

# Yang Lu (Jason)



## PERSONAL INFORMATION

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Birth Date: 25 Apr 1990

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## EDUCATIONAL BACKGROUND

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Sep 2014~Aug 2019 (exp.): Hong Kong Baptist University, Faculty of Science, PhD candidate on Computer Science (GPA: 4.0/4.0). Supervisor: Prof. Yiu-ming Cheung (IEEE Fellow).

Aug 2012~June 2014: University of Macau, Faculty of Science and Technology, Master on Software Engineering (GPA: 3.57/4.0, rank top 5% in major). Supervisor: Prof. Yuan Yan Tang (IEEE Fellow)

Sep 2008~May 2012: University of Macau, Faculty of Science and Technology, Bachelor on Software Engineering (GPA: 3.55/4.0, rank top 5% in major).

Sep 2005~June 2008: Fuzhou No. 8 Middle School, Fujian.

## WORKING EXPERIENCE

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Sep 2014~June 2017: Teaching assistant, Hong Kong Baptist University.

Sep 2012~June 2014: Teaching assistant, University of Macau.

June 2012~Aug 2012: Research intern, Intelligent Information Processing Laboratory, Tsinghua University.

## PUBLICATIONS

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### Journal Publications

- Bayes Imbalance Impact Index: A Measure of Class Imbalanced Dataset for Classification Problem  
Yang Lu, Yiu-ming Cheung, and Yuan Yan Tang  
*IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, under review.
- Adaptive Chunk-based Dynamic Weighted Majority for Imbalanced Data Streams with Concept Drift  
Yang Lu, Yiu-ming Cheung, and Yuan Yan Tang  
*IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, under review.
- Self-Adaptive Multi-Prototype-based Competitive Learning Approach: A k-means-type Algorithm for Imbalanced Data Clustering  
Yang Lu, Yiu-ming Cheung, and Yuan Yan Tang

*IEEE Transactions on Cybernetics (TCYB)*, DOI:10.1109/TCYB.2019.2916196.

- **k-Times Markov Sampling for SVMC**

Bin Zou, Chen Xu, **Yang Lu**, Yuan Yan Tang, Jie Xu, Xinge You

*IEEE Transactions on Neural Networks and Learning Systems (TNNLS)*, vol. 29, no. 4, pp. 1328-1341, 2018.

- **Hyperspectral Image Classification Based on Three-Dimensional Scattering Wavelet Transform**

Yuan Yan Tang, **Yang Lu**, Haoliang Yuan

*IEEE Transactions on Geoscience and Remote Sensing (TGRS)*, vol. 53, no. 5, pp. 2467-2480, 2015.  
(Supervisor is the first author)

- **A Fractal Dimension and Wavelet Transform Based Method for Protein Sequence Similarity Analysis**

Lina Yang, Yuan Yan Tang, **Yang Lu** and Huiwu Luo

*IEEE/ACM Transactions on Computational Biology and Bioinformatics (TCBB)*, vol. 12, no. 2, pp. 348-369, 2015.

- **The Generalization Ability of SVM Classification Based on Markov Sampling**

Jie Xu, Yuan Yan Tang, Bin Zou, Zong Ben Xu, Luo Qing Li, **Yang Lu**, Baochang Zhang

*IEEE Transactions on Cybernetics (TCYB)*, vol. 45, no. 6, pp. 1169-1179, 2015.

- **Generalization Performance of Gaussian Kernels SVMC Based on Markov Sampling**

Jie Xu, Yuan Yan Tang, Bin Zou, Zong Ben Xu, Luo Qing Li, **Yang Lu**

*Neural Networks*, vol. 53, pp. 40-51, 2014.

- **Hyperspectral Image Classification Based on Regularized Sparse Representation**

Haoliang Yuan, Yuan Yan Tang, **Yang Lu**, Lina Yang, Huiwu Luo

*IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 7, no. 6, pp. 2174-2182, 2014.

- **Spectral-Spatial Classification of Hyperspectral Image Based on Discriminant Analysis**

Haoliang Yuan, Yuan Yan Tang, **Yang Lu**, Lina Yang, Huiwu Luo

*IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, vol. 7, no. 6, pp. 2035-2043, 2014.

- **The Generalization Performance of Regularized Regression Algorithms Based on Markov Sampling**

Bin Zou, Yuan Yan Tang, Zong Ben Xu, Luo Qing Li, Jie Xu, **Yang Lu**

*IEEE Transactions on Cybernetics (TCYB)*, vol. 44, no. 9, pp. 1497-1507, 2014.

## Conference Publications

- **Dynamic Weighted Majority for Incremental Learning of Imbalanced Data Streams with Concept Drift**

**Yang Lu**, Yiu-ming Cheung, and Yuan Yan Tang

*Proceedings of International Joint Conference on Artificial Intelligence (IJCAI)*, pp. 2393-2399, Melbourne, Australia, August 19-25, 2017.

- **GOBoost: G-mean Optimized Boosting Framework for Class Imbalance Learning**

**Yang Lu**, Yiu-ming Cheung, and Yuan Yan Tang

*Proceedings of the 12th World Congress on Intelligent Control and Automation (WCICA)*, pp. 3149-3154, Guilin, China, June 12-15, 2016.

- **Hybrid Sampling with Bagging for Class Imbalance Learning**  
**Yang Lu**, Yiu-ming Cheung, and Yuan Yan Tang  
*Proceedings of Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)*, pp. 14-26, Auckland, New Zealand, April 19-22, 2016. (Long oral presentation 39/307)
- **Learning Performance of DAGSVM Algorithm Based on Markov Sampling**  
Jie Xu, **Yang Lu**, Bin Zou  
*Proceedings of International Conference on Machine Learning and Cybernetics (ICMLC)*, pp. 910-915, Guangzhou, China, July 12-15, 2015.
- **A Novel Method for Protein Structure Retrieval Using Tableau Representation and Sparse Coding**  
**Yang Lu**, Lina Yang, Haoliang Yuan, Yulong Wang, Huiwu Luo and Yuan Yan Tang  
*Proceedings of IEEE International Conference on Systems, Man and Cybernetics (SMC)*, pp. 4042-4046, San Diego, USA, October 5-8, 2014.
- **Sparse Representation Using Contextual Information for Hyperspectral Image Classification**  
Haoliang Yuan, **Yang Lu**, Lina Yang, Huiwu Luo, and Yuan Yan Tang  
*Proceedings of IEEE International Conference on Cybernetics (CYBCONF)*, pp. 138-143, Lausanne, Switzerland, June 13-15, 2013.
- **Spectral-Spatial Linear Discriminate Analysis for Hyperspectral Image Classification**  
Haoliang Yuan, **Yang Lu**, Lina Yang, Huiwu Luo, and Yuan Yan Tang  
*Proceedings of IEEE International Conference on Cybernetics (CYBCONF)*, pp. 144-149, Lausanne, Switzerland, June 13-15, 2013.

## LANGUAGES

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- Chinese-Mandarin(Native speaker)
- Chinese-Cantonese(Master)
- English(Fluent)

## PROFESSIONAL SKILLS

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- Advanced skills in Python (numpy, scikit-learn, pandas) and Matlab, especially in machine learning applications.
- Advanced skills in TensorFlow and deep learning framework.
- Advanced skills in C++, Java, C, SQL, as well as data structure and algorithm.
- Experienced with Linux platform and shell commands.

## RESEARCH INTERESTS

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- Class imbalance learning.
- Deep learning based recommender system.
- Ensemble learning
- Online learning
- Unsupervised learning and clustering
- Hyperspectral image processing

## **ACADEMIC AWARDS AND RECOGNITION**

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2008~2012:	Dean's honor list, awarded by University of Macau
2012~2014:	Postgraduate studentship by University of Macau
June 2014:	Master of science with excellent graduation award by University of Macau
March 2016:	Teaching assistant performance award by Hong Kong Baptist University
August 2016:	Excellent teaching assistant performance award by Hong Kong Baptist University
June 2017:	Honorable mention at the 20th HKBU-COMP research postgraduate symposium by Hong Kong Baptist University
August 2017:	First runner-up at postgraduate student research paper competition 2016-2017 by IEEE (Hong Kong) Computational Intelligence Chapter