

Ming Yan

Michigan State University
Department of CMSE
Department of Mathematics
428 South Shaw Lane
East Lansing, MI 48824

Office: 1514 Engineering Building,
Phone: (517)432-0401
Email: myan@msu.edu
Homepage: <http://users.math.msu.edu/users/yanm/>

Education

- 2008-2012 *University of California, Los Angeles (UCLA)*, Los Angeles, CA, USA
Ph.D. in Mathematics, 2012
Dissertation: [Image and Signal Processing with Non-Gaussian Noise: EM-Type Algorithms and Adaptive Outlier Pursuit](#)
Advisor: Professor [Luminita A. Vese](#)
- 2001-2008 *University of Science and Technology of China (USTC)*, Hefei, Anhui, China
M.S. in Mathematics, 2008
B.S. in Mathematics, 2005

Employment

- 07/2015-present *Michigan State University (MSU)*, East Lansing, MI, USA
Assistant Professor, Department of Computational Mathematics, Science and Engineering
Assistant Professor, Department of Mathematics
- 07/2014-06/2015 *University of California, Los Angeles*, Los Angeles, CA, USA
Assistant Adjunct Professor, Department of Mathematics
- 07/2013-06/2014 *University of California, Los Angeles*, Los Angeles, CA, USA
Postdoctoral Scholar, Department of Mathematics
- 07/2012-06/2013 *Rice University*, Houston, TX, USA
Postdoctoral Fellow, Department of Computational and Applied Mathematics

Grants

- 04/2019-03/2021 Co-PI (45%), Ford-MSU Innovation Alliance (\$193K)
08/2018-08/2023 Key Personnel (4%), NSF DGE-1828149 (\$3,000K)
08/2018-08/2020 PI (50%), Industry (\$130K)
09/2016-08/2019 Single-PI, NSF DMS-1621798 (\$150K)

Publications

The diamond suit “ \diamond ” means alphabetical order; the club suit “ \clubsuit ” means corresponding author; The underline “ ” means advised students or postdocs.

(A) 2016-present

- \diamond 37 J. Liu, **M. Yan**, and T. Zeng, [Surface-aware blind image deblurring](#), *IEEE Transactions on Pattern Analysis and Machine Intelligence*, accepted.
- 36 H. Lyu, [N. Sha](#), S. Qin, **M. Yan**, Y. Xie, and R. Wang, Manifold denoising by nonlinear robust principal component analysis, *In: Proceedings of the Conference on Neural Information Processing*

Systems (NeurIPS 2019). (acceptance rate=1428/6743=21.2%)

- ◇35 J. Liu, **M. Yan**, J. Zeng, and T. Zeng, [Image smoothing via gradient sparsity and surface area minimization](#), *In: Proceedings of IEEE International Conference on Image Processing (ICIP 2019)*, 1114–1118. (acceptance rate=945/2068=45.7%)
- 34 [N. Sha](#), **M. Yan**, and Y. Lin, [Efficient seismic denoising techniques using robust principal component analysis](#), *In: SEG Technical Program Expanded Abstracts (SEG 2019)*, 2543–2547.
- ◇33 [Z. Li](#), W. Shi, and **M. Yan**, [A decentralized proximal-gradient method with network independent step-sizes and separated convergence rates](#), *IEEE Transactions on Signal Processing*, 67 (2019), 4494–4506.
- 32 Y. Hao, **M. Yan**, B. Heath, Y. Lei, and Y. Xie, [Fast and robust deconvolution of tumor infiltrating lymphocyte from expression profiles using least trimmed squares](#), *PLOS Computational Biology*, 15 (2019), e1006976.
- ♣31 X. Huang, H. Yang, Y. Huang, L. Shi, F. He, A. Maier, and **M. Yan**, [Robust mixed one-bit compressive sensing](#), *Signal Processing*, 162 (2019), 161–168.
- ◇30 Z. Peng, Y. Xu, **M. Yan**, and W. Yin, [On the convergence of asynchronous parallel iteration with unbounded delays](#), *Journal of Operations Research Society of China*, 7 (2019), 5–42.
- ♣29 X. Huang, L. Shi, **M. Yan**, and J. Suykens, [Pinball loss minimization for one-bit compressive sensing: Convex models and algorithms](#), *Neurocomputing*, 314 (2018), 275–283.
- ◇28 F. He, X. Huang, Y. Liu, and **M. Yan**, [Fast signal recovery from saturated measurements by linear loss and nonconvex penalties](#), *IEEE Signal Processing Letters*, 25 (2018) 1374–1378.
- 27 H. Tang, X. Lian, **M. Yan**, Ce Zhang, and Ji Liu, [D²: Decentralized training over decentralized data](#), *In: Proceedings of International Conference on Machine Learning (ICML 2018)*, PMLR 80 (2018), 4848–4856. (acceptance rate=618/2473=25.0%)
- 26 **M. Yan**, [A new primal-dual algorithm for minimizing the sum of three functions with a linear operator](#), *Journal of Scientific Computing*, 76 (2018), 1698–1717.
- ◇25 Y. Lou and **M. Yan**, [Fast l1-l2 minimization via a proximal operator](#), *Journal of Scientific Computing*, 74 (2018), 767–785.
- ◇24 X. Huang and **M. Yan**, [Non-convex penalties with analytical solutions for one-bit compressive sensing](#), *Signal Processing*, 144 (2018), 341–351.
- 23 Q. Xu, **M. Yan**, C. Huang, J. Xiong, Q. Huang, and Y. Yao, [Exploring outliers in crowdsourced ranking for QoE](#), *In: Proceedings of the ACM International Conference on Multimedia (MM 2017)*, 1540–1548. (acceptance rate=189/684=27.6%, oral presentation=49/684=7.2%)
- ◇22 **M. Yan** and W. Yin, [Self equivalence of the alternating direction method of multipliers](#), in *R. Glowinski, S. Osher, and W. Yin (Eds.), Splitting Methods in Communication and Imaging, Science and Engineering* (2016), New York, Springer, 165–194.
- 21 I. Baytas, **M. Yan**, A. Jain, and J. Zhou, [Asynchronous multi-task learning](#), *In: Proceedings of IEEE International Conference on Data Mining (ICDM 2016)*, 11–20. (acceptance rate=178/904=19.6%, long paper=78/904=8.6%)
- 20 L. Chen, **M. Yan**, C. Qian, N. Xi, Z. Zhou, Y. Yang, B. Song, and L. Dong, [Nonconvex compressive video sensing](#), *Journal of Electronic Imaging*, 25 (2016), 063003.
- ♣19 H. Zhang, **M. Yan**, and W. Yin, [One condition for solution uniqueness and robustness of both l1-synthesis and l1-analysis minimizations](#), *Advances in Computational Mathematics*, 42 (2016), 1381–1399.

- ◇18 Z. Peng, Y. Xu, **M. Yan**, and W. Yin, [ARock: an algorithmic framework for asynchronous parallel coordinate updates](#), *SIAM Journal on Scientific Computing*, 38 (2016), A2851–A2879.
 - ◇17 F. Li, S. Osher, J. Qin, and **M. Yan**, [A multiphase image segmentation based on fuzzy membership functions and L1-norm fidelity](#), *Journal of Scientific Computing*, 69 (2016), 82–106.
 - ◇16 Z. Peng, T. Wu, Y. Xu, **M. Yan**, and W. Yin, [Coordinate friendly structures, algorithms and applications](#), *Annals of Mathematical Sciences and Applications*, 1 (2016), 57–119.
- (B) *Before 2016*
- ◇15 X. Huang, L. Shi, and **M. Yan**, [Nonconvex sorted \$\ell_1\$ minimization for sparse approximation](#), *Journal of Operations Research Society of China*, 3 (2015), 207–229.
 - ◇14 Z. Peng, **M. Yan**, and W. Yin, [Parallel and distributed sparse optimization](#), *In: Proceedings of IEEE Asilomar Conference on Signals Systems and Computers*, 2013, 659–664. (**Best Student Paper Finalist**)
 - 13 **M. Yan**, A. Bui, J. Cong, and L. A. Vese, [General convergent expectation maximization \(EM\)-type algorithms for image reconstruction](#), *Inverse Problems and Imaging*, 7 (2013), 1007–1029.
 - 12 **M. Yan**, Y. Yang, and S. Osher, [Exact low-rank matrix completion from sparsely corrupted entries via adaptive outlier pursuit](#), *Journal of Scientific Computing*, 56 (2013), 433–449.
 - 11 **M. Yan**, [Restoration of images corrupted by impulse noise and mixed Gaussian impulse noise using blind inpainting](#), *SIAM Journal on Imaging Sciences*, 6 (2013), 1227–1245.
 - 10 **M. Yan**, [Convergence analysis of SART: optimization and statistics](#), *International Journal of Computer Mathematics*, 90 (2013), 30–47.
 - ◇9 J. Chen, J. Cong, L. A. Vese, J. Villasenor, **M. Yan**, and Y. Zou, [A hybrid architecture for compressive sensing 3D CT reconstruction](#), *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, 2 (2012), 616–625.
 - 8 **M. Yan**, Y. Yang, and S. Osher, [Robust 1-bit compressive sensing using adaptive outlier pursuit](#), *IEEE Transactions on Signal Processing*, 60 (2012), 3868–3875.
 - ◇7 J. Chen, J. Cong, **M. Yan**, and Y. Zou, [FPGA-accelerated 3D reconstruction using compressive sensing](#), *In: Proceedings of the ACM/SIGDA International Symposium on Field Programmable Gate Arrays (FPGA 2012)*, 163–166. (acceptance rate: 36/87=41.4%)
 - 6 **M. Yan**, [EM-type algorithms for image reconstruction with background emission and Poisson noise](#), *In: Proceedings of 7th International Symposium on Visual Computing*, Lecture Notes in Computer Science (LNCS), 6938 (2011), 33–42.
 - 5 **M. Yan**, J. Chen, L. A. Vese, J. Villasenor, A. Bui, and J. Cong, [EM+TV based reconstruction for cone-beam CT with reduced radiation](#), *In: Proceedings of 7th International Symposium on Visual Computing*, Lecture Notes in Computer Science (LNCS), 6938 (2011), 1–10.
 - 4 J. Chen, **M. Yan**, L. A. Vese, J. Villasenor, A. Bui, and J. Cong, [EM+TV for reconstruction of cone-beam CT with curved detectors using GPU](#), *In: Proceedings of International Meeting on Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine*, 2011, 363–366.
 - 3 **M. Yan** and L. A. Vese, [Expectation maximization and total variation based model for computed tomography reconstruction from undersampled data](#), *In: Proceedings of SPIE Medical Imaging: Physics of Medical Imaging*, 7961 (2011), 79612X.
 - ◇2 H. Han and **M. Yan**, [A mixed finite element method on a staggered mesh for Navier-Stokes equations](#), *Journal of Computational Mathematics*, 26 (2008), 816–824.
 - ♣1 H. Han, **M. Yan**, and C. Wu, [An energy regularization method for the backward diffusion problem and its applications to image deblurring](#), *Communications in Computational Physics*, 4 (2008), 177–194.

(C) Submitted / Preprints

- S6 X. Zeng, **M. Yan**, and M. Zhang, Mercury: a framework for efficient on-device distributed deep learning, submitted.
- S5 H. Ouassal, T. Rocco, **M. Yan**, and J. Nanzler, Decentralized frequency synchronization in distributed antenna arrays with quantized frequency states and directed communications, *IEEE Transactions on Antennas and Propagation*, submitted.
- S4 [Y. Li](#), [X. Liu](#), J. Tang, and **M. Yan**, [A double residual compression algorithm for efficient distributed learning](#), submitted.
- S3 C. Wang, **M. Yan**, and Y. Lou, [Accelerated schemes for the L1/L2 minimization](#), submitted.
- S2 [Y. Li](#) and **M. Yan**, [On linear convergence of two decentralized algorithms](#), submitted.
- S1 [Z. Li](#) and **M. Yan**, [A primal-dual algorithm with optimal stepsizes and its application in decentralized consensus optimization](#), submitted.

(D) Technical Reports and Other Publications

- T4 X. Huang, Y. Xia, L. Shi, Y. Huang, **M. Yan**, J. Hornegger, and A. Maier, [Mixed one-bit compressive sensing with application to overexposure correction for CT reconstruction](#), arXiv:1701.00694. (A later version is published in *Signal Processing* 2019 (cg. [31]))
- T3 Q. Xu, **M. Yan**, and Y. Yao, [Fast adaptive least trimmed squares for robust evaluation of quality of experience](#), arXiv: 1407.7636, 2014. (A later version is published in *ACM Multimedia* 2017 (cf. [23]))
- T2 Z. Fan, F. Guan, C. Wu, and **M. Yan**, [The continuity of images by transmission imaging revisited](#), arXiv: 1401.1558, 2014.
- T1 **M. Yan**, [General convergent expectation maximization \(EM\)-type algorithms for image reconstruction with background emission and Poisson noise](#), UCLA CAM report 11–56, 2011.

Honors and Awards

2018	Academy for Global Engagement Fellowship, MSU
2014	Nominee for Chancellor's Award for Postdoctoral Research, UCLA
2012-2014	AMS-Simons Travel Grant
2010	Chancellor's Fellowship, UCLA
2009	Horn-Moez Fellowship, UCLA
2008	Roy and Dorothy John Fellowship, UCLA
2005	Outstanding Graduate Scholarship, USTC
2002,2003,2004	Outstanding Student Scholarship, USTC

Presentations

Conference Presentations

10/26/2019	Distributed optimization algorithms over networks, <i>Conference on Computational Mathematics and Applications</i> , University of Nevada, Las Vegas, NV
10/14/2019	Data compression in distributed learning, <i>Computational Imaging</i> , Institute for Mathematics and its Applications, Minneapolis, MN
11/03/2018	Signal and image recovery from saturated measurements, <i>International Conference on Mathematics of Data Science</i> , Old Dominion University, Norfolk, VA

- 10/26/2018 Primal-dual algorithms and their applications, *Recent Advances in Machine Learning and Computational Methods for Geoscience*, Institute for Mathematics and its Applications, Minneapolis, MN
- 07/13/2018 Distributed consensus optimization algorithms over networks, *Workshop on Differential Equations on Networks and Related Problems*, Zhejiang University, Hangzhou, China
- 06/23/2018 Primal-dual algorithms for the sum of functions, *2018 International Workshop on Signal Processing, Optimization and Compressed Sensing*, Nanjing University, Nanjing, China
- 05/05/2018 AROck: Asynchronous parallel coordinate updates, *SIAM Conference on Applied Linear Algebra*, Hong Kong
- 01/09/2018 Primal-dual algorithms for the sum of two and three functions, *11th US & Mexico Workshop on Optimization and its Applications*, Huatulco, Mexico
- 12/19/2017 Primal-dual algorithms for the sum of two and three functions, *2017-2018 Fudan-Guanghua International Forum for Young Scholars on Mathematics*, Fudan University, Shanghai, China
- 10/26/2017 Exploring outliers in crowdsourced ranking for QoE, *25th ACM International Conference on Multimedia*, Mountain View, CA
- 10/21/2017 A primal-dual three-operator splitting, *2017 Midwest Optimization Meeting*, Oakland University, Rochester, MI
- 07/12/2017 A new primal-dual operator splitting scheme and its applications, *15th EUROPT Workshop on Advances in Continuous Optimization*, Montreal, Canada
- 05/27/2017 A new primal-dual operator splitting scheme and its applications, *Numerical Partial Differential Equations and Scientific Computing*, Tsinghua University, Beijing, China
- 05/24/2017 Primal-dual algorithms for the sum of three operators, *SIAM Conference on Optimization*, Vancouver, British Columbia, Canada
- 03/01/2017 AROck: an algorithmic framework for asynchronous parallel coordinate updates, *SIAM Conference on Computational Science and Engineering*, Atlanta, GA
- 12/19/2016 A new primal-dual operator splitting scheme and its applications in image processing, *2016 International Workshop on Signal Processing, Optimization and Compressed Sensing*, Nankai University, Tianjin, China
- 12/18/2016 Primal-dual algorithms for the sum of three operators, *2016 Young Mathematician Forum*, Peking University, Beijing, China
- 05/25/2016 Nonconvex sorted L1 minimization for sparse approximation, *SIAM Conference on Imaging Science*, Albuquerque, NM
- 05/24/2016 AROck: an algorithmic framework for asynchronous parallel coordinate updates, *SIAM Conference on Imaging Science*, Albuquerque, NM
- 02/01/2016 Topics on mathematical image processing and parallel optimization, *SAMSI Optical Imaging Data Analysis Workshop*, Research Triangle Park, NC
- 11/04/2015 A framework of asynchronous parallel algorithms for monotone inclusions and optimization, *2015 INFORMS Annual Meeting*, Philadelphia, PA
- 11/01/2015 Self equivalence of the alternating direction method of multipliers, *2015 INFORMS Annual Meeting*, Philadelphia, PA
- 10/03/2015 AROck: an algorithmic framework for asynchronous parallel coordinate updates, *AMS Central Fall Sectional Meeting*, Chicago, IL
- 07/13/2015 Self equivalence of the alternating direction method of multipliers, *The International Symposium on Optimization*, Pittsburgh, PA
- 05/21/2014 Inverse scale space: New regularization path for sparse regression, *SIAM Conference on Optimization*, San Diego, CA
- 05/14/2014 Parallel and distributed sparse optimization, *SIAM Conference on Imaging Science*, Hong Kong
- 12/27/2013 Inverse scale space: New regularization path for sparse regression, *2013 International workshop on Signal Processing, Optimization and Compressed Sensing*, Harbin Institute of Technology, Harbin, China

- 02/19/2013 General convergent expectation maximization (EM)-type algorithms for image reconstruction, *CTW: Mathematical Challenges in Biomolecular/Biomedical Imaging and Visualization*, MBI, The Ohio State University, Columbus, OH
- 05/21/2012 Restoration of images corrupted by impulse noise using blind inpainting and ℓ_0 norm, *SIAM Conference on Imaging Science*, Philadelphia, PA
- 12/2011 Accelerating medical image reconstruction and analysis using domain specific computing (Exhibit), *RSNA 2011*, Chicago, IL
- 09/2011 EM+TV based reconstruction for cone-beam CT with reduced radiation, *7th International Symposium on Visual Computing*, Las Vegas, NV
- 09/2011 EM-type algorithms for image reconstruction with background emission and Poisson noise, *7th International Symposium on Visual Computing*, Las Vegas, NV
- 08/2011 Expectation maximization (EM)-type algorithms for image reconstruction (Poster), *Second Midwest Conference on Mathematical Methods for Images and Surfaces*, Department of Mathematics, Michigan State University, MI
- 07/2011 EM+TV for computerized tomography reconstruction, *7th International Congress on Industrial and Applied Mathematics*, Vancouver, BC, Canada
- 02/2011 Expectation maximization and total variation based model for computed tomography reconstruction from undersampled data, *SIAM Conference on Computational Science and Engineering*, Reno, NV
- 02/2011 Convergence analysis of SART by Bregman iteration and dual gradient descent, *SIAM Conference on Computational Science and Engineering*, Reno, NV
- 02/2011 Expectation maximization and total variation based model for computed tomography reconstruction from undersampled data (Poster), *SPIE Medical Imaging*, Orlando, FL
- 09/2010 Expectation maximization and total variation based model for computed tomography reconstruction from undersampled data, *Modern Trends in Optimization and Its Application*, IPAM, UCLA, CA
- 06/2010 An energy regularization method for the backward diffusion problem and its applications to image deblurring, *New Vistas in Image Processing and PDEs*, Center for Nonlinear Analysis, Carnegie Mellon University, Pittsburgh, PA
- 12/2007 An energy regularization method for the backward diffusion problem and its applications to image deblurring, *Fourth Pacific Rim Conference on Mathematics*, City University of Hong Kong, Hong Kong

Seminar and Colloquium Presentations

- 12/20/2018 Distributed consensus optimization over networks, *School of Science, Harbin Institute of Technology, Shenzhen*, Shenzhen, China
- 12/11/2018 Distributed consensus optimization over networks, *Department of Mathematics, South University of Science and Technology*, Shenzhen, China
- 12/05/2018 Distributed consensus optimization over networks, *Center for Mathematical Sciences, Huazhong University of Science and Technology*, Wuhan, China
- 12/03/2018 Distributed consensus optimization over networks, *School of Mathematical Sciences, Fudan University*, Shanghai, China
- 10/12/2018 Primal-dual algorithms for minimizing the sum of two or three functions, *Institute for Data and Decision Analytics, Chinese University of Hong Kong, Shenzhen*, Shenzhen, China
- 09/13/2018 Distributed consensus optimization, *Department of Electrical and Computer Engineering, Michigan State University*, East Lansing, MI
- 06/14/2018 Recent primal-dual algorithm for solving convex optimization problems in machine learning, *Los Alamos National Lab*, Los Alamos, NM
- 05/04/2018 Distributed consensus optimization, *Department of Mathematics, Hong Kong University of Science and Technology*, Hong Kong
- 03/07/2018 Primal-dual algorithms for the sum of two and three functions, *School of Science, Harbin Institute of Technology, Shenzhen*, Shenzhen, China

12/20/2017	Primal-dual algorithms for the sum of two and three functions, <i>School of Mathematical Sciences, USTC, Hefei, China</i>
12/13/2017	Primal-dual algorithms for the sum of two and three functions, <i>Department of Mathematics, South University of Science and Technology of China, Shenzhen, China</i>
06/21/2017	A new primal-dual operator splitting scheme and its applications, <i>School of Data and Computer Science, Sun Yat-Sen University, Guangzhou, China</i>
06/19/2017	A new primal-dual operator splitting scheme and its applications, <i>School of Mathematics and Statistics, Guizhou University, Guiyang, China</i>
06/06/2017	A new primal-dual operator splitting scheme and its applications, <i>School of Mathematical Sciences, Shanghai Jiaotong University, Shanghai, China</i>
05/02/2017	A new primal-dual operator splitting scheme and its applications, <i>Department of Mathematics, University at Buffalo, Buffalo, NY</i>
03/10/2017	A new primal-dual operator splitting scheme and its applications, <i>Department of Mathematics, Hong Kong University of Science and Technology, Hong Kong</i>
01/06/2017	A primal-dual three-operator splitting, <i>School of Science and Engineering, Chinese University of Hong Kong, Shenzhen, Shenzhen, China</i>
12/14/2016	A primal-dual three-operator splitting, <i>Beijing International Center for Mathematical Research, Peking University, Beijing, China</i>
10/14/2016	ARock: an Asynchronous Parallel Algorithmic Framework, <i>Department of Mathematics, Applied Mathematics and Statistics, Case Western Reserve University, OH</i>
08/19/2016	ARock: an Asynchronous Parallel Algorithmic Framework, <i>Erlangen Graduate School in Advanced Optical Technologies, Friedrich-Alexander University Erlangen-Nürnberg, Bavaria, Germany</i>
08/03/2016	ARock: Asynchronous Parallel Coordinate Updates, <i>College of Mathematics and Statistics, Shenzhen University, Shenzhen, China</i>
07/22/2016	ARock: Asynchronous Parallel Coordinate Updates, <i>School of Computer Science and Engineering, Nanjing University of Science and Technology, Nanjing, China</i>
07/19/2016	ARock: Asynchronous Parallel Coordinate Updates, <i>School of Mathematical Sciences, USTC, Hefei, China</i>
07/08/2016	Asynchronous parallel computing in signal processing and machine learning, <i>School of Mathematical Sciences, Fudan University, Shanghai, China</i>
11/2015	Department of Mathematics, University of Alabama at Birmingham, AL
11/2015	Department of Mathematics, George Washington University, DC
10/2015	Department of Mathematics, Michigan State University, MI
10/2015	Electrical Engineering and Computer Science Department, University of Michigan, MI
02/2015	Department of Mathematics, University of Alabama, AL
01/2015	Department of Mathematics, Syracuse University, NY
01/2015	Department of Mathematics, Michigan State University, MI
01/2015	Department of Mathematics, North Carolina State University, NC
11/2014	Level Set Collective, Institute for Pure and Applied Mathematics, UCLA, CA
05/2014	School of Mathematical Sciences, Shanghai Jiaotong University, Shanghai, China
02/2014	Level Set Collective, Institute for Pure and Applied Mathematics, UCLA, CA
12/2013	School of Mathematical Sciences, Nankai University, Tianjin, China
12/2013	School of Mathematical Sciences, USTC, Hefei, China
12/2013	School of Mathematical Sciences, Fudan University, Shanghai, China
07/2012	Department of Mathematical Sciences, University of Texas, El Paso, TX
12/2011	School of Mathematical Sciences, Fudan University, Shanghai, China
12/2011	School of Mathematical Sciences, USTC, Hefei, China
11/2011	Image Processing Seminar, Department of Mathematics, UCLA, CA

Teaching Experience

Rice University

Fall 2012 CAAM 654: Sparse Optimization

University of California, Los Angeles

Summer 2014 Math 164: Optimization
 Fall 2014 Math 3B: Calculus for Life Sciences Students
 Winter 2015 Math 115A: Linear Algebra
 Spring 2015 Math 142: Mathematical Modeling

Michigan State University

Spring 2016 MTH 314: Matrix Algebra I
 Fall 2016 CMSE 802: Methods in Computational Modeling
 Spring 2017 CMSE 202: Computational Modeling Tools & Techniques
 Fall 2017 CMSE 890: Optimization
 Spring 2018 MTH 132: Calculus I
 Spring 2019 CMSE/MTH 314: Matrix Algebra I
 Spring 2019 CMSE 890: Geolocation Data Processing
 Fall 2019 CMSE 890: Optimization
 Spring 2020 CMSE/MTH 314: Matrix Algebra I

Doctoral Students

08/2016-present Ningyu Sha (CMSE & Statistics and Probability)
 08/2017-present Yao Li (Mathematics & CMSE)
 08/2017-present Xiaorui Liu (Computer Science and Engineering)
 08/2018-present Qi Lyu (CMSE & Statistics and Probability)

Thesis Committees

Doctoral Guidance Committees:

2019 Yuning Hao (Statistics and Probability & CMSE, MSU), PhD
 Thesis topic: Machine learning and statistical methods in genomic data
 2019(expected) Tzu-Hsiang Lin (Kinesiology), PhD
 2020(expected) Ze Zhang (Computer Science and Engineering), PhD
 2021(expected) Jessie Micallef (Physics & CMSE), PhD
 2021(expected) Binbin Huang (CMSE), PhD
 2022(expected) Mark Philip Roach (Math), PhD

Postdocs and Visitors

09/2016-09/2019 Zhi Li (current & next position: East China Normal University)
 02/2018-01/2019 Jun Feng (Chengdu University of Technology)

Other Students

Summer 2014 Jerry Luo (UCLA)

	Kayla Shapiro (University of California, Berkeley)
	Hao-Jun Michael Shi (UCLA)
	Qi Yang (University of Southern California)
	Kan Zhu (UCLA)
	UCLA Research Experiences for Undergraduates (REU). Publication: “Practical algorithms for learning near-isometric linear embeddings” , <i>SIAM Undergraduate Research Online</i> , 9 (2016), 178–195
Summer 2016	Siqi Zhang (South University of Science and Technology of China)
	MSU Internship in Global Engineering & Advanced Research (inGEAR). Working on asynchronous parallel computing.
09/2016-05/2018	Andrew Schmidt (MSU)
	Tyler Will (MSU)
	MSU Professorial Assistantship (PA) Program. Working on asynchronous parallel computing and decentralized optimization.
Spring 2017	Katja Oklejas (MSU)
	Qi Lyu (Xi’an Jiaotong University)
	Zhenru Wang (MSU)
	Spring Semester 2017 Undergraduate Research. Working on compressive sensing.
05/2017-12/2017	Katrina Gensterblum (MSU)
	MSU Engineering Summer Undergraduate Research Experience (EnSURE). Working on decentralized optimization and image processing.
Spring 2018	Huimin Hu (Xi’an Jiaotong University)
	Joseph Stafford (MSU)
	Spring Semester 2018 Undergraduate Research. Working on decentralized optimization with dynamic networks.
Fall 2019	Chenyu Zhou (Guangzhou University)
	Jamie Schmidt (MSU)
	Benjamin Tuckey (MSU)
	Fall Semester 2019 Undergraduate Research. Working on cyber attack prevention in decentralized optimization.

Professional Service

2019	Guest Editor for Inverse Problems and Imaging
2010-present	Reviewer for Journals including:
	Applied and Computational Harmonic Analysis
	IEEE Signal Processing Letters
	IEEE Transactions on Image Processing
	IEEE Transactions on Medical Imaging
	IEEE Transactions on Pattern Analysis and Machine Intelligence
	IEEE Transactions on Signal Processing
	Inverse Problems and Imaging
	Journal of Scientific Computing
	Journal of the American Statistical Association
	Mathematical Programming
	Mathematics of Computation
	SIAM Journal on Imaging Sciences
	SIAM Journal on Optimization
	SIAM Journal on Scientific Computing
2016-present	Reviewer for Conferences:
	Artificial Intelligence and Statistics (AISTATS) (2017)
	International Conference on Learning Representations (ICLR) (2018)
	International Conference on Machine Learning (2018)

- [Neural Information Processing Systems \(NIPS\)](#) (2016, 2017, 2019)
- 2014-present Reviewer for Proposals:
Research Grants Council (RGC) of Hong Kong (2014-2018)
Ad-hoc reviewer for NSF (2018)
- 05/2014 Co-chair, Minisymposium on “Parallel and Distributed Computation in Imaging (I, II)”, SIAM Conference on Image Science, Hong Kong
- 08/2015 Co-organizer, The International Workshop on Mathematical Image Processing, Nankai University, Tianjin, China
- 05/2016 Co-chair, Minisymposium on “Parallel and Distributed Data Compression and Reconstruction in Imaging and High Performance Computing (I, II)”, SIAM Conference on Image Science, Albuquerque, NM
- 10/2016 Co-organizer, The 18th Midwest Optimization Meeting, Michigan State University, East Lansing, MI
- 05/2017 Co-chair, Minisymposium on “Optimizing Big Data: Acceleration, Randomization, and Parallelism (I, II, III)”, SIAM Conference on Optimization, Vancouver, British Columbia, Canada
- 06/2019 Co-organizer, Workshop on Recent Developments on Mathematical/Statistical Approaches in Data Science, The University of Texas at Dallas, TX

Last updated: November 11, 2019