

Dehua Cheng

CONTACT INFORMATION	USC Viterbi School of Engineering http://www.dehuacheng.com/	Los Angeles, CA 90089 chengdehua7197@gmail.com
RESEARCH INTERESTS	Randomized numerical algorithm, sparse learning, tensor analysis, parallel inference, topic modeling.	
EDUCATION	University of Southern California , Los Angeles, CA Ph.D., Computer Science, Fall 2017 <ul style="list-style-type: none">• Advisor: Yan Liu, Ph.D Tsinghua University , Beijing, China B.S., Mathematics and Physics, July 2012 <ul style="list-style-type: none">• Thesis advisor: Changshui Zhang, Ph.D	
EXPERIENCE	Research Scientist Applied Machine Learning, Facebook Inc., Menlo Park, CA	Jan. 2018 to present
	Research Assistant Department of Computer Science, University of Southern California, Supervisor: Yan Liu, Ph.D	May 2013 to Dec. 2017
	Software Engineer Intern Feed Machine Learning Facebook Inc., Menlo Park, CA Supervisor: Qichao Que, Ph.D	May 2017 to Aug. 2017
	Summer Research Intern IBM Research Thomas J Watson Research Center, Yorktown Height, NY Supervisor: Jie Chen, Ph.D	May 2016 to Aug. 2016
REFEREED PUBLICATIONS	<ol style="list-style-type: none">1. Michael Tsang, Dehua Cheng, Yan Liu, “Detecting Statistical Interactions from Neural Network Weights.”, In <i>Proceedings of the Sixth International Conference on Learning Representations (ICLR '18)</i>, 20182. Dehua Cheng, Natali Ruchansky, Yan Liu, “Matrix completability analysis via graph k-connectivity.”, In <i>Proceedings of the Seventeenth International Conference on Artificial Intelligence and Statistics (AISTATS '18)</i>, 20183. Dehua Cheng, Richard Peng, Ioakeim Perros, Yan Liu, “SPALS: Fast Alternating Least Squares via Implicit Leverage Scores Sampling”, In <i>Advances in Neural Information Processing Systems (NIPS '16)</i>, 20164. Dehua Cheng, Yu Cheng, Yan Liu, Richard Peng, Shang-Hua Teng, “Efficient Sampling for Gaussian Graphical Models via Spectral Sparsification”, In <i>Proceedings of The 28th Conference on Learning Theory (COLT '15)</i>, 20155. Qi Yu, Dehua Cheng, Yan Liu, “Accelerated Online Low Rank Tensor Learning for Multivariate Spatiotemporal Streams”, In <i>Proceedings of The 32nd International Conference on Machine Learning (ICML '15)</i>, 2015	

6. **Dehua Cheng**, Xinran He, Yan Liu, “Model Selection for Topic Models via Spectral Decomposition”, In *Proceedings of the Seventeenth International Conference on Artificial Intelligence and Statistics (AISTATS '15)*, 2015
7. **Dehua Cheng**, Yan Liu, “Parallel Gibbs Sampling for Hierarchical Dirichlet Processes via Gamma Processes Equivalence”, In *Proceedings of the 20th ACM SIGKDD international conference on Knowledge discovery and data mining (KDD '14)*, 2014
8. **Dehua Cheng**, Mohammad Taha Bahadori, Yan Liu, “FBLG: A Simple and Effective Approach for Temporal Dependence Discovery from Time Series Data”, In *Proceedings of the 20th ACM SIGKDD international conference on Knowledge discovery and data mining (KDD '14)*, 2014

PREPRINTS

1. Jie Chen, **Dehua Cheng**, Yan Liu, “On Bochner’s and Polya’s Characterizations of Positive-Definite Kernels and the Respective Random Feature Maps.”, *arXiv:1610.08861*, 2015
2. **Dehua Cheng**, Yu Cheng, Yan Liu, Richard Peng, Shang-Hua Teng, “Spectral Sparsification of Random-Walk Matrix Polynomials”, *arXiv:1502.03496*, 2015
3. **Dehua Cheng**, Yu Cheng, Yan Liu, Richard Peng, Shang-Hua Teng, “Scalable Parallel Factorizations of SDD Matrices and Efficient Sampling for Gaussian Graphical Models”, *arXiv:1410.5392*, 2014

AWARDS

- Student Awards — University of Southern California
- Excellence in Graduate Research Award in Machine Learning May 2017
 - USC Annenberg Graduate Fellowship 2012 – 2017
- Travel Awards
- The 20th ACM SIGKDD international conference on Knowledge discovery and data mining, New York, NY Aug. 2014

PRESENTATIONS

- Invited Talk
- Exploring LDA: Parallel Inference and Model Selection USC/ISI NLP seminar May 2015
- Conference
- KDD '14 on “Parallel Gibbs Sampling for Hierarchical Dirichlet Processes via Gamma Processes Equivalence”, New York, NY Aug. 2014
 - KDD '14 on “FBLG: A Simple and Effective Approach for Temporal Dependence Discovery from Time Series Data”, New York, NY Aug. 2014
 - COLT '15 on “Efficient Sampling for Gaussian Graphical Models via Spectral Sparsification”, Paris, France Jul. 2015

SERVICE

- Student Volunteer, NIPS '16 Dec. 2016
- Workshop Organizer, MiLeTs @ KDD '16 Aug. 2016
- Student Volunteer, ICML '15 Jul. 2015
- Student Volunteer, KDD '14 Aug. 2014

PROFESSIONAL SKILLS

- Computer Programming:
- Python, C/C++, MATLAB, L^AT_EX, and others