Yuping Lu

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Education

The University of Tennessee, Knoxville, TN — Aug. 2013 - Aug. 2019
Ph.D. in Computer Science
Research Interests: Graph Algorithms, Machine Learning
Advisor: Dr. Michael A. Langston | GPA: 3.91

Nanjing Agricultural University, Nanjing, Jiangsu Province, China — Sept. 2007 - May 2011
BEng in Computer Science
Advisor: Dr. Huanliang Xu | GPA: 3.64

Experience

Postdoctoral Scholar at **the Advanced Light Source** — Sept. 2019 - present
Lawrence Berkeley National Laboratory
- Improved algorithm for Lattice Optimization using Deep Learning.
- Achieved big speedup with less running time on HPC clusters.

Graduate Research Assistant at **ARM Data Center** — Oct. 2017 - Aug. 2019
Oak Ridge National Laboratory
- Radar data (NEXRAD, ARM CSAPR) classification using convolutional neural networks.
- Detected outliers in streaming time series data from ARM distributed sensors.

Graduate Research Assistant at **Office of Information Technology** — July 2014 - Oct. 2017
The University of Tennessee, Knoxville
- University web server configuration and optimization.
- Google Search Appliance administration and implementation.

Research Intern at **the Scientific Data Group**
Oak Ridge National Laboratory
- Developed pbdR tools for singularity container. — June 2017 - Aug. 2017
- Implemented an R package pbdADIOS to connect R with ADIOS — May 2016 - Aug. 2016

Graduate Research Assistant at **Dr. Michael A. Langston's lab** — Aug. 2013 - July 2014
The University of Tennessee, Knoxville
- Upgraded GrAPPA which is a web-based interface for graph theoretical tools.

R Packages

- **biclique**: Maximal Biclique Enumeration in Bipartite Graphs
- **pbdADIOS**: an R wrapper for ADIOS

Technical Skills

Programming languages: C/C++, Python, R, PHP, HTML+CSS+JS
Softwares: 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. 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).
2. Biclique: Maximal Biclique Enumeration in Bipartite Graphs
   Yuping Lu, Charles A. Phillips, Michael A. Langston
   BMC Research Notes 13, 88 (2020)
3. A Robustness Metric for Biological Data Clustering Algorithms
   Yuping Lu, Charles A. Phillips, Michael A. Langston
   BMC Bioinformatics 2019, 20(Suppl 15):503
4. 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).
5. 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).
6. 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.
7. 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
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Jitendra Kumar
Research Scientist
Climate Change Science Institute
Oak Ridge National Laboratory