Lin Jianzhe

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T5-1104 RongkeTiancheng, Qiuchang Street, Jianghan District,
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Education

University of Chinese Academy of Sciences | Xi'an, China | Sep.2013-June 2016
Major in Signal and Information Processing; GPA: 3.1/4.0
Master of Science (July 2016)

Huazhong University of Science and Technology | Wuhan, China | Sep. 2009-June 2013
Major in Optical Engineering; Second Major in English; GPA: 84/100
Bachelor of Engineering & Bachelor of Arts (June 2013)

Research Experiences

Theory and Application of High Resolution Remote Sensing Satellite Data 2014-Present
Team Leader

- Key Project of Chinese National Programs for Fundamental Research and Development
- Working as team leader of the fifth team(focus on semantic expression of high spatial resolution image);
- Finished project production, monographredaction, and achievement exhibition;
- The main task of our team is to complete the construction of semantic information extraction system which includes three modules: model training module, information extraction module, and feedback module.

In Defense of Iterated Conditional Mode for Hyperspectral Image Classification 2013-2014
Researcher

- mainly focus on the Markov Random Fields related paradigm, which involves a demanding energy minimization procedure
- method is in defense of a simple yet efficient method for hyperspectral image classification, Iterated Conditional Mode, which has been generally considered inferior to other state-of-the-art methods
- tackled two inherent drawbacks of ICM, sensitive label initialization and local minimum
- applied our method to three real-world hyperspectral images and compare the results with those of state-of-the-art methods; comparisons show that the proposed method outperforms its competitors

Hyperspectral Image Classification via Multi-Task Joint Sparse Representation and Stepwise MRF Optimization 2014-Present
Researcher

- a novel spectral-spatial classification scheme is proposed; mainly focuses on multi-task joint sparse representation and a stepwise markov random filed framework, which are claimed to be two main contributions in this procedure;
- the experimental results on Indian Pines and Pavia University demonstrate the superiority of our method compared with the state of the art competitors;

Dual Clustering Based Hyperspectral Band Selection by Contextual Analysis 2014-Present

Researcher

- Tried to tackle the inherent drawbacks of clustering based band selection method through a new framework concerning on dual clustering;
- Contributions: 1) A novel descriptor that reveals the context of HSI efficiently. 2) A dual clustering method that includes the contextual information in the clustering process. 3) A new strategy that selects the cluster representatives jointly considering the mutual effects of each cluster.
- Experimental results on three real world hyperspectral images verify the noticeable accuracy of the proposed method, with regard to the HSI classification application.

Salient Band Selection for Hyperspectral Image Classification via Mainfold Ranking 2014-Present

Researcher

- Defined saliency in a context and the salient band selection in hyperspectral image is introduced as an example;
- Proposed to eliminate the drawbacks of traditional salient band selection methods by manifold ranking to solve the problem of inappropriate measurement of band difference;
- To justify the effectiveness of the proposed method, experiments are conducted on three hyperspectral images and our method is compared with six existing competitors. Results show that the proposed method is very effective and can achieve the best performance among the competitors;

Publications (including under review papers)

- J.Lin, Q. Wang, and Y. Yuan, "In defense of iterated conditional mode for hyperspectral image classification,"in *Proc.IEEE International Conference on Multimedia & Expo*, pp.1-6, 2014
- Y. Yuan, J. Lin, and Q. Wang, "Hyperspectral Image Classification via Multi-Task Joint Sparse Representation and Stepwise MRF Optimization," *IEEE Trans*. Cybernetic, under minor revision
- Y. Yuan, J. Lin, and Q. Wang, "Dual Clustering Based Hyperspectral Band Selection by Contextual Analysis," *IEEE Trans. Geoscience and Remote Sensing*, under minor revision
- Q. Wang, J. Lin, and Y. Yuan, "Salient Band Selection for Hyperspectral Image Classification via Mainfold Ranking," *IEEE Trans. Neural Networks and Learning Systems*, under minor revision
- Y. Yuan, J. Lin and Q. Wang, "Active Learning by Querying the Salient examples for Hyperspectral Image (being prepared)

Other Qualifications and Skills

- Individual Scholarship (for full mark of calculus test) | 2009;
- Individual Scholarship (for academic progress) | 2013;
- IEEE Student member (qualification being reviewed)
- National Computer Rank Examination (certificate of level 3): Software Engineering | 2011
- National Computer Rank Examination (certificate of level 4): Network Engineering | 2012
- Made a speech in The IEEE International Conference on Multimedia & Expo 2014

Skills:

- Proficient in Matlab, AI, LaTex, grasp PS C/C++, OpenGL, github, HTML;
- Language: Chinese (Native), Proficient in English;
- Personal Website: jianzhelin.github.io