YANG SHI

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CAREER OBJECTIVE

Fifth year Ph.D. candidate in the department of EECS at UC Irvine seeking opportunities in machine learning research. Working in TensorLab (located at Caltech), advised by Anima Anandkumar. I am expecting to graduate in June, 2019.

EDUCATION

University of California, Irvine   *June 2019(Expected)*
Ph.D. in Electrical Engineering   Overall GPA: 3.92/4.00
University of Pennsylvania   *May 2014*
M.S. in Electrical Engineering   Overall GPA: 4.00/4.00
Nanjing University of Science and Technology   *June 2012*
B.S. in Electrical Engineering   Overall GPA: 91/100

PUBLICATIONS

Tensor vs Matrix Methods:Robust Tensor Decomposition under Block Sparse Perturbations
Animashree Anandkumar, Prateek Jain, **Yang Shi**, U.N. Niranjan   *AISTATS 2016*
Tensor Contractions with Extended BLAS Kernel on CPU and GPU
Yang Shi, U.N. Niranjan, Animashree Anandkumar, Cris Cecka   *HiPC 2016*
Compact Tensor Pooling for Visual Question Answering   *CVPR 2017 VQA workshop*
Yang Shi, Tommaso Furlanello, Animashree Anandkumar
Question Type Guided Attention in Visual Question Answering   *ECCV 2018*
Yang Shi, Tommaso Furlanello, Sheng Zha, Animashree Anandkumar
Multi-dimensional Count Sketch: Dimension Reduction That Retains Efficient Tensor Operations
Yang Shi, Animashree Anandkumar   *NIPS 2018 DLT workshop*

EXPERIENCE

AWS Deep Learning Project   Jan 2017 - Dec 2017
Applied Scientist Intern   *Amazon*

– Contributed to MXNet:
  • developed customized operators Count Sketch and FFT/IFFT on GPU platform
  • edited the deep learning notebook(github:mxnet-the-straight-dope)
– Worked on Visual Question Answering:
  • used question type to select different image features
  • applied to 1.6M image-question pairs dataset

Tensor Contraction with Extended BLAS Kernel on CPU and GPU   July 2015 - Jan 2016
Lead Developer   *UC Irvine*

– Efficient and simplified tensor contraction platform with extended BLAS kernel:
  • designed platform specific for one-index 3rd-order tensor contraction
  • avoided out-of-place computation as much as possible
  • outperformed current libraries: BTAS, FTensor, Cyclops and TensorToolbox
  • available in CuBLAS 8.0

Nonconvex Tensor Robust Principle Component Analysis   Oct. 2014 - July 2015
Group Member   *UC Irvine*

– Nonconvex alternating minimization algorithm:
  - yielded guaranteed convergence to the globally optimal solution under certain condition
  - applied to video denoising

ADDITIONAL EXPERIENCE

Visiting scholar at Caltech   Jan 2018 - Now
Visiting scholar   *Caltech*

· Estimate tensor operations using dimension reduction techniques

Stock Quantization and Analysis   July 2016 - August 2016
Researcher   *Sinolink Securities*

· Find best stock combination from stock pool

Streaming Robust Principle Component Analysis   June 2016 - July 2016
Group Member   *UC Irvine*

· Consider robust PCA in streaming setting with sparse constraints

Leak Detection in Water System Using a Higher Order CRF Model March 2016 - May 2016
Group Member   *UC Irvine*

· Model the water network and predict leakage in multi-positions

Tensor Decomposition Applications   Oct. 2014 - Feb. 2015
Lead Developer   *UC Irvine*

· Solve topic modeling, HMM and ICA models using Method of Moment

Network Quality Analysis   July 2014 - Aug. 2014
Network Engineer   *China Mobile Research Institute (Beijing)*

Investigation of Different Kinds of Supercapacitors   Jan. 2013 - May 2014
Group Member   *University of Pennsylvania*

Investigation of Lumped Element Equivalent Circuit for Distributed Microwave Circuit
Mar. 2012 - May 2012
Lead Developer   *Technical University of Munich*

TECHNICAL STRENGTHS

Computer Languages	Python, C++
Tools/Platforms	Cuda, Matlab, Emacs, Jupyter Notebook
Deep Learning Platform	MXNet, Pytorch

RELEVANT COURSE WORK

Machine Learning	Large Scale Machine Learning
Deep Learning and Neural Networks	Random Process
Statistical Learning Theory	Probabilistic Learning
Graphical Models	Detection and Estimation Theory
Graph Algorithm	Linear System Theory
Introduction to Optimization Theory	Introduction to Networks and Protocols
Digital Communication System	Digital Integrated Circuits and VLSI-Fundamentals