

Chandra Sekhar Seelamantula

List of publications (last updated February 26, 2018)

Book chapter

1. C. S. Seelamantula, "OperA: Operator based annihilation for finite-rate-of-innovation signal sampling and reconstruction," Recent Advances in Sampling Theory and Applications, Springer.

arXiv preprints

1. S. Mukherjee, R. Deepak, H. Chen, A. Veeraraghavan, and C. S. Seelamantula, "Online reweighted least-squares (ORLS) algorithm for sparse recovery and application to short-wave infrared imaging," <https://arxiv.org/abs/1706.09585>
2. D. Mahapatra, S. Mukherjee, and C. S. Seelamantula, "Deep sparse coding using optimized linear expansion of thresholds," <https://arxiv.org/pdf/1705.07290.pdf>
3. J. Sadasivan, S. Mukherjee, and C. S. Seelamantula, "Signal denoising using the minimum-probability-of-error criterion," <https://arxiv.org/pdf/1702.07869.pdf>
4. S. Mukherjee, A. K. Sekuboyina, and C. S. Seelamantula, "Super-resolution from binary measurements with unknown threshold," <https://arxiv.org/pdf/1606.03472.pdf>
5. J. K. Mogali, A. K. Pediredla, and C. S. Seelamantula, "Template-based active contours," <https://arxiv.org/pdf/1312.0760.pdf>

Journal publications

1. S. Mukherjee and C. S. Seelamantula, "Phase retrieval from binary measurements," IEEE Signal Processing Letters, pp. 348-352, vol. 25, no. 3, March 2018.
2. S. Rudresh, S. Nagesh, and C. S. Seelamantula, "Asymmetric pulse modeling for FRI sampling," IEEE Transactions on Signal Processing (to appear), 2018.; <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8242687>
3. K. S. Chandran, C. S. Seelamantula, and S. Ray, "Duration Analysis Using Matching Pursuit Algorithm Reveals Longer Bouts of Gamma Rhythm," Journal of Neurophysiology, 2018 (to appear); <http://www.physiology.org/doi/pdf/10.1152/jn.00154.2017>
4. A. Bhowmik, S. Shit, and C. S. Seelamantula, "Training-free, single-image super-resolution using a dynamic convolutional network," IEEE Signal Processing Letters, vol. 25, no. 1, pp. 85-89, Jan. 2018.
5. S. Mulleti, A. Singh, V. Brahmkhatri, K. Chandra, T. Raza, S. P. Mukherjee, C. S. Seelamantula, and H. S. Atreya, "Super-resolved nuclear magnetic resonance spectroscopy," Article No. 9651, Nature Scientific Reports; <https://www.nature.com/articles/s41598-017-09884-w>, 2017.
6. S. Mulleti and C. S. Seelamantula, "Paley-Wiener characterization of kernels for finite-rate-of-innovation sampling," IEEE Transactions on Signal Processing, vol. 65, no. 22, pp. 5860-5872, 2017.
7. S. Rudresh and C. S. Seelamantula, "Finite-rate-of-innovation-based super-resolution radar imaging," IEEE Transactions on Signal Processing, vol. 65, no. 19, pp. 5021-5033, 2017.
8. A. Chaturvedi, S. K. Nagaraj, S. S. Gorthi, and C. S. Seelamantula, "An efficient microscale technique for determining the erythrocyte sedimentation rate," Journal of the Society for Laboratory Automation and Screening (SLAS) Technology, vol. 22, no. 5, pp. 565-572, 2017.
9. A. S. Murthy, C. S. Seelamantula, and T. V. Sreenivas, "Optimum short-time polynomial regression for signal analysis," Sadhana Journal of the Indian Academy of Sciences, vol. 41, no. 11, pp. 1245-1260, Nov. 2016. <http://www.ias.ac.in/article/fulltext/sadh/041/11/1245-1260>
10. S. Mulleti, B. A. Shenoy, and C. S. Seelamantula, "FRI sampling on structured nonuniform grids -- Application to super-resolved optical imaging," IEEE Transactions on Signal Processing, vol. 64, no. 15, pp. 3841-3853, 2016.
11. K. Upadhya, C. S. Seelamantula, and K. V. S. Hari, "A risk minimization framework for channel estimation in OFDM systems," Signal Processing (Elsevier), pp. 78-87, vol. 128, 2016.

12. B. A. Shenoy, S. Mulleti, and C. S. Seelamantula, "Exact phase retrieval in principal shift-invariant spaces," *IEEE Transactions on Signal Processing*, vol. 64, no. 2, pp. 406-416, 2016. *This article featured on the cover-page of the IEEE Transactions on Signal Processing January/February 2016 issue.*
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14. S. Mukherjee, R. Basu, and C. S. Seelamantula, "L1-K-SVD: A robust dictionary learning algorithm with simultaneous update," *Signal Processing (Elsevier)*, vol. 123, pp. 42-52, 2016.
15. R. Shenoy and C. S. Seelamantula, "A zero-crossing rate property of power complementary analysis filterbank outputs," *IEEE Signal Processing Letters*, vol. 22, no. 12, pp. 2354-2358, 2015.
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19. B. A. Shenoy and C. S. Seelamantula, "Exact phase retrieval for a class of 2-D parametric signals," *IEEE Transactions on Signal Processing*, vol. 63, no. 1, pp. 90-103, 2015.
20. R. R. Shenoy and C. S. Seelamantula, "Spectral zero-crossings -- Localization properties and applications," *IEEE Transactions on Signal Processing*, vol. 63, no. 12, pp. 3177-3190, 2015.
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20. A. Venkitaraman and C. S. Seelamantula, "Binaural signal processing motivated generalized analytic signal construction and AM-FM demodulation," *IEEE Transactions on Audio, Speech, and Language Processing*, vol. 22, no. 6, pp. 1023-1036, 2014.
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27. A. Venkitaraman and C. S. Seelamantula, "Temporal envelope fit of transient audio signals," *IEEE Signal Processing Letters*, vol. 20, no. 12, pp. 1191-1194, December 2013.

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Conference publications

1. S. Mulleti, A. Singh, H. S. Atreya, and C. S. Seelamantula, "High-resolution nuclear magnetic resonance spectroscopy using the autocorrelation method," *Focus on Microscopy 2018*, March 25-28, 2018, Singapore.
2. B. A. Shenoy and C. S. Seelamantula, "Homomorphic deconvolution for quantitative phase microscopy," *Focus on Microscopy 2018*, March 25-28, 2018, Singapore.
3. A. Bhowmik, A. Adiga, C. S. Seelamantula, F. Hauser, J. Jacak, and B. Heise, "Localization microscopy using deep neural networks," *Focus on Microscopy 2018*, March 25-28, 2018, Singapore.
4. S. Mukherjee and C. S. Seelamantula, "Sparse phase retrieval algorithms for frequency-domain optical-coherence tomography," *Focus on Microscopy 2018*, March 25-28, 2018, Singapore.
5. S. Mulleti, B. Heise, G. Hanneschlaeger, and C. S. Seelamantula, "High-resolution frequency-domain optical-coherence tomography from low-resolution acquisition," *Focus on Microscopy 2018*, March 25-28, 2018, Singapore.
6. S. Rudresh, A. Adiga, B. A. Shenoy, and C. S. Seelamantula, "Wavelet based reconstruction for unlimited sampling," *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2018*, April 15-20, 2018, Calgary, Alberta, Canada.
7. S. Mukherjee, S. Shit, and C. S. Seelamantula, "PhaseSplit: A variable splitting framework for phase retrieval," *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2018*, April 15-20, 2018, Calgary, Alberta, Canada.

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9. S. Mukherjee, D. Mahapatra, and C. S. Seelamantula, "Deep neural networks for sparse coding and dictionary learning," NIPS 2017 Workshop on Bayesian Deep Learning, December 9, 2017, Long Beach Convention Center, Long Beach, US.
10. J. R. Harish Kumar, S. Harsha, Y. Kamath, R. Jampala, and C. S. Seelamantula, "Automatic optic cup segmentation using Kasa's circle fitting technique," Proceedings of IEEE Region 10 Conference (TENCON), 2017.
11. J. K. Dhiman, N. Adiga, and C. S. Seelamantula, "A spectro-temporal demodulation technique for pitch estimation," Proceedings of Interspeech 2017, August 20-24, 2017, Stockholm, Sweden.
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13. J. R. Harish Kumar, R. Adhikari, Y. Kamath, R. Jampala, and C. S. Seelamantula, "Automatic delineation of macular regions based on a locally defined contrast function," Proceedings of IEEE International Conference on Image Processing (ICIP) 2017, Beijing, China, September 17-20, 2017.
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15. S. T. Devarakota, A. K. Sekuboyina, and C. S. Seelamantula, "A convolutional neural network approach for abnormality detection in wireless capsule endoscopy," Proceedings of IEEE International Symposium on Biomedical Imaging (ISBI) 2017, Melbourne, Australia, April 18-21, 2017.
16. A. Gupta, S. V. Gubbi, C. S. Seelamantula, "How much can a Gaussian smoother denoise?" ACM Proceedings of the Tenth Indian Conference on Computer Vision, Graphics, and Image Processing 2016, Guwahati, December 18-22, 2016.
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20. J. Sadasivan and C. S. Seelamantula, "A novel risk-estimation-theoretic framework for speech enhancement in nonstationary and non-Gaussian noise conditions," Proceedings of Interspeech 2016.
21. H. Sundar, G. D. Manavalan, T. V. Sreenivas and C. S. Seelamantula, "Reverberation-robust one-bit TDOA based moving source localization for automatic camera steering," Proceedings of Interspeech 2016.
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24. S. Mukherjee and C. S. Seelamantula, "Convergence analysis of smoothed LASSO," Proceedings of National Conference on Communications (NCC) 2016, to be held in IIT Guwahati, March 4-6, 2016.
25. A. K. Sekuboyina and C. S. Seelamantula, "An efficient formulation and parameter selection for multiple image super-resolution," Proceedings of National Conference on Communications (NCC) 2016, to be held in IIT Guwahati, March 4-6, 2016.
26. S. Mulleti and C. S. Seelamantula, "Sampling and reconstruction of time-limited signals using sum-of-sincs kernel," Proceedings of National Conference on Communications (NCC) 2016, to be held in IIT Guwahati, March 4-6, 2016.

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28. J. Sadasivan, S. Mukherjee, and C. S. Seelamantula, "Joint dictionary training for bandwidth extension of speech signals," Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing, 2016.
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31. J. R. Harish Kumar, A. K. Pediredla, and C. S. Seelamantula, "Active discs for automated optic disc segmentation," Proceedings of IEEE GlobalSIP 2015.
32. P. Kurpad and C. S. Seelamantula, "Dictionary-learning-based postfilter for HMM-based speech synthesis," Proceedings of IEEE Region 10 Conference (TENCON), 2015.
33. C. S. Seelamantula and T. Blu, "Image denoising in multiplicative noise," Accepted to IEEE International Conference on Image Processing (ICIP) 2015.
34. S. Mukherjee and C. S. Seelamantula, "Smoothing does not improve the convergence rate of LASSO," Accepted to SPARS 2015.
35. A. Adiga, S. Mulleti, S. Prasad, and C. S. Seelamantula, "Two-dimensional FRI signal reconstruction using blind deconvolution," 11th International Conference on Sampling Theory and Applications (SampTA) 2015, May 25-29, 2015.
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47. S. R. Krishnan and C. S. Seelamantula, "Optimum parameter selection in sparse reconstruction of frequency-domain optical-coherence tomography signals," Proceedings of the 19th International Workshop on Digital Signal Processing, to be held in Hong Kong, during August 20-23, 2014.
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51. R. R. Shenoy and C. S. Seelamantula, "Frequency-domain linear prediction using temporal analysis," Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing, to be held in Florence, Italy, May 4-9, 2014.
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