5SPCmgAAAAJ&hl=en>

The interns and supervisees are in bold.

Book

- [1] Jingdong Wang. Graph Based Image Segmentation: A Modern Approach. *ISBN-10: 3639110749, ISBN-13: 978-3639110746*. VDM Verlag Dr. Muller Aktiengesellschaft & Co. KG. 2008.

Book chapters

- [1] Jingdong Wang, **Jing Wang**, Gang Zeng, Rui Gan, Shipeng Li, and Baining Guo. Fast Neighborhood Graph Search using Cartesian Concatenation. *Multimedia Data Mining and Analytics: Disruptive Innovation. Edited by Aaron K. Baughman, Jiang Gao, Jia-Yu Pan, and Valery Petrushin*, 397-417, Springer, 2015.
- [2] Jingdong Wang, **Jing Wang**, Qifa Ke, Gang Zeng, and Shipeng Li. Fast Approximate K-Means via Cluster Closures. *Multimedia Data Mining and Analytics: Disruptive Innovation. Edited by Aaron K. Baughman, Jiang Gao, Jia-Yu Pan, and Valery Petrushin*, 373-395, Springer, 2015.
- [3] Jingdong Wang, **Yinghai Zhao**, and Xian-Sheng Hua. Image Search by Color Map. *Internet Multimedia Search and Mining. Edited by Xian-Sheng Hua, Marcel Worring, and Tat-Seng Chua*. Bentham Science Publishers, 2010.

Technical reports

- [1] **Liming Zhao**, Jingdong Wang, Xi Li, Zhuowen Tu, and Wenjun Zeng. On the connection of deep fusion to ensembling. *CoRR*, abs/1611.07718, 2016.
- [2] Jingdong Wang, **Zhen Wei**, **Ting Zhang**, and Wenjun Zeng. Deeply-fused nets. *CoRR*, abs/1605.07716, 2016.

Top referred journals: TPAMI (12), IJCV (8), TOG (3), TIP (8), TMM (6), TOMM (2), TKDE (1)

- [1] Yuhui Yuan, Lang Huang, Jianyuan Guo, Chao Zhang, Xilin Chen and Jingdong Wang. OC-Net: Object Context for Semantic Segmentation. *International Journal of Computer Vision*, 2021.
- [2] Yan Huang, Jingdong Wang, and Liang Wang. Few-Shot Image and Sentence Matching via Aligned Cross-Modal Memory. *IEEE Trans. Pattern Anal. Mach. Intell.*, 2021.
- [3] **Dengpan Fu**, Bo Xin, Jingdong Wang, Dongdong Chen, Jianmin Bao, Gang Hua and Houqiang Li Improving Person Re-Identification With Iterative Impression Aggregations. *IEEE Trans. Image Processing.*, Accepted, 2020.
- [4] Jingdong Wang, **Ke Sun, Tianheng Cheng, Borui Jiang, Chaorui Deng, Yang Zhao**, Dong Liu, Yadong Mu, Mingkui Tan, Xinggang Wang, Wenyu Liu, and Bin Xiao. Deep High-Resolution Representation Learning for Visual Recognition. *IEEE Trans. Pattern Anal. Mach. Intell.*, 2020.
- [5] **Yifan Liu**, Changyong Shu, Jingdong Wang, and Chunhua Shen. Structured Knowledge Distillation for Dense Prediction. *IEEE Trans. Pattern Anal. Mach. Intell.*, 2020.
- [6] **Zilong Huang**, Chunyu Wang, Xinggang Wang, Wenyu Liu, and Jingdong Wang Semantic Image Segmentation by Scale-Adaptive Networks. *IEEE Trans. Image Processing.*, Accepted, 2019.
- [7] **Peng Tang**, Chunyu Wang, Xinggang Wang, Wenyu Liu, and Jingdong Wang. Object Detection in Videos by High Quality Object Linking. *IEEE Trans. Pattern Anal. Mach. Intell.*, 2020.
- [8] **Song Bai**, Zhichao Zhou, Jingdong Wang, Xiang Bai, Longin Jan Latecki and Qi Tian. Automatic Ensemble Diffusion for 3D Shape and Image Retrieval. *IEEE Trans. Image Processing.*, 28(1):88-101, 2019.
- [9] Jingdong Wang and **Ting Zhang**. Composite quantization. *IEEE Trans. Pattern Anal. Mach. Intell.*, 2019.
- [10] **Hong Liu**, Rongrong Ji, Jingdong Wang, and Chunhua Shen. Ordinal constraint binary coding for approximate nearest neighbor search. *IEEE Trans. Pattern Anal. Mach. Intell.*, Accepted, 2018.
- [11] Jingdong Wang, **Ting Zhang, Jingkuan Song**, Nicu Sebe, and Heng Tao Shen. A survey on learning to hash. *IEEE Trans. Pattern Anal. Mach. Intell.*, 40(4):769-790, 2018.
- [12] **Na Qi**, Yunhui Shi, Xiaoyan Sun, Jingdong Wang, Baocai Yin, and Junbin Gao. Multi-Dimensional Sparse Models. *IEEE Trans. Pattern Anal. Mach. Intell.*, 40(1):163-178, 2018.
- [13] **Qiurui Wang**, Chun Yuan, Jingdong Wang and Wenjun Zeng. Learning Attentional Recurrent Neural Network for Visual Tracking. *IEEE Trans. Multimedia*, 2018.
- [14] Weiyao Lin, Yang Shen, Junchi Yan, Mingliang Xu, Jianxin Wu, Jingdong Wang, and Ke Lu. Learning Correspondence Structures for Person Re-identification. *IEEE Trans. Image Processing*, 26(5):2438-2453, 2017.
- [15] **Dapeng Chen**, Zejian Yuan, Jingdong Wang, Gang Hua, and Nanning Zheng. Exemplar-Guided Similarity Learning on Polynomial Feature Map for Person Re-Identification. *International Journal of Computer Vision*, 123(3):392-414, 2017.
- [16] Jingdong Wang, **Huaizu Jiang**, Zejian Yuan, Ming-Ming Cheng, Xiaowei Hu, and Nanning Zheng. Salient Object Detection: A Discriminative Regional Feature Integration Approach. *International Journal of Computer Vision*, 123(2):251-268, 2017.
- [17] **Lingxi Xie**, Jingdong Wang, Weiyao Lin, Bo Zhang, and Qi Tian. Towards Reversal-Invariant Image Representation. *International Journal of Computer Vision*, 123(2):226-250, 2017.
- [18] **Dapeng Chen**, Zejian Yuan, Gang Hua, Jingdong Wang, and Nanning Zheng. Multi-timescale collaborative tracking. *IEEE Trans. Pattern Anal. Mach. Intell.*, 39(1):141-155, 2017.

- [19] **Liang Zheng**, Shengjin Wang, Jingdong Wang, and Qi Tian. Accurate image search with multi-scale contextual evidences. *International Journal of Computer Vision*, 120(1):1–13, 2016.
- [20] **Dingwen Zhang**, Junwei Han, Chao Li, Jingdong Wang, and Xuelong Li. Detection of co-salient objects by looking deep and wide. *International Journal of Computer Vision*, 120(2):215–232, 2016.
- [21] Xi Li, Xueyi Zhao, Zhongfei Zhang, Fei Wu, Yueting Zhuang, Jingdong Wang, and Xuelong Li. Joint multilabel classification with community-aware label graph learning. *IEEE Trans. Image Processing*, 25(1):484–493, 2016.
- [22] Weiyao Lin, **Yang Mi**, Weiyue Wang, Jianxin Wu, Jingdong Wang, and Tao Mei. A diffusion and clustering-based approach for finding coherent motions and understanding crowd scenes. *IEEE Trans. Image Processing*, 25(4):1674–1687, 2016.
- [23] Xi Li, Liming Zhao, Lina Wei, Ming-Hsuan Yang, Fei Wu, Yueting Zhuang, Haibin Ling, and Jingdong Wang. Deepsaliency: Multi-task deep neural network model for salient object detection. *IEEE Trans. Image Processing*, 25(8):3919–3930, 2016.
- [24] **Jingkuan Song**, Heng Tao Shen, Jianfeng Wang, Zi Huang, Nicu Sebe, and Jingdong Wang. A distance-computation-free search scheme for binary code databases. *IEEE Trans. Multimedia*, 18(3):484–495, 2016.
- [25] Jinhui Tang, **Xiangbo Shu**, Zechao Li, Guo-Jun Qi, and Jingdong Wang. Generalized deep transfer networks for knowledge propagation in heterogeneous domains. *TOMCCAP*, 12(4s):68:1–68:22, 2016.
- [26] **Jianfeng Wang**, Jingdong Wang, Jingkuan Song, Xin-Shun Xu, Heng Tao Shen, and Shipeng Li. Optimized cartesian k-means. *IEEE Trans. Knowl. Data Eng.*, 27(1):180–192, 2015.
- [27] **Lingxi Xie**, Jingdong Wang, Bo Zhang, and Qi Tian. Fine-grained image search. *IEEE Trans. Multimedia*, 17(5):636–647, 2015.
- [28] Jingdong Wang, **Naiyan Wang**, **You Jia**, Jian Li, Gang Zeng, Hongbin Zha, and Xian-Sheng Hua. Trinary-projection trees for approximate nearest neighbor search. *IEEE Trans. Pattern Anal. Mach. Intell.*, 36(2):388–403, 2014.
- [29] Jingdong Wang, **Huaizu Jiang**, **Yangqing Jia**, Xian-Sheng Hua, Changshui Zhang, and Long Quan. Regularized tree partitioning and its application to unsupervised image segmentation. *IEEE Trans. Image Processing*, 23(4):1909–1922, 2014.
- [30] Qinghua Huang, **Bisheng Chen**, Jingdong Wang, and Tao Mei. Personalized video recommendation through graph propagation. *TOMCCAP*, 10(4):32:1–32:17, 2014.
- [31] **Peng Wang**, Gang Zeng, Rui Gan, Jingdong Wang, and Hongbin Zha. Structure-sensitive superpixels via geodesic distance. *International Journal of Computer Vision*, 103(1):1–21, 2013.
- [32] Houqiang Li, **Yang Wang**, Tao Mei, Jingdong Wang, and Shipeng Li. Interactive multimodal visual search on mobile device. *IEEE Trans. Multimedia*, 15(3):594–607, 2013.
- [33] **Tianjia Shao**, Weiwei Xu, Kun Zhou, Jingdong Wang, Dongping Li, and Baining Guo. An interactive approach to semantic modeling of indoor scenes with an RGBD camera. *ACM Trans. Graph.*, 31(6):136:1–136:11, 2012.
- [34] Tie Liu, Zejian Yuan, Jian Sun, Jingdong Wang, Nanning Zheng, Xiaoou Tang, and Heung-Yeung Shum. Learning to detect a salient object. *IEEE Trans. Pattern Anal. Mach. Intell.*, 33(2):353–367, 2011.
- [35] **Xinmei Tian**, Linjun Yang, Jingdong Wang, Xiuqing Wu, and Xian-Sheng Hua. Bayesian visual reranking. *IEEE Trans. Multimedia*, 13(4):639–652, 2011.

- [36] Jingdong Wang, Fei Wang, Changshui Zhang, Helen C. Shen, and Long Quan. Linear neighborhood propagation and its applications. *IEEE Trans. Pattern Anal. Mach. Intell.*, 31(9):1600–1615, 2009.
- [37] Tie Liu, Jingdong Wang, Jian Sun, Nanning Zheng, Xiaoou Tang, and Heung-Yeung Shum. Picture collage. *IEEE Trans. Multimedia*, 11(7):1225–1239, 2009.
- [38] Long Quan, Jingdong Wang, Ping Tan, and Lu Yuan. Image-based modeling by joint segmentation. *International Journal of Computer Vision*, 75(1):135–150, 2007.
- [39] Ping Tan, Gang Zeng, Jingdong Wang, Sing Bing Kang, and Long Quan. Image-based tree modeling. *ACM Trans. Graph.*, 26(3):87, 2007.
- [40] Long Quan, Ping Tan, Gang Zeng, Lu Yuan, Jingdong Wang, and Sing Bing Kang. Image-based plant modeling. *ACM Trans. Graph.*, 25(3):599–604, 2006.

Referred journals

- [1] **Guotian Xie**, Kuiyuan Yang, Ting Zhang, Jingdong Wang, and Jianhuang Lai. Balanced Decoupled Spatial Convolution for CNNs. *IEEE Trans. Neural Netw. Learning Syst.*, Accepted, 2019.
- [2] Shengkang Yu, Xi Li, Xueyi Zhao, Zhongfei Mark Zhang, Fei Wu, Jingdong Wang, Yue Ting Zhuang, and Xuelong Li. A bilinear ranking SVM for knowledge based relation prediction and classification. *IEEE Trans. Big Data*, Accepted, 2018.
- [3] Ruoyu Liu, Shikui Wei, Yao Zhao, Zhenfeng Zhu, and Jingdong Wang. Multi-View Cross-Media Hashing with Semantic Consistency. *IEEE MultiMedia*, Accepted, 2018.
- [4] **Baoguang Shi**, Xiang Bai, Wenyu Liu, and Jingdong Wang. Face Alignment with Deep Regression. *IEEE Trans. Neural Netw. Learning Syst.*, 29(1):183-194, 2018.
- [5] **Lingxi Xie**, Jingdong Wang, Bo Zhang, and Qi Tian. Incorporating visual adjectives for image classification. *Neurocomputing*, 182:48–55, 2016.
- [6] **Min Tan**, Baoyuan Wang, Zhaohui Wu, Jingdong Wang, and Gang Pan. Weakly supervised metric learning for traffic sign recognition in a lidar-equipped vehicle. *IEEE Trans. Intelligent Transportation Systems*, 17(5):1415–1427, 2016.
- [7] Congyan Lang, Jiashi Feng, Songhe Feng, Jingdong Wang, and Shuicheng Yan. Dual low-rank pursuit: Learning salient features for saliency detection. *IEEE Trans. Neural Netw. Learning Syst.*, 27(6):1190–1200, 2016.
- [8] **Shiyang Lu**, Tao Mei, Jingdong Wang, Jian Zhang, Zhiyong Wang, and Shipeng Li. Exploratory product image search with circle-to-search interaction. *IEEE Trans. Circuits Syst. Video Techn.*, 25(7):1190–1202, 2015.
- [9] Weiwei Xu, Zhouxu Shi, Mingliang Xu, Kun Zhou, Jingdong Wang, Bin Zhou, Jinrong Wang, and Zhenming Yuan. Transductive 3d shape segmentation using sparse reconstruction. *Comput. Graph. Forum*, 33(5):107–115, 2014.
- [10] Jingdong Wang, **Jiazhen Zhou**, **Hao Xu**, Tao Mei, Xian-Sheng Hua, and Shipeng Li. Image tag refinement by regularized latent dirichlet allocation. *Computer Vision and Image Understanding*, 124:61–70, 2014.
- [11] **Shiyang Lu**, Tao Mei, Jingdong Wang, Jian Zhang, Zhiyong Wang, and Shipeng Li. Browse-to-search: Interactive exploratory search with visual entities. *ACM Trans. Inf. Syst.*, 32(4):18:1–18:27, 2014.
- [12] Jingdong Wang, **Zhe Zhao**, **Jiazhen Zhou**, Hao Wang, Bin Cui, and Guojun Qi. Recommending flickr groups with social topic model. *Inf. Retr.*, 15(3-4):278–295, 2012.
- [13] **Tianjia Shao**, Weiwei Xu, KangKang Yin, Jingdong Wang, Kun Zhou, and Baining Guo. Discriminative sketch-based 3d model retrieval via robust shape matching. *Comput. Graph. Forum*, 30(7):2011–2020, 2011.

- [14] Jingdong Wang, **Liyan Jia**, and Xian-Sheng Hua. Interactive browsing via diversified visual summarization for image search results. *Multimedia Syst.*, 17(5):379–391, 2011.
- [15] Jingdong Wang, **Yinghai Zhao**, Xiuqing Wu, and Xian-Sheng Hua. A transductive multi-label learning approach for video concept detection. *Pattern Recognition*, 44(10-11):2274–2286, 2011.
- [16] Jingdong Wang and Xian-Sheng Hua. Interactive image search by color map. *ACM TIST*, 3(1):12:1–12:23, 2011.
- [17] **Zheng-Jun Zha**, Tao Mei, Jingdong Wang, Zengfu Wang, and Xian-Sheng Hua. Graph-based semi-supervised learning with multiple labels. *J. Visual Communication and Image Representation*, 20(2):97–103, 2009.
- [18] Fei Wang, Jingdong Wang, Changshui Zhang, and James T. Kwok. Face recognition using spectral features. *Pattern Recognition*, 40(10):2786–2797, 2007.
- [19] Jianguo Lee, Jingdong Wang, Changshui Zhang, and Zhaoqi Bian. Visual object recognition using probabilistic kernel subspace similarity. *Pattern Recognition*, 38(7):997–1008, 2005.

Top refereed conferences: CVPR (32), ICCV (18), ECCV (9), ACMMM (14), ICML (4), SIGIR (3), KDD (1), IJCAI (3), AAAI (1), NIPS (3)

- [1] Qi Chen, Bing Zhao, Haidong Wang, Mingqin Li, Chuanjie Liu, Zengzhong Li, Mao Yang, and Jingdong Wang. . SPANN: Highly-efficient Billion-scale Approximate Nearest Neighbor Search In Thirty-fifth Conference on Neural Information Processing Systems, NeurIPS 2021.
- [2] Yuhui Yuan, Rao Fu, Lang Huang, Weihong Lin, Chao Zhang, Xilin Chen, and Jingdong Wang. HRFormer: High-Resolution Transformer for Dense Prediction. In Thirty-fifth Conference on Neural Information Processing Systems, NeurIPS 2021.
- [3] Jianming Ye, Shiliang Zhang, and Jingdong Wang. Hybrid Network Compression via Meta-Learning. In *Proceedings of the 2021 ACM Conference on Multimedia Conference, MM 2021*.
- [4] **Depu Meng**, **Xiaokang Chen**, **Zeja Fan**, Gang Zeng, Houqiang Li, Yuhui Yuan, Lei Sun, and Jingdong Wang Conditional DETR for Fast Training Convergence. In *IEEE/CVF International Conference on Computer Vision, ICCV 2021*.
- [5] Xiaosen Wang, Xuanran He, Jingdong Wang, and Kun He Admix: Enhancing the Transferability of Adversarial Attacks. In *IEEE/CVF International Conference on Computer Vision, ICCV 2021*.
- [6] **Changqian Yu**, Bin Xiao, Changxin Gao, Lu Yuan, Lei Zhang, Nong Sang, and Jingdong Wang. Lite-HRNet: A Lightweight High-Resolution Network. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition, CVPR 2021*.
- [7] **Zigang Geng**, Ke Sun, Bin Xiao, Zhaoxiang Zhang, and Jingdong Wang. Bottom-Up Human Pose Estimation Via Disentangled Keypoint Regression. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition, CVPR 2021*.
- [8] **Xiaokang Chen**, Yuhui Yuan, Gang Zeng, and Jingdong Wang. Semi-Supervised Semantic Segmentation with Cross Pseudo Supervision. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition, CVPR 2021*.
- [9] **Baifeng Shi**, Dinghuai Zhang, Qi Dai, Zhanxing Zhu, Yadong Mu, and Jingdong Wang Informative Dropout for Robust Representation Learning: A Shape-bias Perspective. In *Proceedings of the 37th International Conference on Machine Learning, ICML 2020*.
- [10] Yuhui Yuan, Xilin Chen, and Jingdong Wang. Object-Contextual Representations for Semantic Segmentation. In *European Conference Computer Vision, ECCV 2020*.
- [11] Yuhui Yuan, Jingyi Xie, Xilin Chen, and Jingdong Wang. SegFix: Model-Agnostic Boundary Refinement for Segmentation. In *European Conference Computer Vision, ECCV 2020*.

- [12] **Yifan liu**, Chunhua Shen, Changqian Yu, and Jingdong Wang. Efficient Semantic Video Segmentation with Per-frame Inference. In *European Conference Computer Vision, ECCV 2020*.
- [13] Fangyun Wei, Xiao Sun, Hongyang Li, Jingdong Wang, and Stephen Lin. Point-Set Anchors for Object Detection, Instance Segmentation and Pose Estimation. In *European Conference Computer Vision, ECCV 2020*.
- [14] **Bowen Cheng**, Bin Xiao, Jingdong Wang, Honghui Shi, Thomas S. Huang, and Lei Zhang. HigherHRNet: Scale-Aware Representation Learning for Bottom-Up Human Pose Estimation. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition, CVPR 2020*.
- [15] **Baifeng Shi**, Qi Dai, Yadong Mu, and Jingdong Wang. Weakly-Supervised Action Localization by Generative Attention Modeling. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition, CVPR 2020*.
- [16] Yong Guo, Jian Chen, Jingdong Wang, Qi Chen, Jiezhong Cao, Zeshuai Deng, Yanwu Xu, and Mingkui Tan. Closed-Loop Matters: Dual Regression Networks for Single Image Super-Resolution. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition, CVPR 2020*.
- [17] **Jianing Li**, Jingdong Wang, Qi Tian, Wen Gao, and Shiliang Zhang. Global-Local Temporal Representations For Video Person Re-Identification. In *IEEE/CVF International Conference on Computer Vision, ICCV 2019*.
- [18] **Haibo Qiu**, Chunyu Wang, Jingdong Wang, Naiyan Wang, and Wenjun Zeng. Cross View Fusion for 3D Human Pose Estimation. In *IEEE/CVF International Conference on Computer Vision, ICCV 2019*.
- [19] **Ke Sun**, Bin Xiao, Dong Liu, and Jingdong Wang. Deep High-Resolution Representation Learning for Human Pose Estimation. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition, CVPR 2019*.
- [20] **Yifan Liu**, Ke Chen, Chris Liu, Zengchang Qin, Zhenbo Luo, Jingdong Wang. Structured Knowledge Distillation for Semantic Segmentation. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition, CVPR 2019*.
- [21] Ruochen Fan, Ming-Ming Cheng, Qibin Hou, Tai-Jiang Mu, Jingdong Wang, Shi-Min Hu. S4Net: Single Stage Salient-Instance Segmentation. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition, CVPR 2019*.
- [22] **Xuguang Duan**, Wenbing Huang, Chuang Gan, Jingdong Wang, Wenwu Zhu, and Junzhou Huang. Weakly Supervised Dense Event Captioning in Videos. In *Proceedings of Advances in Neural Information Processing Systems, NIPS 2018*.
- [23] Bin Liu, Yue Cao, Mingsheng Long, Jianmin Wang, and Jingdong Wang. Deep Triplet Quantization. In *Proceedings of the 2018 ACM Conference on Multimedia Conference, MM 2018*.
- [24] Hao Xiao, Weiyao Lin, Bin Sheng, Ke Lu, Junchi Yan, Jingdong Wang, Errui Ding, Yihao Zhang, Hongkai Xiong. Group Re-Identification: Leveraging and Integrating Multi-Grain Information. In *Proceedings of the 2018 ACM Conference on Multimedia Conference, MM 2018*.
- [25] **Yumin Suh**, Jingdong Wang, Siyu Tang, Tao Mei, and Kyoung Mu Lee. Part-Aligned Bilinear Representations for Person Re-identification. In *European Conference Computer Vision, ECCV 2018*.
- [26] **Liming Zhao**, **Mingjie Li**, **Depu Meng**, Xi Li, Zhuowen Tu, Zhaoxiang Zhang, Yueting Zhuang, and Jingdong Wang. Deep Convolutional Neural Networks with Merge-and-Run Mappings. In *Proceedings of the Twenty-Fourth International Joint Conference on Artificial Intelligence, IJCAI 2018*.

- [27] **Guotian Xie**, Jingdong Wang, Ting Zhang, Jianhuang Lai, Richang Hong, and Guo-Jun Qi. IGCV2: Interleaved Structured Sparse Convolutional Neural Networks. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition, CVPR 2018*.
- [28] **Zilong Huang**, Xinggong Wang, Jiasi Wang, Wenyu Liu, and Jingdong Wang. Weakly-Supervised Semantic Segmentation Network with Deep Seeded Region Growing. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition, CVPR 2018*.
- [29] Guo-Jun Qi, Liheng Zhang, Hao Hu, Marzieh Edraki, Jingdong Wang, and Xian-Sheng Hua. Global versus Localized Generative Adversarial Nets. In *IEEE/CVF Conference on Computer Vision and Pattern Recognition, CVPR 2018*.
- [30] **Guotian Xie**, Ting Zhang, Kuiyuan Yang, Jianhuang Lai, and Jingdong Wang. Coupled Convolutions for CNNs. In *Proceedings of the Thirty-Second AAAI Conference on Artificial Intelligence, New Orleans, Louisiana, USA, February 2-7, 2018*, 2018.
- [31] **Ting Zhang**, Guo-Jun Qi, Bin Xiao, and Jingdong Wang. Interleaved Group Convolutions. In *IEEE International Conference on Computer Vision, ICCV 2017, Venice, Italy, October 22-29, 2017*, pages 4383-4392, 2017.
- [32] **Liming Zhao**, Xi Li, Yueting Zhuang, and Jingdong Wang. Deeply-Learned Part-Aligned Representations for Person Re-Identification. In *IEEE International Conference on Computer Vision, ICCV 2017, Venice, Italy, October 22-29, 2017*, pages 3239-3248, 2017.
- [33] **Ke Sun**, Cuiling Lan, Junliang Xing, Jingdong Wang, Wenjun Zeng, Dong Liu. Human Pose Estimation using Global and Local Normalization. In *IEEE International Conference on Computer Vision, ICCV 2017, Venice, Italy, October 22-29, 2017*, pages 5600-5608, 2017.
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Refereed conferences

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Tutorial and Seminars

High-resolution networks	Keynote	BigMM 2020
High-resolution networks	Keynote	CVWC at ICCV 2019
Neural architecture construction and search	tutorial	ICME 2019
High-resolution networks	Keynote	CEFRL at CVPR 2019
Interleaved group convolutions for efficient deep neural networks	Keynote	ACM ICIMCS 2018
Person re-identification: datasets and representations	Keynote	PCM 2018
Person re-identification: recent advances and challenges	Tutorial	FG 2018
CNN architecture design: from deeper to wider	Keynote	ACM ICIMCS 2017

Patents

Computing visual and textual summaries for tagged image collections	US patent	9092673	1	2015/7/28
Intelligent image search results summarization and browsing	US patent	8774526	1	2014/7/8
Bayesian video search reranking	US patent	8180766	2	2012/5/15
Approximate K-means via cluster closures	US patent	9710493	1	2017/7/18
Transductive multi-label learning for video concept detection	US patent	8218859	1	2012/7/10
Contextual dominant color name extraction	US patent	8873845	1	2014/10/24
Interactive multi-modal image search	US patent	9411830	2	2016/8/9
Optimized KD-tree for scalable search	US patent	8645380	1	2014/2/4
Hybrid neighborhood graph search for scalable visual indexing	US patent	8370363	1	2013/2/5
Reranking using confident image samples	US patent	9384241	1	2016/7/5
Salient object segmentation	US patent	9042648	1	2015/5/26
Document-related representative information	US patent	8712991	1	2014/4/29
Interactively ranking image search results using color layout relevance	US patent	8369656	1	2013/2/5
Concept-structured image search	US patent	8706740	2	2013/3/5
Image searching by approximate K-NN graph	US patent	8705870	1	2014/4/22

Product Transfer

HRNet	Shipped to Form Recognizer, 2021
SPTAG (spatial partition tree and graph, improved NGS)	Shipped to Bing platform, 2018
Fast human detection	Shipped to XiaoIce, 2017
How-Old Fashion	Shipped to XiaoIce, 2016
How-Old 2.0	Shipped to XiaoIce, 2015
Celebrity for chat	Shipped to XiaoIce, 2015, 2017
Similar image search for image chat	Shipped to XiaoIce, 2015

Similar video search for video chat	Shipped to XiaoIce, 2015
Similarity search	Shipped to Ads Selection, 2015
XiaoIce book recognition	Shipped to Weibo in XiaoIce, 2014
Nearest neighbor search	Shipped to Microsoft Bing image search in 2014.
Image match	Shipped to Microsoft Bing image search in 2014.
Visual attribute enhanced image relevance ranker	Shipped to Microsoft Bing image search in 2012.
Visual attribute enhanced image relevance ranker	Cognitive service. 2015
Dominant color filter	Shipped to Microsoft Bing image search, 2012
Image search by color map	Shipped to Microsoft Bing image search, 2010

Interns and Students ever Working With Me

Yan Liu	Zhejiang University (21)
Xiaosong Zhao	UCAS (21)
Yifan Zhang	South China of Technology (21)
Juhong Min	Pohang Univ. of Science and Technology (20-21)
ZeJia Fan	Peking University (20-21)
Qi Han	Nankai University (20 - 21)
Zhuoyi Huang	Tongji University (20)
Xiaokang Chen	Peking University (20-21)
Changqian Yu	HUST (20)
Shaobo Min	USTC (20)
Baifeng Shi	Peking University
Chaoqun Wang	USTC (19)
Hung-Jen Chen	National Chiao Tung University (19)
Jingyi Xie	USTC (19)
Zigang Geng	USTC (19)
Boqi Chen	Boston University (19)
Tianheng Cheng	Huazhong University of Science & Technology (18)
Chaorui Deng	South China University of Technology
Manli Shu	USTC (18)
Borui Jiang	Peking University (18)
Jingchun Cheng	Tsinghua University (18)
Weijian Xu	UCSD (18)
Yifan Liu	Beihang University (18)
Yao Qin	UCSD (18)
Ke Sun	USTC (17 - 18)
Shichen Liu	Tsinghua University (17 - 18)
Depu Meng	USTC (17 - 18)
Mingji Li	USTC (17 - 18)
Junran Peng	IA, CAS (17)
Chong Shang	Tsinghua University (17)
Guotian Xie	Sun Yat-Sen University (17)
Peng Tang	Huazhong University of Science & Technology (16 - 17)

Song Bai	Huazhong University of Science & Technology (16 - 17)	
Gangming Zhao	IA, CAS (17)	
Kexin Zhang	Peking University (17)	
Yumin Suh	Seoul National University, Korea (16 - 17)	
Yajie Xing	Peking University (16 - 17)	
Shuang Li	Tsinghua University (16)	
Ryosuke Furuta	The University of Tokyo, Japan (16)	
Yanzhao Wu	USTC (16)	
Jun He	HeFei University of Technology (16)	
Liheng Zhang	University of Central Florida (16)	
Liming Zhao	Zhejiang University (16)	
Zilong Huang	Huazhong University of Science & Technology (16)	
Xun Huang	Beihang University (16)	
Xiaojuan Wang	Sun Yat-Sen University (15)	
Zhen Wei	Shanghai Jiao Tong University (15)	
Wei Tang	IA, CAS (15)	
Qiqi hou	Xi'an Jiaotong University (15)	
Ning Xu	UIUC (15)	
Liang Zheng	Tsinghua University (14 - 15)	
Jiaming Song	Tsinghua University (14)	
Tianxiao Shen	Tsinghua University (14)	
Jianqiu Ji	Tsinghua University (14)	
Fan Liu	Nanjing University of Science & Technology (14)	
Baoguang Shi	Huazhong University of Science & Technology (14)	
Dapeng Chen	Xi'an Jiaotong University (14)	
Falong Shen	Peking University (13 - 14)	
Lingxi Xie	Tsinghua University (13)	
Ting Zhang	USTC (13)	
Xianjie Chen	University of California, Los Angeles (13)	
Chongxuan Li	Tsinghua University (13)	
Chao Du	Tsinghua University (13 - 14)	
Jingkuan Song	The University of Queensland, Australia (12 - 13)	
Chuang Gan	Beihang University (12 - 13)	
Zhansheng Jiang	Shanghai Jiao Tong University (12 - 13)	
Yupeng Gu	USTC (12 - 13)	
Shiyu Chang	UIUC (12)	
Jianfeng Wang	USTC (12 - 13)	
Weiwèn Tu	Sun Yat-Sen University (11)	
Tiansheng Yao	Zhejiang University (11)	
Dongqing Zhang	Shanghai Jiao Tong University (11)	
Peng Wang	Peking University (11 - 13)	
Xianghang Liu	University of New South Wales, Australia (11)	
Jiazhen Zhou	Peking University (11)	Columbia University
Junyang Lu	Peking University (11)	Columbia University
Xiang Ren	Zhejiang University (11)	UIUC

Nobuyuki Morioka	University of New South Wales, Australia (11)	Google
Naiyan Wang	Zhejiang University (10 - 11)	HKUST
Huaizu Jiang	Xi'an Jiaotong University (10 - 11)	
Shijie Xu	Beihang University (10)	
Jing Wang	Peking University (10 - 13)	
Bin Cheng	National University of Singapore (10)	
Biao Wang	Tsinghua University (10)	
Wenhao Lu	Tsinghua University (10)	
Zhe Zhao	Peking University (09 - 10)	University of Michigan
Xiangang Chen	Nanyang Technological University (09)	
Jue Xie	Monash University, Melbourne, Australia (09)	
Hao Xu	USTC (08 - 09)	
You Jia	Peking University (09)	CMU, Facebook
Liyang Jia	Tsinghua University (09)	Cornell University
Heng Zhang	Peking University (08 - 09)	
Yang Hu	USTC (08)	
Darui Li	USTC (08)	
Yinghai Zhao	USTC (08)	
Xuan Huang	USTC (07 - 08)	
Jianxiong Xiao	HKUST	
Fei Wang	Tsinghua University (05 - 06)	IBM T. J. Watson Research Lab
Yangqing Jia	Tsinghua University (07)	University of California, Berkeley
Dan Zhang	Tsinghua University (07, 10)	Purdue University
Mingjie Qian	Tsinghua University (09)	UIUC

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