Dongliang Chang

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WORK EXPERIENCE

Tsinghua University, Beijing, China

- Postdoc, Department of Automation — Jun 2023 –
  - Adviser: Prof. Jiwen Lu
  - Focus: Fine-Grained Visual Understanding

EDUCATION

Beijing University of Posts and Telecommunications (BUPT) , Beijing, China

- Ph.D. in Information and Communication Engineering — Sep 2019 – Jun 2023
  - Adviser: Prof. Zhanyu Ma and Prof. Yi-Zhe Song
  - Focus: Fine-Grained Visual Classification
- Visiting Student — Apr 2017 – Sep 2019
  - Adviser: Prof. Zhanyu Ma

University of Surrey, London, United Kingdom

- Visiting Ph.D Student — Feb 2022 – Mar 2023
  - Adviser: Prof. Yi-Zhe Song

Lanzhou University of Technology (LUT) , Lanzhou, China

- M.E. in IOT Engineering — Sep 2016 – Jun 2019
  - Adviser: Prof. Xiaoxu Li

Zhoukou Normal University (ZKNU), Zhoukou, China

- B.E. in Network Engineering — Sep 2012 – Jun 2016
  - Adviser: Qi Wang

PUBLICATIONS

HIGHLIGHTS (* DENOTES THE CORRESPONDING AUTHOR.)

[5] Ruoyi Du, Wenqing Yu, Heqing Wang, Ting-En Lin, Dongliang Chang*, and Zhanyu Ma, "Multi-view Active Fine-grained Visual Recognition," in *International Conference on Computer Vision (ICCV)*, 2023.

[4] Dongliang Chang, Kaiyue Pang, Ruoyi Du, Yujun Tong, Yi-Zhe Song, Zhanyu Ma*, and Jun Guo, "Making a Bird AI Expert Work for You and Me," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2023.

[3] Dongliang Chang, Yujun Tong, Ruoyi Du, Timothy Hospedales, Yi-Zhe Song, and Zhanyu Ma*, "An Erudite Fine-Grained Visual Classification Model," in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.

[2] Dongliang Chang, Kaiyu Pang, Yixiao Zheng, Zhanyu Ma*, Yi-Zhe Song, Jun Guo, "Your "Flamingo" is My "Bird": Fine-Grained, or Not," in *Computer Vision and Pattern Recognition (CVPR), Oral (4.1%)*, 2021.

[1] Dongliang Chang, Yifeng Ding, Jiyang Xie, Ayan Kumar Bhunia, Xiaoxu Li, Zhanyu Ma*, Ming Wu, Jun Guo, and Yi-Zhe Song, "The Devil is in the Channels: Mutual-Channel Loss for Fine-Grained Image Classification," *IEEE Transactions on Image Processing*, vol. 29, pp. 19572–19578, 2020. (ESI Highly Cited Papers)

INTERNATIONAL JOURNAL (* DENOTES THE CORRESPONDING AUTHOR.)

[14] Yixiao Zheng, Kaiyue Pang, Ayan Das, Dongliang Chang, Yi-Zhe Song, and Zhanyu Ma*, "CreativeSeg: Semantic Segmentation of Creative Sketches," *IEEE Transactions on Image Processing*, 2024.

[13] Dongliang Chang, Aneeshan Sain, Zhanyu Ma*, Yi-Zhe Song, Ruiping Wang, and Jun Guo, "Mind the Gap: Open Set Domain Adaptation via Mutual-to-Separate Framework," *IEEE Transactions on Circuits and Systems for Video Technology*, 2023.

[12] Ruoyi Du, Dongliang Chang, Zhanyu Ma, Kongming Liang*, Yi-Zhe Song, and Jun Guo, "Semi-Supervised Learning for FGVC with Out-of-Category Data," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2023.

[11] Dongliang Chang, Kaiyue Pang, Ruoyi Du, Yujun Tong, Yi-Zhe Song, Zhanyu Ma*, and Jun Guo, "Making a Bird AI Expert Work for You and Me," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2023.

[10] Ruoyi Du, Jiyang Xie, Zhanyu Ma*, Dongliang Chang, Yi-Zhe Song, and Jun Guo, "Progressive Learning of Category-Consistent Multi-Granularity Features for Fine-Grained Visual Classification," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2021.

[9] Jiyang Xie, Zhanyu Ma*,Dongliang Chang, Guoqiang Zhang, and Jun Guo, "GPCA: A Probabilistic Framework for Gaussian Process Embedded Channel Attention," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2021. (ESI Highly Cited Papers)

[8] Yifeng Ding, Zhanyu Ma*, Shaoguo Wen, Jiyang Xie, Dongliang Chang, Zhongwei Si, Ming Wu, and Haibin Ling, "AP-CNN: Weakly Supervised Attention Pyramid Convolutional Neural Network for Fine-Grained Visual Classification," *IEEE Transactions on Image Processing*, 2021.

[7] Xiaoxu Li, Dongliang Chang, Zhanyu Ma*, Zheng-Hua Tan, Jing-Hao Xue, Jie Cao, and Jun Guo, " Deep InterBoost Networks for Small-sample Image Classification," *NEUROCOMPUTING*, 2020.

[6] Xiaoxu Li, Dongliang Chang, Zhanyu Ma*, Zheng-Hua Tan, Jing-Hao Xue, Jie Cao, Jingyi Yu, Jun Guo, "OSLNet: Deep Small-Sample Classification with an Orthogonal Softmax Layer," *IEEE Transactions on Image Processing*, vol. 29, pp. 6482–6495, 2020.

[5] Dongliang Chang, Yifeng Ding, Jiyang Xie, Ayan Kumar Bhunia, Xiaoxu Li, Zhanyu Ma*, Ming Wu, Jun Guo, and Yi-Zhe Song, "The Devil is in the Channels: Mutual-Channel Loss for Fine-Grained Image Classification," *IEEE Transactions on Image Processing*, vol. 29, pp. 19572–19578, 2020. (ESI Highly Cited Papers)

[4] Xiaoxu Li*, Dongliang Chang, Tao Tian, and Jie Cao, "Large-margin Regularized Softmax Cross-Entropy Loss," *IEEE Access*, vol. 12, pp. 330–352, 2019.

[3] Zhanyu Ma*, Dongliang Chang, Jiyang Xie, Yifeng Ding, Shaoguo Wen, Xiao-Xu Li, Zhongwei Si, and Jun Guo, "Fine-Grained Vehicle Classification with Channel Max Pooling Modified CNNs," *IEEE Transactions on Vehicular Technology*, vol. 68, pp. 3224–3233, Apr 2019. (ESI Highly Cited Papers)

[2] Xiaoxu Li*, Liyun Yu, Dongliang Chang, Zhanyu Ma*, and Jie Cao, "Dual Cross-Entropy Loss for Small-Sample Fine-Grained Vehicle Classification," *IEEE Transactions on Vehicular Technology*, vol. 68, pp. 4204–4212, May 2019.

[1] Luyao Liu, Yi Zhao, Dongliang Chang, Jiyang Xie, Zhanyu Ma*, Qie Sun*, Hongyi Yin*, and Ronald Wennersten, "Prediction of short-term PV power output and uncertainty analysis," *Applied Energy*, vol. 228, pp. 700–711, Oct 2018.

INTERNATIONAL CONFERENCE (* DENOTES THE CORRESPONDING AUTHOR.)

[26] Ruoyi Du, Dongliang Chang*, Timothy Hospedales, Yi-Zhe Song, and Zhanyu Ma "DemoFusion: Democratising High-Resolution Image Generation With No $$$," in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2024.

[25] Meijiang Fu, Yixiao Zheng, Dongliang Chang*, Wenpan Li, and Zhanyu Ma, "Multi-Frequency Feature Enhancement for Multi-Granularity Visual Classification," in *the Annual Conference Organized by Asia-Pacific Signal and Information Processing Association (APSIPA)*, 2023.

[24] Ruoyi Du, Wenqing Yu, Heqing Wang, Ting-En Lin, Dongliang Chang*, and Zhanyu Ma, "Multi-view Active Fine-grained Visual Recognition," in *International Conference on Computer Vision (ICCV)*, 2023.

[23] Wenqing Yu, Dongliang Chang*, Kongming Liang, and Zhanyu Ma, "Bilinear Adversarial Network for Fine-grained Domain Adaptation," in *IEEE International Conference on Network Intelligence and Digital Content (IC-NIDC)*, 2023.

[22] Dongliang Chang, Yujun Tong, Ruoyi Du, Timothy Hospedales, Yi-Zhe Song, and Zhanyu Ma*, "An Erudite Fine-Grained Visual Classification Model," in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.

[21] Ruoyi Du, Dongliang Chang, Kongming Liang*, Timothy Hospedales, Yi-Zhe Song, and Zhanyu Ma, "On-the-fly Category Discovery," in *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2023.

[20] Jijie Wu, Dongliang Chang, Aneeshan Sain, Xiaoxu Li*, Zhanyu Ma, Jie Cao, Jun Guo, and Yi-Zhe Song, "Bi-Directional Feature Reconstruction Network for Fine-grained Few-shot Image Classification," in *Association for the Advancement of Artificial Intelligence (AAAI)*, Oral, 2022.

[19] Dongliang Chang, Junhan Chen, Xinran Wang, Ruoyi Du, Wenqing Yu, Yufan Liu, Yujun Tong, Kongming Liang, Yi-Zhe Song, and Zhanyu Ma*, "Complex Scenario-Oriented Fine-Grained Visual Classification Platform," in *International Workshop on Multimedia Signal Processing (MMSP, Demo Paper)*, 2022.

[18] Junhan Chen, Dongliang Chang, Ruoyi Du, Jiyang Xie, and Zhanyu Ma*, "Cross-Layer Feature based Multi-Granularity Visual Classification," in *IEEE International Conference on Visual Communications and Image Processing (VCIP)*, 2022.

[17] Jingye Wang, Ruoyi Du, Dongliang Chang, Kongming Liang*, and Zhanyu Ma, "Domain Generalization via Frequency-domain-based Feature Disentanglement and Interaction," in *ACM International Conference on Multimedia (ACM MM)*, 2022.

[16] Tian Zhang, Dongliang Chang, Zhanyu Ma*, Jun Guo, "Progressive co-attention network for fine-grained visual classification," in *IEEE Visual Communications and Image Processing (VCIP)*, 2021.

[15] Shuai Xu, Dongliang Chang, Jiyang Xie, Zhanyu Ma*, "Grad-CAM Guided Channel-spatial Attention Module for Fine-grained Visual Classification," in *IEEE International Workshop on Machine Learning for Signal Processing (MLSP)*, 2021.

[14] Haoyu Wang, Dongliang Chang, Weidong Liu, Bo Xiao, Zhanyu Ma*, Jun Guo, Yaning Chang, "Exploring Category-shared and Category-specific Features for Fine-Grained Image Classification," in *the 4th Chinese Conference on Pattern Recognition and Computer Vision (PRCV)*, 2021.

[13] Siqing Zhang, Ruoyi Du, Dongliang Chang, Zhanyu Ma*, Jun Guo, "Knowledge Transfer Based Fine-grained Visual Classification," in *International Conference on Multimedia and Expo (ICME)*, 2021.

[12] Dongliang Chang, Kaiyu Pang, Yixiao Zheng, Zhanyu Ma*, Yi-Zhe Song, Jun Guo, "Your "Flamingo" is My "Bird": Fine-Grained, or Not," in *Computer Vision and Pattern Recognition (CVPR), Oral*, 2021.

[11] Zeyu Song, Dongliang Chang, Zhanyu Ma*, Xiaoxu Li, and Zheng-Hua Tan, "CC-Loss: Channel Correlation Loss for Image Classification," in *International Conference on Pattern Recognition (ICPR)*, 2020.

[10] Junhui Yin, Siqing Zhang, Dongliang Chang, Zhanyu Ma*, and Jun Guo, "Dual-attention Guided Dropblock Module for Weakly Supervised Object Localization," in *International Conference on Pattern Recognition (ICPR)*, 2020.

[9] Ruoyi Du, Dongliang Chang, Ayan Kumar Bhunia, Jiyang Xie, Yi-Zhe Song, Zhanyu Ma*, Jun Guo, "Fine-Grained Visual Classification via Progressive Multi-Granularity Training of Jigsaw Patches," in *European Conference on Computer Vision (ECCV)*, 2020.

[8] Yixiao Zheng, Dongliang Chang, Jiyang Xie, and Zhanyu Ma*, "IU-Module: Intersection and Union Module for Fine-Grained Visual Classification," in *IEEE International Conference on Multimedia and Expo (ICME)*, 2020.

[7] Xinran Wei, Dongliang Chang, Jiyang Xie, Yixiao Zheng, Chen Gong, Chuang Zhang, and Zhanyu Ma, "FICAL: Focal Inter-Class Angular Loss for Image Classification," in *IEEE International Conference on Visual Communications and Image Processing (VCIP)*, 2019.

[6] Lu Cheng, Dongliang Chang*, Jiyang Xie, Rongliang Ma, Chunsheng Wu, and Zhanyu Ma, "Channel Max Pooling for Image Classification," in *International Conference on Intelligence Science and Big Data Engineering (IScIDE)*, 2019.

[5] Jie Cao, Yinping Qiu, Dongliang Chang, Xiaoxu Li*, and Zhanyu Ma*, "Dynamic Attention Loss for Small-sample Image Classification," in *The 11th Annual Conference Organized by Asia-Pacific Signal and Information Processing Association (APSIPA)*, 2019.

[4] Xiaoxu Li, Jijie Wu, Dongliang Chang, Zhanyu Ma*, and Jie Cao*, "Mixed Attention Mechanism for Small-Sample Fine-grained Image Classification," in *The 11th Annual Conference Organized by Asia-Pacific Signal and Information Processing Association (APSIPA)*, 2019.

[3] Xiaoxu Li, Liyun Yu, Dongliang Chang, Zhanyu Ma*, and Jie Cao*, "Small-Sample Image Classification Method of Combining Prototype and Margin Learning," in *The 11th Annual Conference Organized by Asia-Pacific Signal and Information Processing Association (APSIPA)*, 2019.

[2] Dongliang Chang, Xiaoxu Li*, Jiyang Xie, Zhanyu Ma, Jun Guo, and Jie Cao, "SSE: A new selective initialization strategy for Snapshot Ensembling," in *IEEE International Conference on Cloud Computing and Intelligence Systems (CCIS)*, 2018.

[1] Jie Cao*, Zhe Su, Liyun Yu, Dongliang Chang, Xiaoxu Li, and Zhanyu Ma, "Softmax Cross Entropy Loss with Unbiased Decision Boundary for Image Classification," in *Chinese Automation Congress (CAC)*, 2018.

RESEARCH PROJECTS

[1] (Principal Investigator) The China Postdoctoral Science Foundation (General Program), "Research on Fine-Grained Image Classification Methods for Open-Set Scenarios," *Certificate Number: 2023M741961*, 2024-2025. (Sponsorship Rate: 4332 / 27245 = 15.9%)

AWARDS & SCHOLARSHIPS

- Outstanding Graduate of Beijing Municipal Ordinary Institutions of Higher Education (Ph.D.) 2023
- Outstanding Graduate of BUPT (Ph.D.) 2023
- BUPT Ph.D. Students National Scholarship 2022
- BUPT Excellent Ph.D. Students Reserve Scholarship (Rate = 32/342 = 9%) 2019
- BUPT Excellent Ph.D. Students Foundation (Rate = 21/342 = 6%) 2020
- China Scholarship Council Scholarship 2020
- Excellent PhD Student of the Beijing Association of Automation 2020

SERVICES

JOURNAL REVIEWERS

- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2023-
- International Journal of Computer Vision (IJCV) 2023-
- IEEE Transactions on Image Processing (TIP) 2020-
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS) 2020-
- IEEE Transactions on Circuits and Systems for Video Technology (TCSVT) 2020-
- IEEE Transactions on Geoscience and Remote Sensing (TGRS) 2023-
- IEEE Transactions on Vehicular Technology (TVT) 2019-
- Knowledge-Based Systems 2023-
- Information Fusion 2024-
- Pattern Recognition 2023-
- NEUROCOMPUTING 2020-

CONFERENCE PROGRAM COMMITTEE MEMBERS/REVIEWERS

- CVPR 2021-
- ICCV 2021-
- ECCV 2022-
- AAAI 2020-
- ACM MM 2023-
- WACV 2023-
- ACCV 2024-

[*CV compiled on 2024-03-01*]