X071571: Optimization Methods
Project topics

1. Ruxin Wang and Dacheng Tao, Non-Local Auto-Encoder With Collaborative Stabilization for Image Restoration. `http://ieeexplore.ieee.org/document/7432028/`

2. John Duchi, Elad Hazan, Yoram Singer; Adaptive Subgradient Methods for Online Learning and Stochastic Optimization. `http://www.jmlr.org/papers/volume12/duchi11a/duchi11a.pdf`

3. Canyi Lu, Jiashi Feng, Yudong Chen, Wei Liu, Zhouchen Lin, Shuicheng Yan. Tensor Robust Principal Component Analysis: Exact Recovery of Corrupted Low-Rank Tensors via Convex Optimization. `https://arxiv.org/abs/1708.04181`

4. Guanghui Lan, Bundle-level type methods uniformly optimal for smooth and nonsmooth convex optimization. `http://link.springer.com/article/10.1007/s10107-013-0737-x`

5. S.Ghadimi, G. Lan and H. Zhang, Mini-batch Stochastic Approximation Methods for Nonconvex Stochastic Composite Optimization, `https://dl.acm.org/citation.cfm?id=2874863`

6. Rong Ge, Furong Huang, Chi Jin, Yang Yuan. Escaping From Saddle Points - – Online Stochastic Gradient for Tensor Decomposition, `http://arxiv.org/abs/1503.02101`

7. Nicolas Boumal, P.-A. Absil, Coralia Cartis, Global rates of convergence for nonconvex optimization on manifolds. `https://arxiv.org/abs/1605.08101`

8. M. P. Friedlander, I. Macedo, and T. K. Pong, Gauge optimization and duality. `http://epubs.siam.org/doi/pdf/10.1137/130940785`

9. Zheng Xu, Bharat Singh, Ankit Patel, Tom Goldstein. Training Neural Networks Without Gradients: A Scalable ADMM Approach. Gavin Taylor, Ryan Burmeister. `https://arxiv.org/abs/1605.02026`

10. Deanna Needell, Nathan Srebro, Rachel Ward, Stochastic gradient descent, weighted sampling, and the randomized Kaczmarz algorithm.

11. A Differential Equation for Modeling Nesterov's Accelerated Gradient Method: Theory and Insights. W. Su, S. Boyd, and E. Candes. https://web.stanford.edu/~boyd/papers/pdf/ode_nest_grad.pdf

12. PhaseMax: Convex Phase Retrieval via Basis Pursuit. Tom Goldstein, Christoph Studer. https://arxiv.org/abs/1610.07531

13. A Semidefinite Programming Method for Integer Convex Quadratic Minimization. J. Park and S. Boyd. http://stanford.edu/~boyd/papers/pdf/int_least_squares.pdf

14. Chance constrained uncertain classification via robust optimization. Aharon Ben-Tal, Sahely Bhadra, Chiranjib Bhattacharyya J, Saketha Nath. https://link.springer.com/article/10.1007/s10107-010-0415-1

15. Geometric Applications of the Split Bregman Method: Segmentation and Surface Reconstruction. http://link.springer.com/article/10.1007/s10915-009-9331-z

16. Stephen J. Wright, Coordinate descent algorithms, http://link.springer.com/article/10.1007/s10107-015-0892-3

17. Zirui Zhou, Anthony Man-Cho So. A Unified Approach to Error Bounds for Structured Convex Optimization Problems. http://www1.se.cuhk.edu.hk/~manchoso/papers/eb_sco-MPA.pdf

18. Rong Ge, Jason D. Lee, Tengyu Ma, Matrix Completion has No Spurious Local Minimum. http://arxiv.org/abs/1605.07272

19. Nicolas Boumal, A Riemannian low-rank method for optimization over semidefinite matrices with block diagonal constraints. http://arxiv.org/abs/1506.00575

20. Martin S. Andersen, Joachim Dahl, Lieven Vandenberghe, Implementation of nonsymmetric interior-point methods for linear optimization over sparse matrix cones. https://link.springer.com/article/10.1007/s12532-010-0016-2

21. Fast global convergence of gradient methods for high-dimensional statistical recovery. Alekh Agarwal, Sahand Negahban, and Martin J. Wainwright http://projecteuclid.org/download/pdfview_1/euclid.aos/1359987527

22. A Family of SQA Methods for Non-Smooth Non-Strongly Convex Minimization with Provable Convergence Guarantees. Man-Chung Yue, Zirui Zhou, Anthony Man-Cho So. http://www1.se.cuhk.edu.hk/~manchoso/1617/seem5380/IRPN.pdf