

Yuping Lu

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EDUCATION

The University of Tennessee , Knoxville, TN Ph.D. in Computer Science Research Interests: Machine Learning , Graph Algorithms Dissertation: Advances in Big Data Analytics: Algorithmic Stability and Data Cleansing Advisor: Dr. Michael A. Langston GPA: 3.91	2013 - 2019
Nanjing Agricultural University , Nanjing, China BEng in Computer Science Advisor: Dr. Huanliang Xu GPA: 3.64	2007 - 2011

EXPERIENCE

Lawrence Berkeley National Laboratory (LBNL) Postdoctoral Scholar, the Advanced Light Source <ul style="list-style-type: none">Improved multi-objective genetic algorithm for Lattice Optimization using Deep Learning.Achieved orders of magnitude speedup on HPC clusters.	Berkeley, CA 2019 - present
Oak Ridge National Laboratory (ORNL) Graduate Research Assistant, the Atmospheric Radiation Measurement (ARM) Data Center <ul style="list-style-type: none">Radar data (NEXRAD, ARM CSAPR) classification using convolutional neural networks.Detected outliers in streaming time series data from ARM distributed sensors. Research Intern, the Scientific Data Group <ul style="list-style-type: none">Scaling a PheWAS logistic regression R code on HPC clusters with pbdR tools using singularity container.Implemented an R package pbdADIOS to connect R with ADIOS parallel middleware for I/O. Most functions in this package are implemented with C++.	Oak Ridge, TN 2017 - 2019 Summer 2017 Summer 2016
The University of Tennessee, Knoxville Graduate Research Assistant, the Office of Information Technology <ul style="list-style-type: none">University web server configuration and optimization.Google Search Appliance administration and implementation. Graduate Research Assistant, Dr. Michael A. Langston's lab <ul style="list-style-type: none">Implemented an R package biclique to enumerate maximal bicliques.Developed GrAPPA which is a web interface built on the Galaxy framework (Python) for graph-based tools.	Knoxville, TN 2014 - 2017 2013 - 2014
Whale Cloud , a leading BSS/OSS system vendor for the Telecom industry Implementation Engineer, worked on two main projects VTR OCS Project <ul style="list-style-type: none">Determined customer's business requirements and produced technical proposal.Responsible for communication with development & testing teams in China for correct and timely development of customer's requirements. Perusat Wimax CvBS Operations & Maintenance Project <ul style="list-style-type: none">Responsible to ensure smooth running of system.Performed daily system checks in order to maintain system health.Configuration of new price plans and business requirements into the system as required by commercial and marketing departments.	Nanjing, China 2011 - 2012 Santiago, Chile Lima, Peru

TECHNICAL SKILLS

Programming languages: C/C++, Python, R, PHP, HTML+CSS+Javascript
Tools: PyTorch, Jupyter, NumPy, NetCDF, Docker, Git, LaTeX
HPC experience: ORNL CADES, LBNL NERSC

ACTIVITIES AND AWARDS

Reviewer for Computational Biology and Bioinformatics.	2020 - 2022
Graduate Student Senate Travel Award, the University of Tennessee, Knoxville.	2018
Reviewer for the 9th International Workshop on Algorithms and Computation.	2015
Reviewer for the 9th International Workshop on Frontiers in Algorithmics.	2015
Student Volunteer for XSEDE14 : Atlanta, GA, USA.	July 13-18, 2014
Department excellence award, the University of Tennessee, Knoxville	2013
Outstanding graduate and several scholarships, Nanjing Agricultural University	2007 - 2011

PUBLICATIONS

1. Enhancing the MOGA optimization process at ALS-U with Machine Learning
Yuping Lu, Simon C. Leemann, Changchun Sun, Michael P. Ehrlichman, Thorsten Hellert, Hiroshi Nishimura, Marco Venturini
IPAC 21
2. Clique Selection and its Effect on Paraclique Enrichment: An Experimental Study
Yuping Lu, Charles A. Phillips, Elissa J. Chesler, Michael A. Langston
Proceedings of the 12th International Conference on Bioinformatics and Computational Biology (BICOB 2020)
3. Biclique: Maximal Biclique Enumeration in Bipartite Graphs
Yuping Lu, Charles A. Phillips, Michael A. Langston
BMC Research Notes 13, 88 (2020)
4. A Robustness Metric for Biological Data Clustering Algorithms
Yuping Lu, Charles A. Phillips, Michael A. Langston
BMC Bioinformatics 2019, 20(Suppl 15):503
5. Convolutional Neural Networks for Hydrometeor Classification using Dual Polarization Doppler Radars
Yuping Lu, Jitendra Kumar
Proceedings of the 2019 IEEE International Conference on Data Mining Workshops (ICDMW 2019)
6. Detecting Outliers in Streaming Time Series Data from ARM Distributed Sensors
Yuping Lu, Jitendra Kumar, Nathan Collier, Bhargavi Krishna, Michael A. Langston
Proceedings of the 2018 IEEE International Conference on Data Mining Workshops (ICDMW 2018)
7. Enrichment vs Robustness: A Comparison of Transcriptomic Data Clustering Metrics
Yuping Lu, Charles A. Phillips, Michael A. Langston
BMC Bioinformatics 17 (10), 297, August 2016
8. Digital Gene Expression Profiling of the *Phytophthora sojae* Transcriptome
Wenwu Ye, Xiaoli Wang, Kai Tao, **Yuping Lu**, Tingting Dai, Suomeng Dong, Daolong Dou, Mark Gijzen, Yuanchao Wang
Molecular Plant-Microbe Interactions, 24(12):1530–1539, December 2011

REFERENCES

Simon C. Leemann, Staff Scientist
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