

CURRICULUM VITAE

Jun Li, Ph.D.

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Professor

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Bio and research interests. Jun Li was born in Hunan, China, in February 1982. She received the Geographical information system degree from Hunan Normal University in 2004, the M.Sc. degree in Remote sensing and photogrammetry from Peking University in 2007, and the Ph.D. degree in Electrical and Computer Engineering from Instituto Superior Tecnico, Technical University of Lisbon in 2011. From 2011 to 2013, she was a PostDoc Researcher with the Department of Technology of Computers and Communications, University of Extremadura, Spain. Dr Li is currently a Professor with the School of Geography and Planning, Sun Yat-Sen University, China. She has 38 journal citation report (JCR) papers since 2010, 26 conference papers, and 1 book chapter. Her main research interests comprise remotely sensed hyperspectral image analysis, signal processing, supervised/semisupervised learning and active learning.

Awards and distinctions

- Jun Li was distinguished as one of the best self-funded Chinese students abroad in 2010, 5000 Dollars.
- Associate Editor, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
- Best Reviewer, IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2013

Projects

Publications

Journal papers:

1. J. Li, A. Agathos, D. Zaharie, J. M. Bioucas Dias, A. Plaza, and X. Li, Minimum Volume Simplex Analysis: A Fast Algorithm for Linear Hyperspectral Unmixing. IEEE Transactions on Geoscience and Remote Sensing, accepted for publication.
2. J. Li, I. Dopido, P. Gamba and A. Plaza. Complementarity of Discriminative Classifiers and Spectral Unmixing Techniques for the Interpretation of Hyperspectral Images. IEEE Transactions on Geoscience and Remote Sensing, vol. 53, no. 5, pp. 2899-2912, May 2015
3. J. Li, X. Huang, P. Gamba, J. Bioucas, L. Zhang, J. Benediksson, and A. Plaza. Multiple Feature Learning for Hyperspectral Image Classification. IEEE Transactions on Geoscience and Remote Sensing, vol.53, no.3, pp.1592-1606, March 2015.
4. J. Li, P. Gamba, and A. Plaza. A Novel Semi-Supervised Method for Obtaining Fine Resolution Urban Extents Exploiting Coarser Resolution Maps. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol.7, no.10, pp.4276,4287, Oct. 2014

5. J. Li, P. R. Marpu, A. Plaza, J. M. Bioucas-Dias and J. A. Benediktsson. Generalized Composite Kernel Framework for Hyperspectral Image Classification. *IEEE Transactions on Geoscience and Remote Sensing*, vol. 51, no. 9, pp. 4816-4829, 2013.
6. J. Li J. M. Bioucas-Dias and A. Plaza. Spectral-Spatial Classification of Hyperspectral Data Using Loopy Belief Propagation and Active Learning. *IEEE Transactions on Geoscience and Remote Sensing*, vol. 51, no. 2, pp. 844-856, 2013.
7. J. Li J. M. Bioucas-Dias and A. Plaza. Semi-Supervised Hyperspectral Image Classification Using Soft Sparse Multinomial Logistic Regression. *IEEE Geoscience and Remote Sensing Letters*, vol.10, no. 2, pp. 318-322, 2013.
8. J. Li J. Bioucas-Dias and A. Plaza. Spectral-Spatial Hyperspectral Image Segmentation Using Subspace Multinomial Logistic Regression and Markov Random Fields. *IEEE Transactions on Geoscience and Remote Sensing*, vol. 50, no. 3, pp. 809-823, 2012.
9. J. Li J. Bioucas-Dias and A. Plaza. Hyperspectral Image Segmentation Using a New Bayesian Approach with Active Learning. *IEEE Transactions on Geoscience and Remote Sensing*.vol.49, no.10, pp.3947-3960, Oct. 2011.
10. J. Li J. Bioucas-Dias and A. Plaza. Semi-Supervised Hyperspectral Image Segmentation Using Multinomial Logistic Regression with Active Learning. *IEEE Transactions on Geoscience and Remote Sensing*, vol. 48, no. 11, pp. 4085-4098, 2010.
11. Zhaohui Xue, Peijun Du, Jun Li, and Hongjun Su. Simultaneous Sparse Graph Embedding for Hyperspectral Image Classification. *IEEE Transactions on Geoscience and Remote Sensing*, accepted for publication, 2015
12. Z. Wu, J. Liu, A. Plaza, J. Li and Z. Wei. GPU Implementation of Composite Kernels for Hyperspectral Image Classification. *IEEE Geoscience and Remote Sensing Letters*, accepted for publication, 2015
13. M. Khodadadzadeh, J. Li, S. Prasad and A. Plaza. Fusion of Hyperspectral and LiDAR Remote Sensing Data Using Multiple Feature Learning. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, accepted for publication, 2015
14. Y. Liu, J. Li and A. Plaza. Spectrometer-Driven Spectral Partitioning for Hyperspectral Image Classification. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, accepted for publication, 2015.
15. Y Wu, J Li, L Gao, X. Tan, and B. Zhang. "Graphics processing unit .. Caccelerated computation of the Markov random fields and loopy belief propagation algorithms for hyperspectral image classification," *J. Appl. Remote Sens.*, 9(1), 097295 (2015). doi:10.1117/1.JRS.9.097295.
16. Peijun Du, Zhaohui Xue, Jun Li, and Antonio Plaza, Learning Discriminative Sparse Representations for Hyperspectral Image Classification. *IEEE Journal of Selected Topics in Signal Processing*, accepted for publication, 2015.
17. Z. Wu, Q. Wang, A. Plaza, J. Li, L. Sun, and Z. Wei. Real-Time Implementation of the Sparse Multinomial Logistic Regression for Hyperspectral Image Classification on GPUs. *IEEE Geoscience and Remote Sensing Letters*, accepted for publication, 2015.
18. Z. Wu, Q. Wang, A. Plaza, J. Li, L. Sun and Z. Wei. Parallel Spatial-Spectral Hyperspectral Image Classification with Sparse Representation and Markov Random Fields on GPUs.

- IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, accepted for publication, 2015.
19. Z. Wu, Q. Wang, A. Plaza, J. Li, J. Liu and Z. Wei. Parallel Implementation of Sparse Representation Classifiers for Hyperspectral Imagery on GPUs. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, accepted for publication, 2015
 20. A. Agathos, J. Li, D. Petcu and A. Plaza. Multi-GPU Implementation of the Minimum Volume Simplex Analysis Algorithm for Hyperspectral Unmixing. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol. 7, no. 6, pp. 2281-2296, June 2014
 21. I. Dopido, J. Li, A. Plaza and P. Gamba. A New Hybrid Strategy Combining Semi-Supervised Classification and Unmixing of Hyperspectral Data. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, vol.7, no.8, pp.3619,3629, Aug. 2014
 22. L. Gao, J. Li, M. Khodadadzadeh, A. Plaza, B. Zhang, Z. He, and H. Yan. Subspace-Based Support Vector Machines for Hyperspectral Image Classification. IEEE Geoscience and Remote Sensing Letters, vol.12, no.2, pp.349,353, Feb. 2015
 23. L. Gao, J. Gao, J. Li, A. Plaza, L. Zhuang, X. Sun, and B. Zhang. Multiple algorithm integration based on ant colony optimization for endmember extraction from hyperspectral imagery. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, DOI:10.1109/JSTARS.2014.2371615, 2015
 24. L. Zhuang, B. Zhang, L. Gao, J. Li and A. Plaza. Normal endmember spectral unmixing method for hyperspectral imagery. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, DOI:10.1109/JSTARS.2014.2360888, 2015
 25. Y. Wu, L. Gao, B. Zhang, H. Zhao, and J. Li. Real-time implementation of optimized maximum noise fraction transform for feature extraction of hyperspectral images. Journal of Applied Remote Sensing, 8(1): 084797, 2014.
 26. L. Gao, Q. Guo, A. Plaza, J. Li, and B. Zhang. Probabilistic anomaly detector for remotely sensed hyperspectral data. Journal of Applied Remote Sensing, 8(1): 083538, 2014.
 27. L. Ni, L. Gao, S. Li, J. Li, and B. Zhang. Edge-constrained Markov random field classification by integrating hyperspectral image with LiDAR data over urban areas. Journal of Applied Remote Sensing, 8(1): 085089, 2014.
 28. J. Liang, X. Liu, K. Huang, X. Li, X. Shi, Y. Chen, and J. Li, Improved snow depth retrieval by integrating microwave brightness temperature and visible/infrared reflectance. Remote Sensing of Environment, Remote Sensing of Environment. 156: 500-509, 2015.
 29. X. Huang, X. Guan, J. A. Benediktsson, L. Zhang, J. Li, A. Plaza and M. Dalla Mura. Multiple Morphological Profiles from Multicomponent Base Images for Hyperspectral Image Classification. IEEE Geoscience and Remote Sensing Letters, accepted for publication, 2014
 30. M. Khodadadzadeh, J. Li, A. Plaza, and J. M. Bioucas-Dias. A Subspace-Based Multinomial Logistic Regression for Hyperspectral Image Classification. IEEE Geoscience and Remote Sensing Letters, vol. 11, no. 12, pp. 2105-2109, December 2014
 31. M. Khodadadzadeh, J. Li, A. Plaza, H. Ghassemian, J. M. Bioucas-Dias and X. Li. Spectral-Spatial Classification of Hyperspectral Data Using Local and Global Probabilities for Mixed

- Pixel Characterization. *IEEE Transactions on Geoscience and Remote Sensing*, vol. 52, no. 10, pp. 6298-6314, October 2014
32. Z. Xue, J. Li, L. Cheng, and P. Du. Spectral-Spatial Classification of Hyperspectral Image via Morphological Component Analysis Based Image Separation. *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 53, No. 1, pp 70-84, 2015
 33. S. Alim, P. Du, S. Liu, J. Li, L.-Ch. Liang. E2LMs: Ensemble Extreme Learning Machines for Hyperspectral Image Classification. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol.7, no.4, pp.1060-1069, April 2014
 34. Q. Guo, B. Zhang, Q. Ran, L. Gao, J. Li and A. Plaza. Weighted-RXD and Linear Filter-Based RXD: Improving Background Statistics Estimation for Anomaly Detection in Hyperspectral Imagery. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 7, no. 6, pp. 2351-2366, June 2014.
 35. B. Zhang, Y. Liu, W. Zhang, L. Gao, J. Li, J. Wang, X. Li. Analysis of the Proportion of Surface Reflected Radiance in Mid-infrared Absorption Bands. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol.7, no.6, pp. 2639-2464, June 2014
 36. B. Song, J. Li M. Dalla Mura, P. Li, A. Plaza, J. M. Bioucas Dias, J. A. Benediktsson and J. Chanussot. Remotely Sensed Image Classification Using Sparse Representations of Morphological Attribute Profiles. *IEEE Transactions on Geoscience and Remote Sensing*, vol. 52, no. 8, pp. 5122-5136, August 2014
 37. I. Dopido, J. Li P. R. Marpu, A. Plaza, J. M. Bioucas-Dias and J. A. Benediktsson. Semi-Supervised Self-Learning for Hyperspectral Image Classification. *IEEE Transactions on Geoscience and Remote Sensing*, vol. 51, no. 9, pp. 4032-4044, 2013.
 38. Jun Li, Peijun Li. Determination of the optimal wavelet decomposition level for hyperspectral imagery. *Progress in Natural Science*, Vol. 17, Number 11, pp, 1500-1508. Nov 2007 (in Chinese)

Book Chapter:

39. J. Li and A. Plaza. Hyperspectral Image Processing: Methods and Approaches, in *Remote Sensing Handbook, Volume I: Data Characterization, Classification and Accuracies*. Edited by P. Thenkabail, Taylor and Francis, in press.

Conference papers (16):

40. A. Agathos, J. Li, J. M. Bioucas-Dias and A. Plaza. J. Li, J. M. Bioucas-Dias, A. Plaza and L. Liu. Robust Collaborative Nonnegative Matrix Factorization for Hyperspectral Unmixing (R-CoNMF). *IEEE GRSS Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS'15)*, Tokyo, Japan, 2015.
41. A. Agathos, J. Li, J. M. Bioucas-Dias and A. Plaza. Robust Minimum Volume Simplex Analysis for Hyperspectral Unmixing. *European Signal Processing Conference (EUSIPCO'14)*, Lisbon, Portugal, 2014
42. M. Khodadadzadeh, J. Li, A. Plaza, P. Gamba, J. A. Benediktsson and J. M. Bioucas-Dias. A New Framework for Hyperspectral Image Classification Using Multiple Spectral and Spatial Features. *IEEE Geoscience and Remote Sensing Symposium (IGARSS'14)*, Quebec City, Canada, 2014

43. Y. Liu, J. Li, A. Plaza, J. M. Bioucas-Dias, P. G. Rodriguez and A. Cuartero. Spectral Partitioning for Hyperspectral Remote Sensing Image Classification. IEEE Geoscience and Remote Sensing Symposium (IGARSS'14), Quebec City, Canada, 2014
44. J. Li, Y. Liu, A. Plaza and P. Du. Decision Fusion Based on Extended Spectrometer-Driven Spectral Partitioning for Hyperspectral Image Classification. IEEE GRSS Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS'14), Lausanne, Switzerland, 2014
45. M. Khodadadzadeh, J. Li A. Plaza, H. Ghassemian and J. M. Bioucas-Dias. Spectral-Spatial Classification for Hyperspectral Data Using SVM and Subspace MLR. IEEE Geoscience and Remote Sensing Symposium (IGARSS'13), Melbourne, Australia, 2013
46. B. Song, J. Li P. Li and A. Plaza. Decision Fusion Based on Extended Multi-Attribute Profiles for Hyperspectral Image Classification. IEEE GRSS Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS'13), Gainesville, Florida, 2013
47. I. Dopido, J. Li A. Plaza and P. Gamba. Semi-Supervised Classification of Urban Hyperspectral Data Using Spectral Unmixing Concepts. Proceedings of the Joint Urban Remote Sensing Conference (URBAN'13), Sao Paulo, Brazil, 2013
48. I. Dopido, J. Li P. Gamba and A. Plaza. Semi-Supervised Classification of Hyperspectral Data Using Spectral Unmixing Concepts. Tyrrhenian Workshop 2012 on Advances in Radar and Remote Sensing, Naples, Italy, 2012.
49. J. Li J. Bioucas-Dias and A. Plaza. Semi-Supervised Discriminative Random Field for Hyperspectral Image Classification. Submitted to IEEE GRSS Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS'12), Shanghai, China, 2012.
50. I. Dopido, J. Li J. Bioucas-Dias and A. Plaza. A New Semi-Supervised Approach for Hyperspectral Image Classification with Different Active Learning Strategies. IEEE GRSS Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS'12), Shanghai, China, 2012.
51. J. Li J. Bioucas-Dias and A. Plaza. Nonnegative Matrix Factorization with Collaborativity for Hyperspectral Unmixing. IEEE GRSS Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS'12), Shanghai, China, 2012.
52. J. Li J. Bioucas-Dias and A. Plaza. Collaborative Nonnegative Matrix Factorization for Remotely Sensed Hyperspectral Unmixing. IEEE Geoscience and Remote Sensing Symposium (IGARSS'12), Munich, Germany, 2012.
53. I. Dopido, J. Li A. Plaza and J. Bioucas-Dias. Semi-Supervised Active Learning for Urban Hyperspectral Image Classification. IEEE Geoscience and Remote Sensing Symposium (IGARSS'12), Munich, Germany, 2012.
54. I. Dopido, J. Li and A. Plaza. Semi-Supervised Active Learning Approach for Hyperspectral Image Classification: Application to Multinomial Logistic Regression and Support Vector Machines. SPIE Optics and Photonics, Satellite Data Compression, Communication, and Processing Conference, San Diego, CA, 2012.

55. J. Li J. Bioucas-Dias and A. Plaza. Semi-Supervised Hyperspectral Image Classification Using a New (Soft) Sparse Multinomial Logistic Regression Model. IEEE GRSS Workshop on Hyperspectral Image and Signal Processing, 2011.
56. A. Villa, J. Li A. Plaza and J. Bioucas-Dias. A New Semi-Supervised Algorithm for Hyperspectral Image Classification Based on Spectral Unmixing Concepts. IEEE GRSS Workshop on Hyperspectral Image and Signal Processing, 2011.
57. J. Li J. Bioucas-Dias and A. Plaza. A New Subspace Discriminant Analysis Approach for Supervised Hyperspectral Image Classification. IEEE International Geoscience and Remote Sensing Symposium (IGARSS'11), Vancouver, Canada, 2011.
58. J. Li A. Plaza and J. Bioucas-Dias. Integration of Hyperspectral Image Classification and Unmixing for Active Learning. International Symposium on Image and Data Fusion, Tengchong, China, 2011.
59. J. Li J. Bioucas-Dias, and Antonio Plaza. Supervised Hyperspectral image segmentation using active learning. IEEE GRSS Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS'10), Reykjavik, Iceland, 2010.
60. J. Li J. Bioucas-Dias and A. Plaza. Exploiting spatial information in semi-supervised hyperspectral image segmentation. IEEE GRSS Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing (WHISPERS'10), Reykjavik, Iceland, 2010.
61. J. Li J. Bioucas-Dias, and Antonio Plaza. Semi-supervised hyperspectral image segmentation. IEEE GRSS Workshop on Hyperspectral Image and Signal Processing (WHISPERS'09), Grenoble, France, 2009.
62. J. Li J. Bioucas-Dias, and Antonio Plaza. Semi-supervised hyperspectral classification and segmentation with discriminative learning. SPIE Europe Remote Sensing, Berlin Germany, 2009. (pdf)
63. J. Li J. Bioucas-Dias, and Antonio Plaza. Semi-supervised hyperpsectral imge classification based on a Markov random field and sparse multinomial logistic regression. IEEE International Geoscience and Remote sensing Symposium IGARSS ' 2009, Cape Town, South Africa, 2009.
64. J. Li J. Bioucas-Dias, and Antonio Plaza. Hyperspectral image classification based on a fast Bregman sparse multinomial logistic regression algorithm. 6th EARSeL SIG IS Workshop'2009, Tel- Aviv, Israel, 2009.
65. J. Li J. Bioucas-Dias. Minimum volume simplex analysis: a fast algorithm to unmix hyperspectral data. IEEE International Geoscience and Remote sensing Symposium IGARSS' 2008, Boston, USA, 2008.

PhD Dissertation:

66. J. Li. Discriminative Image Segmentation: Applications to Hyperspectral Data. Instituto Superior Tecnico, University of Lisbon, 2011.

Reviewing activities

Dr. Li has served as for different journals:

- IEEE Transactions on Geoscience and Remote Sensing
- IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
- IEEE Geoscience and Remote Sensing Letters
- IEEE Transactions on Image Processing
- IEEE Transactions on Information Theory
- EURASIP Journal on Advances in Signal Processing
- Pattern Recognition
- Optical Engineering
- Inverse Problems and Imaging

Invited Talks

- “Hyperspectral segmentation”, Peking University, Beijing, China (June 2011).
- “Spectral-Spatial hyperspectral classification”, University of Iceland, Reykjavik, Iceland (October 2010).
- “Hyperspectral classification and Markov Random Field”, University of Iceland, Reykjavik, Iceland (October 2010).

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