

CURRICULUM VITAE

Name: Yang, Junfeng (Yang, J. F., in Chinese: 杨俊锋)

Date and Place of Birth: August 1981, Weixian County, Hebei Province, P. R. China

Academic Degree: Ph. D. (2009)

Present Position: Associate Professor, Department of Mathematics, Nanjing University

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Education

- August 2007 ~ February 2009: Department of Computational and Applied Mathematics, Rice University. Joint Ph. D. Education Program, Advisor: Yin Zhang. Thesis: A class of fast algorithms for total variation image reconstruction.
- September 2006 ~ June 2009: Ph. D., Department of Mathematics, Nanjing University. Advisor: Bing-Sheng He.
- August 2004 ~ February 2006: Institute of Computational Mathematics and Scientific/Engineering Computing, Academy of Mathematics and System Sciences, Chinese Academy of Sciences. Joint M. Sc. Education Program, Advisor: Ya-Xiang Yuan. Thesis: Some algorithms in unconstrained optimization.
- September 2003 ~ June 2006: M. Sc., Institute of Mathematics and Information Sciences, Hebei Normal University.
- September 1999 ~ June 2003: B. Sc., Department of Mathematics, Hebei Normal University.

Working & short term visiting

- January 2012 ~ Present: Associate Professor, Department of Mathematics, Nanjing University.
- July 2009 ~ December 2011: Lecturer, Department of Mathematics, Nanjing University.
- March 2015 ~ May 2015: Department of Mathematics, The Chinese University of Hong Kong. Host: Raymond H. Chan

- Summer of 2014, June ~ November 2015: Department of System Engineering and Engineering Management, The Chinese University of Hong Kong. Host: Shiqian Ma
- September 2010 ~ July 2011: Research Fellow, Singapore-MIT Alliance, National University of Singapore. Project Leader: Kim-Chuan Toh.
- Summers of 2009 ~ 2011: Department of Mathematics, Hong Kong Baptist University. Host: Xiao-Ming Yuan.

Research Interests

Optimization theory, algorithms and applications.

Grant

- 2011.1–2013.12: *Theory and algorithms of circulant measurements in compressive sensing*. National Natural Science Foundation of China. Grant No. 11001123. PI.
- 2014.1–2017.12: *Structured optimization and applications in data analysis*. National Natural Science Foundation of China. Grant No. 11371192. PI.

Publications

- Shiqian Ma and J. F. Yang, *Applications of Gauge Duality in Robust Principal Component Analysis and Semidefinite Programming*, SCIENCE CHINA Mathematics, vol. 59, no. 8, pp. 1579–1592, 2016.
- Zhida Shen, Zhe Geng, and J. F. Yang, *Image reconstruction from incomplete convolution data via total variation regularization*, Statistics, Optimization and Information Computing, vol. 3, pp. 1–14, 2015.
- Liusheng Hou, Hongjin He, and J. F. Yang, *A partially parallel splitting method for multiple-block separable convex programming with applications to robust PCA*, Computational Optimization and Applications, 63(1), 273–303, 2016.
- Caihua Chen, Raymond H. Chan, Shiqian Ma, and J. F. Yang, *Inertial Proximal ADMM for Linearly Constrained Separable Convex Optimization*, SIAM Journal on Imaging Sciences, 8(4), pp. 2239–2267, 2015.
- Raymond H. Chan, Shiqian Ma, and J. F. Yang, *Inertial primal dual algorithms for structured convex optimization*, <http://arxiv.org/abs/1409.2992>
- Caihua Chen, Shiqian Ma, and J. F. Yang, *A general inertial proximal point algorithm for mixed variational inequality problem*, SIAM Journal on Optimization, 25(4), pp. 2120–2142, 2015.
- Guoyong Gu, Bingsheng He, and J. F. Yang, *Inexact Alternating-Direction-Based Contraction Methods for Separable Linearly Constrained Convex Optimization*, Journal of Optimization Theory and Applications, 163(1), pp. 105–129, 2014.

- J. F. Yang, Defeng Sun, and Kim-Chuan Toh, *A proximal point algorithm for log-determinant optimization with group Lasso regularization*, SIAM Journal on Optimization, 23(2), pp. 857–893, 2013.
- Bean San Goh, Zheng Peng, and J. F. Yang, *Approximate greatest descent method with a second level line search in unconstrained optimization*, Journal of Optimization Theory and Applications, Accepted.
- Xiaoming Yuan, and J. F. Yang, *Sparse and low rank matrix decomposition via alternating direction method*, Pacific Journal of Optimization, 9(1), 167–180, 2013.
- J. F. Yang, and Xiaoming Yuan, *Linearized augmented Lagrangian and alternating direction methods for nuclear norm minimization*, Mathematics of Computation, 82(281), 301–329, 2013.
- Yunhai Xiao, J. F. Yang, and Xiaoming Yuan, *Alternating algorithms for total variation image reconstruction from random projections*, Inverse Problems and Imaging, 6(3), 547–563, 2012.
- J. F. Yang, Xin Liu and Yin Zhang, *A class of stationary iterative methods for saddle point problems: convergence and extension*, manuscript, not submitted.
- Raymond H. Chan, J. F. Yang, and Xiaoming Yuan, *Alternating direction method for image inpainting in wavelet domains*, SIAM Journal on Imaging Sciences, 4(3), 807–826, 2011.
- J. F. Yang, and Yin Zhang, *Alternating direction algorithms for ℓ_1 -problems in compressive sensing*, SIAM Journal on Scientific Computing, 33(1), 250–278, 2011.
- Bean San Goh, Zheng Peng, Cho Seng Lee, J. F. Yang, and Min Kong, *Approximate greatest descent method and quasi-Newton matrices in optimization*, Dynamics of Continuous, Discrete and Impulsive Systems, Series B: Applications and Algorithms, 18(1), 17–28, 2011.
- Wotao Yin, Simon Morgan, J. F. Yang, and Yin Zhang, *Practical compressive sensing with Toeplitz and circulant matrices*, Proceedings of SPIE, 7744, 77440K (Volume title: Visual Communications and Image Processing), 2010.
- J. F. Yang, Yin Zhang, and Wotao Yin, *A fast alternating direction method for TVL1-L2 signal reconstruction from partial Fourier data*, IEEE Journal of Selected Topics in Signal Processing, Special Issue on Compressive Sensing, 4(2), 288–297, 2010.
- Min Tao, J. F. Yang, and Bingsheng He, *Alternating direction algorithms for total variation deconvolution in image reconstruction*, unpublished manuscript, Optimization Online, November 17, 2009; TR0918, Department of Mathematics, Nanjing University, 2009/11; Research rep., Rice University, 2009/11.
- J. F. Yang, Yin Zhang, and Wotao Yin, *An efficient TVL1 algorithm for deblurring multichannel images corrupted by impulsive noise*, SIAM Journal on Scientific Computing, 31(4), 2842–2865, 2009.

- J. F. Yang, Wotao Yin, Yin Zhang, and Yilun Wang, *A fast algorithm for edge-preserving variational multichannel image restoration*, SIAM Journal on Imaging Sciences, 2(2), 569–592, 2009.
- Bingsheng He, Xiang Wang, and J. F. Yang, *A comparison of different contraction methods for monotone variational inequalities*, Journal of Computational Mathematics, 27(4), 459–473, 2009.
- J. F. Yang, *Dynamic power price problem: an inverse variational inequality approach*, Journal of Industrial and Management Optimization, 4(4), 673–684, 2008.
- Yilun Wang, J. F. Yang, Wotao Yin, and Yin Zhang, *A new alternating minimization algorithm for total variation image reconstruction*, SIAM Journal on Imaging Sciences, 1(3), 248–272, 2008.
- J. F. Yang, Wotao Yin, Yin Zhang, and Yilun Wang, *A class of fast algorithm for total variation image restoration*, OpenStax CNX, vol. 1, pp. 4–7, 2008.

Selected Conference Talks

- July 3-6, 2016: Euro OR, Poznan, Poland (Presentation: Inertial Proximal ADMM)
- August 10-14, 2015: International Congress on Industrial and Applied Mathematics (ICIAM), Beijing (Presentation: A general inertial proximal point method for mixed variational inequality)
- July 12-17, 2015: International Symposium on Mathematical Programming, Pittsburgh, USA. (Presentation: Inertial Proximal ADMM)
- August 19–24, 2012: International Symposium on Mathematical Programming, Berlin, Germany. *Session organizer: Variational Signal Processing – Algorithms and Applications. Presentation: A Class of Stationary Iterative Methods for Saddle Point Problems: Convergence and Extension.*
- May 16–19, 2011: SIAM Conference on Optimization, Darmstadt, Germany. *Presentation: A proximal point algorithm for log-determinant optimization with group Lasso regularization.*
- August 22–28, 2009: International Symposium on Mathematical Programming, Chicago, USA. *Presentation: A study of algorithms and models for sparse solution recovery via ℓ_1 -minimization.*
- August 9, 2009: Summer School–Optimization Theory and Applications, Harbin Normal University, Harbin. *Presentation: A brief introduction to compressive sensing.*

Codes

- RecPC: Sparse signal Reconstruction from Partial Circulant measurements.
<http://www.caam.rice.edu/~optimization/L1/RecPC/>

- IADM_NNLS: Inexact Alternating Direction Method for Nuclear Norm regularized Least Squares problems. http://math.nju.edu.cn/~jfyang/IADM_NNLS/index.html
- LRSD: Low-Rank Sparse matrix Decomposition. <http://math.nju.edu.cn/~jfyang/LRSD/index.html>
- YALL1: Your ALgorithm for L1. <http://yall1.blogs.rice.edu/>
- RecPF: Image Reconstruction from Partial Fourier coefficients. <http://www.caam.rice.edu/~optimization/L1/RecPF/>
- FTVd: Fast Total Variation Deconvolution. <http://www.caam.rice.edu/~optimization/L1/ftvd/>