

Yaoming Cai

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China University of Geosciences, Wuhan 430074, China

EDUCATION

China University of Geosciences

Wuhan, China

PhD in Computer Science & Technology (Successive master-doctor program); GPA: 3.83/4.0

Expected Jun 2021

Relevant Coursework: Advanced Machine Learning, Applied Matrix Theory, Computational Intelligence, Applied Mathematics of Computer, Algorithms Design Techniques and Analysis, Advanced Geosciences Information Engineering

Research interests: Deep Learning, Remote Sensing Image Processing, Clustering

China University of Geosciences

Wuhan, China

Bachelor of Information Security; GPA: 3.32/5.0

Sep 2012 - Jun 2016

Thesis: Sparse Representation Learning for Hyperspectral Image Classification

Outstanding thesis award

SKILLS

- **English:** CET-6
- **Languages:** Python, Matlab, Java, C++, SQL, LaTeX
- **Libraries:** TensorFlow, PyTorch, Keras, Scikit-Learn, Numpy, Pandas, Jupyter, OpenCV, PIL, CUDA
- **OS:** Linux, Android, Windows
- **Techniques:** Convolutional Neural Networks, Sparse Representation Learning, Subspace Clustering, Evolutionary Algorithms, SVM, ELM, KNN, PCA, and so on.

PROJECTS

- **Evolutionary Extreme Learning Machine and Its Application in Hyperspectral Image Processing:** 2017 - Present
National Natural Science Foundation of China under Grant 6177335
- **Evolutionary Algorithms and Ensemble Transfer Learning for Hyperspectral Image Processing:** Jan 2016 - Present
National Natural Science Foundation of China under Grant 61603355
- **Intelligent Optimization Methods and Its Application in Remote Sensing Image Processing:** Jan 2017 - Jan 2018
Open Research Project of Hubei Key Laboratory of Intelligent Geo-Information Processing under Grant KLGIP-2017B01
- **Deep Learning Based Hyperspectral Image Processing System:** 2018 Jan- Jan 2019
Laboratory Open Research Project of China University of Geosciences
- **Intelligent Cover Generation of Videos with Android System:** Mar 2013 - Jun 2014
First Prize in 1-st National College Competition on Mobile Internet Application & Innovation, **9/1000+**
- **Real-time Secret Digital Evidence System Based on Mobile Cloud:** Oct 2014 - Aug 2015
Second Prize in 8-th National College Competition of Information Security, **39/774**

PUBLICATIONS

- **Journal papers:**
 - Cai, Y., Liu, X., Zhang, Y., & Cai, Z. (2018). Hierarchical ensemble of Extreme Learning Machine. *Pattern Recognition Letters*, 116, 101-106.
 - Zeng, M., Cai, Y., Cai, Z., Liu, X., Hu, P., & Ku, J. (2019). Unsupervised Hyperspectral Image Band Selection Based on Deep Subspace Clustering. *IEEE Geoscience and Remote Sensing Letters*, 1-5. (**Co-first**)
 - Hu, P., Liu, X., Cai, Y., & Cai, Z. (2019). Band Selection of Hyperspectral Images Using Multiobjective Optimization-Based Sparse Self-Representation. *IEEE Geoscience and Remote Sensing Letters*, 16(3), 452-456.
 - Liu, X., Wang, R., Cai, Z., Cai, Y., & Yin, X. (2019). Deep Multigrained Cascade Forest for Hyperspectral Image Classification. *IEEE Transactions on Geoscience and Remote Sensing*, 1-15.
 - Wu, Y., Zhang, Y., Liu, X., Cai, Z., & Cai, Y. (2018). A multiobjective optimization-based sparse extreme learning machine algorithm. *Neurocomputing*, 317, 88-100.
- **Conference papers:**
 - Cai, Y., Liu, X., Wu, Y., Hu, P., Wang, R., Wu, B., & Cai, Z. (2017). Extreme Learning Machine Based on Evolutionary Multi-objective Optimization. In C. He, H. Mo, L. Pan, & Y. Zhao (Eds.), *Bio-inspired Computing: Theories and Applications: 12th International Conference, BIC-TA 2017 (Oral)*.
 - Cai, Y., Cai, Z., Zeng, M., Liu, X., Wu, J., & Wang, G. (2018, 8-13 July 2018). A Novel Deep Learning Approach: Stacked Evolutionary Auto-encoder. Paper presented at the 2018 International Joint Conference on Neural Networks **IJCNN 2018 (Oral)**.
 - Meng Z., Yaoming C., Xiaobo L., Zhihua C., & Xiang L. (2019). Spectral-spatial Clustering Of Hyperspectral Image Based On Laplacian Regularized Deep Subspace Clustering. **IGARSS 2019 (Poster)**.

ADDITIONAL EXPERIENCE & ACHIEVEMENTS

- **First Academic Scholarships of CUG (Thrice),** 2016 - 2019
- **Second prize in Academic Contest of CUG**