Xiaochen Lian

Research Scientist at Baidu Research USA

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Research Interests

Deep Learning, Reinforcement Learning and Computer Vision

Technical Skills

Programming languages: C/C++, Python, Matlab, R, Bash
Open-source projects: PaddlePaddle, XWorld, PARL, FLARE
Softwares: Bullet Physics, OpenGL, Linux, CMake, VIM, LaTeX

Education

University of California, Los Angeles

Sept. 2011 – Mar. 2017

Ph.D., Statistics
Advisor: Alan L. Yuille
Research areas: Computer Vision and Deep Learning
Thesis: Video and Image Analysis Using Local Information

Shanghai Jiao Tong University

M.S., Computer Science and Engineering Sept. 2008 – Mar. 2011
Advisor: Bao-Liang Lu
B.E., Computer Science and Engineering (ACM Honor Class) Sept. 2011 – Mar. 2017
Thesis advisor: Bao-Liang Lu

Work Experience

Institute of Deep Learning, Baidu USA

Apr. 2017 – present

Research Scientist
Learning platform and simulation environment for Artificial General Intelligence of embodied agents.
Open source projects:

- PARL & FLARE: A reinforcement learning platform, featuring: 1) A general front-end (i.e., interface between embodied agents and computational modules) that supports PaddlePaddle and PyTorch as the back-end. 2) Parallel computation in both simulation and learning. 3) A framework designed to let user easily implement complex algorithms.
  https://github.com/PaddlePaddle/PARL
  https://github.com/idlrl/flare
- XWorld: A C++/Python simulation environment package for reinforcement learning and artificial general intelligence of embodied agents, featuring a "teacher" infrastructure that emulates the teacher-student scenarios in real life.
  https://github.com/PaddlePaddle/XWorld

University of California, Los Angeles

Sept. 2011 – Mar. 2017

Research Assistant
Video and image analysis using local information. We study how local information can be used to help us understand the content of images and videos.
Pascal in Detail Challenge: https://sites.google.com/view/pasd

Institute of Deep Learning, Baidu USA

June 2016 – Sept. 2016

Research Intern
We develop a reinforcement learning platform based on PaddlePaddle.

Institute of Deep Learning, Baidu USA

June 2015 – Sept. 2015

Research Intern
Video action recognition using attention. We design an end-to-end learning framework with a mining module that discovers critical information from static and spatio-temporal regions of interest.

BCMI Lab of Shanghai Jiao Tong University July 2006 – Mar. 2011
Research Student
We design a gender recognition framework which integrates multiple information (e.g. face, hair, clothes).

Web Search and Mining Group, Microsoft Research Asia July 2009 – Apr. 2010
Research Intern
We propose two supervised dictionary learning algorithms for image classification.

System Research Group, Microsoft Research Asia July 2007 – Oct. 2007
Research Intern
Participate in the development of debugging tools on deployed distributed system.

Publications

[1] H. Yu, X. Lian, H. Zhang, and W. Xu
Guided Feature Transformation (GFT): A Neural Language Grounding Module for Embodied Agents
Conference on Robot Learning (CoRL), 2018.
https://arxiv.org/pdf/1805.08329.pdf

[2] V. Premachandran, B. Bonev, X. Lian, and A. Yuille
Pascal boundaries: A semantic boundary dataset with a deep semantic boundary detector
IEEE Winter Conference on Applications of Computer Vision (WACV), 2017.
https://skylian.github.io/papers/WACV2017.pdf

[3] W. Lu, X. Lian, and A. Yuille
Parsing Semantic Parts of Cars Using Graphical Models and Segment Appearance Consistency
British Machine Vision Conference (BMVC), 2014.
https://skylian.github.io/papers/BMVC2014.pdf

[4] T. Wu, X. Lian, and B. Lu
Multi-view gender classification using symmetry of facial images
Neural Computing and Applications 21(4), 661--669, 2012.
https://skylian.github.io/papers/Neurocomputing2012.pdf

[5] B. Li, X. Lian, and B. Lu
Gender classification by combining clothing, hair and facial component classifiers
Neurocomputing 76(1), 18--27, 2012.
https://www.sciencedirect.com/science/article/pii/S0925231211004589

[6] M. Li, X. Lian, J. Kwok, and B. Lu
Time and Space Efficient Spectral Clustering via Column Sampling
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2011.
https://skylian.github.io/papers/CVPR2011.pdf

[7] X. Lian, Z. Li, L. Zhang, and B. Lu
Max-Margin Dictionary Learning for Multiclass Image Categorization
European Conference on Computer Vision (ECCV), 2010.
https://skylian.github.io/papers/eccv2010.pdf

[8] X. Lian, Z. Li, C. Wang, L. Zhang, and B. Lu
Probabilistic Models for Supervised Dictionary Learning
IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2010.
https://skylian.github.io/papers/cvpr2010.pdf

[9] Z. Ji, X. Lian, and B. Lu
Gender classification by information fusion of hair and face
State of the Art in Face Recognition, 215--230, 2008.
https://skylian.github.io/papers/SAFR2008.pdf

[10] X. Lian and B. Lu
Gender Recognition Combining Facial and Hair Information
International Conference on Neural Information Processing (ICONIP), 2008.
https://skylian.github.io/papers/iconip2008.pdf

[11] X. Liu, Z. Guo, X. Wang, F. Chen, X. Lian, J. Tang, M. Wu, M. Kaashoek, and Z. Zhang

D^{3}S: Debugging Deployed Distributed Systems
5th USENIX Symposium on Networked Systems Design and Implementation (NSDI), 2008.
https://skylian.github.io/papers/NSDI2008.pdf

Reviewing Activities

Asian Conference on Computer Vision (ACCV)	2018
IEEE Conference on Computer Vision and Pattern Recognition (CVPR)	2011, 2012, 2018
IEEE International Conference on Computer Vision (ICCV)	2011

References

References available upon request