

Hao Li

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Education

University of Maryland, College Park <i>Ph.D. in Computer Science, Advisors: Prof. Hanan Samet and Tom Goldstein</i>	College Park, MD 2012 – 2017
Institute of Computing Technology, Chinese Academy of Sciences <i>M.S. in Computer Science, Advisor: Prof. Shiguang Shan</i>	Beijing, China 2009 – 2012
Shandong University <i>B.Eng. in Software Engineering</i>	Jinan, China 2005 – 2009

Research Interests

Fast and Scalable Machine Learning, Deep Learning, HPC, Distributed System

Experience

University of Maryland Institute for Advanced Computer Studies <i>Research Assistant with Prof. Hanan Samet and Prof. Tom Goldstein</i>	College Park, MD May 2013 - present
– Fast and scalable optimization methods for deep learning and reinforcement learning.	
– Near-duplicate image detection and streaming news image summarization.	
Machine Learning Team, Nervana Systems <i>Algorithms Engineer Intern</i>	San Diego, CA May - Aug 2016
– Developed a sub-module for Neon’s graph-backend, enabling executing the computation graph of TensorFlow with Neon.	
Machine Learning Department, NEC Labs America <i>Research Intern/Visiting Student</i>	Princeton, NJ Jan-Aug 2015/Jan-May 2016
– Research on fast and efficient convolutional neural networks.	
– Research on filter pruning for acceleration and compression of CNNs.	
Storage System Department, NEC Labs America <i>Research Intern</i>	Princeton, NJ May – Aug 2014
– Built MALT, a distributed data-parallel machine learning system with flexible peer-to-peer communication, utilizing one-side RDMA write over InfiniBand.	
Institute of Computing Technology, Chinese Academy of Sciences <i>Research Assistant with Prof. Shiguan Shan</i>	Beijing, China Jan 2011 - Jul 2012
– Multi-Person Tracking with Re-identification in Non-overlapping Camera Networks.	
Internet Graphics Group, Microsoft Research Asia <i>Research Intern with Ying-Qing Xu</i>	Beijing, China May – Nov 2010
– Bing Image Search Result Beautification.	
Media Computing Group, Microsoft Research Asia <i>Research Intern with Meng Wang</i>	Beijing, China Mar – Jul 2009
– Multimodal Graph-Based Reranking for Web Image Search.	

Publications

- Training Quantized Nets: A Deeper Understanding
Hao Li*, Soham De*, Zheng Xu, Christoph Studer, Hanan Samet, Tom Goldstein
arXiv preprint
- Adaptive Consensus ADMM for Distributed Optimization
Zheng Xu, Gavin Taylor, **Hao Li**, Mario Figueiredo, Xiaoming Yuan, and Tom Goldstein
International Conference on Machine Learning, (**ICML**), 2017
- Pruning Filters for Efficient ConvNets
Hao Li, Asim Kadav, Igor Durdanovic, Hanan Samet, Hans Peter Graf
International Conference on Learning Representations (**ICLR**), 2017
NIPS Workshop on Efficient Methods for Deep Neural Networks (EMDNN), 2016
- Streaming News Image Summarization
Hao Li, Shangfu Peng, Hanan Samet
International Conference on Pattern Recognition (**ICPR**), 2016 (Oral)
- Simplification and Refinement for Speedy Spatio-temporal Hot Spot Detection Using Spark (GIS Cup)
Shangfu Peng, Hong Wei, **Hao Li**, and Hanan Samet
ACM Int. Conf. on Advances in Geographic Information Systems (**SIGSPATIAL**), 2016 (Short)
- MALT: Distributed Data-Parallelism for Existing ML Applications
Hao Li, Asim Kadav, Erik Kruus, Cristian Ungureanu
ACM European Conference on Computer Systems (**EuroSys**), 2015
NIPS Workshop on Machine Learning Systems (LearningSys), 2015
- View Adaptive Metric Learning for Multi-view Person Re-identification
Canxiang Yang, Shiguang Shan, Dan Wang, **Hao Li**, Xilin Chen
Asian Conference on Computer Vision (**ACCV**), 2014
- Multimodal Graph-Based Reranking for Web Image Search
Meng Wang, **Hao Li**, Dacheng Tao, Ke Lu, Xindong Wu
IEEE Transactions on Image Processing (**T-IP**), 2012
- Optimizing Multimodal Reranking for Web Image Search
Hao Li, Meng Wang, Zhisheng Li, Zheng-Jun Zha, Jialie Shen
ACM SIGIR Conference on Research and Development in Information (**SIGIR**), 2011 (Short)
- MSRA-MM 2.0: A Large-Scale Web Multimedia Dataset
Hao Li, Meng Wang, Xian-Sheng Hua
IEEE Int. Conference on Data Mining (**ICDM**) Workshop on Internet Multimedia Mining, 2009

Awards

ICLR Student Travel Award	2017
Jacob K. Goldhaber Travel Grant, University of Maryland	2016
ACM EuroSys Student Travel Grant	2015
John D. Gannon Student Travel Grant, University of Maryland	2013
Dean's Fellowship, Department of Computer Science, University of Maryland	2012-14
ACM SIGIR Student Travel Grant	2011
Excellent Intern Award, Microsoft Research Asia	2010
Outstanding College Graduate of Shandong Province and Shandong University	2009
Meritorious Winner in Mathematical Contest in Modeling, USA	2008
National Second Prize in China Undergraduate Mathematical Contest in Modeling	2007

Professional Activities

Journal Reviewer for Neurocomputing, Multimedia Systems

Conference Reviewer for NIPS 2016, CIKM 2014, ICME 2013/2014

Programming Skills

Language: Python, Lua, C++/C, Java, C#, Matlab, Go

Tools: Torch7, TensorFlow, Neon, MPI, GASPI, ZMQ, Hadoop

Teaching Assistant Experience

CMSC 764 Advanced Numerical Optimization, with Prof. Tom Goldstein Spring 2017

CMSC 828Z Reinforcement Learning, with Prof. Hal Daumé Fall 2016

CMSC 216 Introduction to Computer Systems Fall 2015

CMSC 426 Programming Handheld Systems Spring 2013

CMSC 330 The Organization of Programming Languages Fall 2012/2013

Patents

Parallelized Machine Learning With Distributed Lockless Training. US Patent 20,160,103,901

MALT: Distributed Data-Parallelism for Existing ML Applications. US Patent 20,160,125,316