BO DAI

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Address: N3-B3c-10, Nanyang Technological University, Singapore

EDUCATION

Ph.D. Aug 2014 - Aug 2018
- **The Chinese University of Hong Kong (CUHK)**
- Major: Information Engineering
- Advisor: Prof. Dahua Lin

B.Eng. Sept 2010 - Jun 2014
- **Shanghai Jiao Tong University (SJTU)**
- ACM Honor Class
- Major: Computer Science and Technology

WORK EXPERIENCE

Nanyang Technological University (NTU)
Research Assistant Professor Nov 2020 - Present
- Leading a group of students to conduct research in computer vision and machine learning.

The Chinese University of Hong Kong (CUHK)
PostDoc Oct 2018 - Oct 2020
- Helping supervisor lead a group of students to conduct research in computer vision and machine learning, including generative models, rl, cross-modality, and video analysis.

University of Toronto (UofT)
Visiting Student Sep 2017 - Dec 2017
- Working with Prof.Sanja Fidler
- Focusing on improving evaluation metrics and model structures for image captioning

Microsoft Research Asia (MSRA)
Research Intern Jul 2013 - Jan 2014
- Working with Dr.Liang Jeff Chen
- Focusing on developing a mechanism for storing semi-structured data in structured databases

Center for Brain-like Computing and Machine Intelligence (BCMI)
Research Assistant Jun 2012 - Jun 2013
- Working with Prof.Liqing Zhang
- Focusing on developing trademark retrieval systems

PUBLICATIONS (<u>UNDERLINED</u> STUDENTS UNDER MY SUPERVISION.)

Conference Papers

1. **Do 2D GANS Know 3D Shape? Unsupervised 3D Shape Reconstruction From 2D Image GANs**
   Xingang Pan, **Bo Dai**, Ziwei Liu, Chen Change Loy, Ping Luo.
   (Oral) International Conference on Learning Representations (ICLR) 2021.

2. **Exploiting Deep Generative Prior for Versatile Image Restoration and Manipulation**
   Xingang Pan, Xiaohang Zhan, **Bo Dai**, Dahua Lin, Chen Change Loy, Ping Luo.
   (Oral) European Conference on Computer Vision (ECCV) 2020.

3. **FineGym: A Hierarchical Video Dataset for Fine-grained Action Understanding**
   Dian Shao, Yue Zhao, **Bo Dai**, Dahua Lin.
   (Strong Accept * 3) (Oral) IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2020.

4. **Temporal Pyramid Network for Action Recognition**
   Ceyuan Yang, Yinghao Xu, Jianping Shi, **Bo Dai**, Bolei Zhou.
   IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2020.

5. **Self-Supervised Scene De-occlusion**
   Xiaohang Zhan, Xingang Pan, **Bo Dai**, Ziwei Liu, Dahua Lin, Chen Change Loy.
   (Oral) IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2020.

6. **Intra- and Inter-Action Understanding via Temporal Action Parsing**
   Dian Shao, Yue Zhao, **Bo Dai**, Dahua Lin.
   IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2020.

7. **Real or Not Real, that is the Question**
   Yuanbo Xiangli*, Yubin Deng*, **Bo Dai***, Chen Change Loy, Dahua Lin.
   (Spotlight) International Conference on Learning Representations (ICLR) 2020. (* = equal contribution)

8. **Recursive Visual Sound Separation Using Minus-Plus Net**
   Xudong Xu, **Bo Dai**, Dahua Lin.
   IEEE International Conference on Computer Vision (ICCV) 2019.

9. **Feature Intertwiner for Object Detection**
   Hongyang Li, **Bo Dai**, Shaoshuai Shi, Wanli Ouyang, Xiaogang Wang.
   International Conference on Learning Representations (ICLR) 2019.

10. **A Neural Compositional Paradigm for Image Captioning**
    Bo Dai, Sanja Fidler, and Dahua Lin.
    Advances in Neural Information Processing Systems (NeurIPS) 2018.

11. **Rethinking the Form of Latent States in Image Captioning**
    Bo Dai*, Deming Ye*, and Dahua Lin.
    European Conference on Computer Vision (ECCV) 2018. (* = equal contribution)

12. **Move Forward and Tell: A Progressive Generator of Video Descriptions**
    Yilei Xiong, **Bo Dai**, and Dahua Lin.
    European Conference on Computer Vision (ECCV) 2018.

13. **Neural Network Encapsulation**
    Hongyang Li, Xiaoyang Guo, **Bo Dai**, Wanli Ouyang, and Xiaogang Wang.
    European Conference on Computer Vision (ECCV) 2018.

14. **Contrastive Learning for Image Captioning**
    Bo Dai, and Dahua Lin.
    Advances in Neural Information Processing Systems (NIPS) 2017.

15. **Towards Diverse and Natural Image Descriptions via a Conditional GAN**
    Bo Dai, Sanja Fidler, Raquel Urtasun and Dahua Lin.
    (Oral) IEEE International Conference on Computer Vision (ICCV) 2017.

16. **Detecting Visual Relationships with Deep Relational Networks**
    Bo Dai, Yuqi Zhang, and Dahua Lin.
    (Oral) IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2017.

Non-Refereed Papers

1. **Focal Frequency Loss for Generative Models**
   Liming Jiang, **Bo Dai**, Wayne Wu, Chen Change Loy.
   arXiv preprint arXiv:2012.12821

2. **Unsupervised Landmark Learning from Unpaired Data**
   Yinghao Xu, Ceyuan Yang, Ziwei Liu, **Bo Dai**, Bolei Zhou.
   arXiv preprint arXiv:2007.01053

3. **Video Representation Learning with Visual Tempo Consistency**
   Ceyuan Yang, Yinghao Xu, **Bo Dai**, Bolei Zhou.
   arXiv preprint arXiv:2006.15489

4. **Zeroth-Order Supervised Policy Improvement**
   Hao Sun, Ziping Xu, Yuhang Song, Meng Fang, Jiechao Xiong, **Bo Dai**, Zhengyou Zhang, Bolei Zhou.
   arXiv preprint arXiv:2006.06600

5. **Novel Policy Seeking with Constrained Optimization**
   Hao Sun, Zhenghao Peng, **Bo Dai**, Jian Guo, Dahua Lin, Bolei Zhou.
   arXiv preprint arXiv:2005.10696

6. **Evolutionary Stochastic Policy Distillation**
   Hao Sun, Xinyu Pan, **Bo Dai**, Dahua Lin, Bolei Zhou. arXiv preprint arXiv:2004.12909

ACADEMIC SERVICES

I reviewed papers for the following journals:
- Pattern Recognition
- IEEE Transactions on Multimedia (T-MM)
- IET Computer Vision
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS)
- IEEE Transactions on Cognitive and Developmental Systems (TCDS)
- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- International Journal of Computer Vision (IJCV)

I reviewed papers for the following conferences:
- AAAI Conference on Artificial Intelligence (AAAI)
- International Conference on Computer Vision (ICCV)
- IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- The North American Chapter of the Association for Computational Linguistics (NAACL)
- European Conference on Computer Vision (ECCV)
- Asian Conference on Computer Vision (ACCV)
- ACM Multimedia Conference (ACM MM)
- International Conference on Learning Representations (ICLR)

TEACHING EXPERIENCE

The Chinese University of Hong Kong
Teaching Assistant

- Image and Video Processing Spring 2018
- Problem Solving by Programming Spring 2018
- Probabilistic Modeling and Inference Spring 2017
- Information & Software Engineering Practice Fall 2016
- Problem Solving by Programming (Best TA) Spring 2016
- Linear Algebra and Vector Calculus for Engineers (Best TA) Fall 2015
- Information & Software Engineering Practice Spring 2015

Shanghai Jiao Tong University
Teaching Assistant

- Project Workshop of Database Fall 2014
- Project Workshop of Compiler Principles Fall 2013
- Programming Fall 2011