

Papers on the Connection to Neural Networks

1. Learning Efficient Sparse and Low Rank Models, P. Sprechmann, A.M. Bronstein, and G. Sapiro, December 18, 2012
2. Supervised Deep Sparse Coding Networks, Xiaoxia Sun, Nasser M. Nasrabadi, and Trac D. Tran, 23 May 2017
3. Learned D-AMP: Principled Neural-Network-based Compressive Image Recovery, Christopher A. Metzler, Ali Mousavi, and Richard G. Baraniuk, 1 Jun 2017
4. Learning Fast Approximations of Sparse Coding, Karol Gregor and Yann LeCun, 2010
5. Convolutional Neural Networks Analyzed via Convolutional Sparse Coding, Vardan Papyan, Yaniv Romano, and Michael Elad, 2017
6. Robust Single Image Super-Resolution via Deep Networks With Sparse Prior, Ding Liu, Zhaowen Wang , Bihan Wen, Jianchao Yang, Wei Han, and Thomas S. Huang, 7, July 2016

Papers on the Convolutional Sparse Coding Model

7. Learning the Morphology of Brain Signals Using Alpha-Stable Convolutional Sparse Coding, Mainak Jas, Tom Dupré La Tour, Umut Simsekli, and Alexandre Gramfort, 14 Jun 2017
8. Fast Convolutional Sparse Coding, Hilton Bristow, Anders Eriksson, and Simon Lucey, 2013
9. Convolutional Dictionary Learning: Acceleration and Convergence, Il Yong Chun, and Jeffrey A. Fessler, 25 Aug 2017
10. Fast and Flexible Convolutional Sparse Coding, Felix Heide, Wolfgang Heidrich, and Gordon Wetzstein, 2015
11. Working Locally Thinking Globally: Theoretical Guarantees for Convolutional Sparse Coding, Vardan Papyan, Jeremias Sulam, and Michael Elad, 2017
12. Online Convolutional Dictionary Learning for Multimodal Imaging, Kévin Degraux , Ulugbek S. Kamilov, Petros T. Boufounos, and Dehong Liu, June 15, 2017
13. Convolutional Sparse Coding for Image Super-resolution, Shuhang Gu, Wangmeng Zuo, Qi Xie, Deyu Meng, Xiangchu Feng, and Lei Zhang, 2014

14. Convolutional Sparse Coding with Overlapping Group Norms, Brent Wohlberg, 29 Aug 2017
15. Convolutional Dictionary Learning, Cristina Garcia-Cardona and Brendt Wohlberg, 9 Sep 2017
16. Online Convolutional Dictionary Learning, Jialin Liu, Cristina Garcia-Cardona, Brendt Wohlberg, and Wotao Yin, 31 Aug 2017

Papers on Dictionary Learning

17. New Algorithms for Learning Incoherent and Overcomplete Dictionaries, Sanjeev Arora, Rong Ge, and Ankur Moitra, 2014
18. Local Identifiability of ℓ_1 -minimization Dictionary Learning: a Sufficient and Almost Necessary Condition, Siqi Wu and Bin Yu, July 13, 2016
19. Complete Dictionary Recovery over the Sphere, Ju Sun, Qing Qu, and John Wright, November 19, 2015
20. Dictionary Learning with few Samples and Matrix Concentration, Kyle Luh and Van Vu, 30 Mar 2015
21. Local Identification of Overcomplete Dictionaries, Karin Schnass, 2015

Papers on Local versus Global Modeling

22. Breaking the Coherence Barrier: A New Theory for Compressed Sensing, Ben Adcock, Anders C. Hansen, Clarice Poon, and Bogdan Roman, 2016.
23. On the Absence of Uniform Recovery in Many Real-World Applications of Compressed Sensing and the Restricted Isometry Property and Nullspace Property in Levels, Alexander Bastounis and Anders C. Hansen, 2017
24. A Tale of Two Bases: Local-Nonlocal Regularization on Image Patches with Convolution Framelets, Rujie Yin, Tingran Gao, Yue M. Lu, and Ingrid Daubechies, 2017
25. Synthesis versus Analysis in Patch-Based Image Priors, M´ario A. T. Figueiredo, February 2017.

General Papers

26. Learning Sparsifying Transforms, Saiprasad Ravishankar and Yoram Bresler, 2013

27. A Probabilistic and RIPless Theory of Compressed Sensing, Emmanuel J. Candès and Yaniv Plan, 2011
28. From Denoising to Compressed Sensing, Christopher A. Metzler, Arian Maleki, and Richard G. Baraniuk, 2016
29. The Dantzig Selector: Statistical Estimation when p is Much Larger than n , Emmanuel Candes and Terence Tao, 2007
30. Image Deblurring and Super-Resolution by Adaptive Sparse Domain Selection and Adaptive Regularization, Weisheng Dong, Lei Zhang, Guangming Shi, and Xiaolin Wu, 2011
31. Direct Optimization of the Dictionary Learning Problem, Alain Rakotomamonjy, 2013
32. Learning Fast Sparsifying Overcomplete Dictionaries, Cristian Rusu and John Thompson, 2017
33. Image Inpainting by Patch Propagation Using Patch Sparsity, Zongben Xu and Jian Sun, 2010
34. On verifiable sufficient conditions for sparse signal recovery via L_1 minimization, Anatoli Juditsky, Arkadi Nemirovski, 2011
35. Accuracy Guarantees for L_1 -Recovery, Anatoli Juditsky and Arkadi Nemirovski, 2011
36. Analysis of Orthogonal Matching Pursuit Using the Restricted Isometry Property, Mark A. Davenport, and Michael B. Wakin, 2010
37. Orthogonal Matching Pursuit for Sparse Signal Recovery With Noise, T. Tony Cai and Lie Wang, 2011
38. Sparse Recovery With Orthogonal Matching Pursuit Under RIP, Tong Zhang, 2011
39. Sparse Signal Approximation via Nonseparable Regularization, Ivan Selesnick, and Masoud Farshchian, 2017
40. Sparse Signal Reconstruction via Iterative Support Detection, Yilun Wang and Wotao Yin, 2010