

Dr. Yang Liu's Resume

(Home page at The Jackson Laboratory <https://www.jax.org/people/yang-liu>)

Educational Background:

- Xi'an Jiaotong University, Special Gifted Youth Class, 1999
- Xi'an Jiaotong University, Computer Science and Technology, B.S. Degree 2004, Ph.D. Degree 2010
- Blekinge Institute of Technology, Computer Science Department, Sweden, Visiting PhD Student supported by China Scholarship Council, 2007-2009

Research Interests: Bioinformatics, machine learning, deep learning

Work Experiences:

2010.7—2019.8, Senior Lecturer Staff, School of Information Engineering, Zhengzhou University

2019.8—2022.8, Postdoctoral Associate, The Jackson Laboratory for Genomic Medicine

2022.9—, Associate Research Scientist, The Jackson Laboratory for Genomic Medicine

Awards and Honors:

- 2020 UConn Health / Jackson Laboratory Postdoc Research Week [Speak4Science First Place](#)
- 2017 The key project and general project of Zhengzhou University's student innovation and entrepreneurship training top-notch talents, supervisor teacher
- 2013 Henan Province Natural Science Paper Award, the second prize
- 2010 Xi'an Jiaotong University Peng Kang Scholarship and Outstanding Graduate
- 2007 China Scholarship Council Joint PhD Training Scholarship
- 2005 China National Postgraduate Mathematical Contest in Modeling, the second prize
- 2003 ACM/ICPC International College Student Programming Contest, Asia Beijing Region, honorable award
- 1996 Henan Provincial High School Informatics Olympiad, the first prize

Editorial & Committee Member:

Editorial Board Member:

- Engineering and Applied Sciences (EAS), 2022.1—

Program Committee Member:

- Siset 2022, MLCR 2022, CMBDA 2022

Invited Reviewer:

- IEEE CISP-BMEI (Conference on Image and Signal Processing, BioMedical Engineering and Informatics) 2022
- ICCNC 2022, IJCNN (International Joint Conference on Neural Networks) 2022

Talks & Posters:

- 2022.6.9, talk “*NANOME: A Nextflow pipeline for consensus DNA methylation detection by nanopore long-read sequencing*” at JAX Computational Community Retreat

- 2022.5.16, poster at Long Read Sequencing Workshop, Farmington, CT
- 2022.5.9, poster at JAX Scientific Symposium
- 2022.3.30, invited talk “DNA Methylation-calling Tools for Long Read Nanopore Sequencing”, The Annual Meeting of ABRF (Association of Biomolecular Resource Facilities), Palm Springs, CA
- 2022.3.22, talk “Detecting DNA modifications via long-read sequencing” at JAX The Board of Scientific Counselors (BSC) Meeting
- 2021.10.20, talk “Deep learning of lung lesions detection and quantification from CT images uncover clinical relevance for COVID-19” at JAX Computational Community Retreat
- 2021.8.29, poster at RECOMB 2021
- 2021.7.25, poster at ISMB/ECCB 2021

Publications (#: corresponding author)

1. **Liu, Y.**, Rosikiewicz, W., Pan, Z., Jillette, N., Wang, P., Taghbalout, A., Foox J, Mason C, Carroll M, Cheng A, & Li, S #. (2021). DNA methylation-calling tools for Oxford Nanopore sequencing: a survey and human epigenome-wide evaluation. *Genome biology*, 22(1), 1-33.
2. Zhang, W., Jiao, C., Zhou, Q., **Liu, Y.**, & Xu, T. (2021). Gender-Based Deep Learning Firefly Optimization Method for Test Data Generation. *Computational Intelligence and Neuroscience*, 2021.
3. Chang, Z., Zhan, Z., Zhao, Z., You, Z., **Liu, Y.**, Yan, Z., Fu Y, Liang W, & Zhao, L. (2021). Application of artificial intelligence in COVID-19 medical area: A systematic review. *Journal of Thoracic Disease*, 13(12), 7034.
4. Zhu, W., Han, Y., Wu, H. #, **Liu, Y.** #, Nan, X., & Zhou, Q. (2020). Predicting the results of molecular specific hybridization using boosted tree algorithm. *Concurrency and Computation: Practice and Experience*, 32(1), e4982.
5. Zhu, W., Liu, Y., Fan, Y., **Liu, Y.** #, & Liu, R. (2019, August). If Air-Gap Attacks Encounter the Mimic Defense. In *2019 9th IEEE International Conference on Information Science and Technology (ICIST)* (pp. 485-490).
6. **Liu, Y.**, Zhou, Q., Rakus-Andersson, E., & Bai, G. (2012, August). A fuzzy-rough sets based compact rule induction method for classifying hybrid data. In *International Conference on Rough Sets and Knowledge Technology* (pp. 63-70).
7. **Liu, Y.**, Bai, G., Zhou, Q., & Rakus-Andersson, E. (2012, August). Rough Sets Based Inequality Rule Learner for Knowledge Discovery. In *International Conference on Rough Sets and Current Trends in Computing* (pp. 100-105).
8. **Liu, Y.**, Jiao, L., Bai, G., & Feng, B. (2012). Rough Set Model. *Breakthroughs in Software Science and Computational Intelligence*, 46.
9. Li, P., Zhou, Q. L., **Liu, Y.**, & Zhao, D. M. (2011). A contactless mobile payment method based on security TF card and NFC technology. In *Advanced Materials Research* (Vol. 317, pp. 1769-1772).
10. **Liu, Y.**, Jiao, L., Bai, G., & Feng, B. (2010). Feature based rule learner in noisy Environment using neighbourhood rough Set Model. *International Journal of Software Science and Computational Intelligence (IJSSCI)*, 2(2), 66-85.

11. **Liu, Y.**, Feng, B., & Bai, G. (2008, October). Compact rule learner on weighted fuzzy approximation spaces for class imbalanced and hybrid data. *In International Conference on Rough Sets and Current Trends in Computing* (pp. 262-271).
12. **Liu, Y.**, Bai, G., & Feng, B. (2008, August). CompactLEM2: A scalable rough set based knowledge acquisition method that generates small number of short rules. *In 2008 7th IEEE International Conference on Cognitive Informatics* (pp. 215-222).
13. **Liu, Y.**, Bai, G., & Feng, B. (2008, August). On mining rules that involve inequalities from decision table. *In 2008 7th IEEE International Conference on Cognitive Informatics* (pp. 255-260).
14. **Liu, Y.**, Bai, G., & Feng, B. (2008, May). Multi-agent based multi-knowledge acquisition method for rough set. *In International Conference on Rough Sets and Knowledge Technology* (pp. 140-147).
15. **Yang, L.**, Boqin, F., & Jiangwei, Z. (2007). Complete algorithm of increment for attribute reduction based on discernibility matrix. *Journal of Xi'an Jiaotong University*, 41(2), 158-161.