Zhizhong Li
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*I am currently a Ph.D student at Multimedia Laboratory (MMLAB)
of CUHK and will graduate at Summer 2019.*

Research Interests

Graph Convolution | Reinforcement Learning | Generative Models | Deep Learning | Ensemble Learning | Geometric Optimization

Education

2015–Now **The Chinese University of Hong Kong**, *Hong Kong*.
Ph.D. Candidate, Information Engineering. Advisor: Prof. Dahua Lin

2011–2015 **Peking University**, *Beijing, China*.
M.S. School of Mathematical Sciences. Symplectic Geometry. Advisor: Prof. Xiaobo Liu

2006–2010 **Zhengzhou University**, *Zhengzhou, China*.
B.S. Mathematics and Applied Mathematics
B.A. Double Major in English

Publication

– Sijie Yan*, **Zhizhong Li***, Yuanjun Xiong, Huahan Yan, Dahua Lin. Convolutional Sequence Generation for Skeleton-Based Action Synthesis. *Under Review*, 2019.

– Xingxing Zou*, **Zhizhong Li***, Ke Bai, Dahua Lin, Waikeung Wong. Explainable Clothing Aesthetic Evaluation with Gradient Penalty. *Under Review*, 2019.

[1] **Zhizhong Li**. A Stroke of Genius: Generating Images. In Xiao'ou Tang and Yukun Chen, editors, *Fundamentals of Artificial Intelligence (Senior High School Edition)*, chapter 8, pages 135–152. East China Normal University Press and The Commercial Press, 2018. [link]

[2] **Zhizhong Li** and Dahua Lin. Integrating Specialized Classifiers Based on Continuous Time Markov Chain. In *Proceedings of the Twenty-Sixth International Joint Conference on Artificial Intelligence (IJCAI)*, pages 2244–2251, 2017. [paper] [code]

[3] Xingcheng Zhang*, **Zhizhong Li***, Chen Change Loy, and Dahua Lin. PolyNet: A Pursuit of Structural Diversity in Very Deep Networks. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 718–726, 2017. [paper] [repo]

[4] **Zhizhong Li**, Deli Zhao, Zhouchen Lin, and Edward Y Chang. Determining Step Sizes in Geometric Optimization Algorithms. In *2015 IEEE International Symposium on Information Theory (ISIT)*, pages 1217–1221. IEEE, 2015. [paper] [code]

[5] **Zhizhong Li**, Deli Zhao, Zhouchen Lin, and Edward Y Chang. A New Retraction for Accelerating the Riemannian Three-Factor Low-Rank Matrix Completion Algorithm. In *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pages 4530–4538, 2015. [paper] [code]

Internship

May–Aug
2018
SenseTime, *Shenzhen, China.*
Intern at Training & Supercomputing Platform Supervisor: Shengen Yan
Develop the back-end of the SenseStudy AI package. It is an interactive system that helps beginners to learn concepts and techniques in machine learning.

Aug 2014–
Jul 2015
HTC, *Beijing, China.*
Intern at Advanced Algorithm Research Supervisor: Deli Zhao
Research on geometric optimization algorithms. Applying Riemannian geometry in solving the low-rank matrix decomposition problem for recommendation systems.

Teaching Assistant

TA at
CUHK
- Linear Algebra and Vector Calculus for Engineers (ESTR), *Spring 2019 and 2018*
- Introduction to Engineering Design, *Fall 2018, 2017 and 2016*
- Microcontrollers and Embedded Systems, *Spring 2017*
- Engineering Physics: Electromagnetics, Optics and Modern Physics, *Spring 2016*
- Simulation and Statistical Analysis, *Fall 2015*

TA at
PKU
- Geometry, School of Mathematics, *Fall 2013*
- Linear Algebra, Guanghua School of Management, *Spring 2013*
- Calculus, School of Economics, *Fall 2012*

Projects

Jul–Aug
2018
DeeCamp 2018.
Leader of the Killers Team
We use reinforcement learning to play StarCraft II. Our group proposed a novel paralleled multi-environment shaping method, which successfully solved the *Building Marines* minigame. [demo video]

Feb–May
2018
Clean Chinese Rare Book Images with GAN.
Work with Yu'an Liu
The digitalized Chinese rare books often has bad visual quality due to yellowish, translucent pages. We use CycleGAN with a novel edge-keeping loss term to remove artifacts and improve the image quality. [demo]

Nov 2017–
Apr 2018
AI Textbook.
Leader of the Writting Group
We wrote the first AI textbook in the world for high school students, which has been widely acclaimed. Except for the organizing and proofreading work, I am also the author of Chapter 8. [Douban] [Amazon]

Jul–Sep
2016
ImageNet 2016 Competition.
Co-leader of the CU-DeepLink Team
We won the third place in the classification+localization track of ILSVRC 2016. The proposed Very Deep PolyNet model achieves the highest single-model accuracy in the world at the time. [project] [results]

Contribution

Reviewer IJCV, NIPS, PRCV, Journal of Harbin Institute of Technology (New Series)
Contributor LIBLINEAR.jl | ganbase | LaTeX-Workshop | julia | vscode

Skills

- Python (PyTorch, TensorFlow), Julia, Matlab
- C#, ASP.NET

Interests

- Classical Guitar
- Squash