

# Yuping Lu

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GITHUB: [github.com/YupingLu](https://github.com/YupingLu)

WEBSITE: [yupinglu.me](http://yupinglu.me)

## EDUCATION

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**The University of Tennessee**, Knoxville, TN

Aug. 2013 - Aug. 2019

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

**Nanjing Agricultural University**, Nanjing, Jiangsu Province, China

Sept. 2007 - May 2011

BEng in Computer Science

Advisor: Dr. Huanliang Xu | GPA: 3.64

## EXPERIENCE

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Postdoctoral Scholar at **the Advanced Light Source**

Sept. 2019 - present

Lawrence Berkeley National Laboratory (LBNL), Berkeley, CA

- Improved algorithm for Lattice Optimization using Deep Learning.
- Achieved big speedup on HPC clusters.

Graduate Research Assistant at **the ARM Data Center** <sup>1</sup>

Oct. 2017 - Aug. 2019

Oak Ridge National Laboratory (ORNL), Oak Ridge, TN

- 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 **the Office of Information Technology**

July 2014 - Oct. 2017

The University of Tennessee, Knoxville, TN

- University web server configuration and optimization.
- Google Search Appliance administration and implementation.

Research Intern at **the Scientific Data Group**

Oak Ridge National Laboratory (ORNL), Oak Ridge, TN

- Developed pbdR tools for singularity container.
- Implemented an R package [pbdADIOS](#) to connect R with ADIOS. <sup>2</sup>

June 2017 - Aug. 2017

May 2016 - Aug. 2016

Graduate Research Assistant at **Dr. Michael A. Langston's lab**

Aug. 2013 - July 2014

The University of Tennessee, Knoxville, TN

- Implemented an R package [biclique](#) to enumerate maximal bicliques.
- Upgraded [GrAPPA](#) which is a web-based interface for graph theoretical tools.

## TECHNICAL SKILLS

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Programming languages: C/C++, Python, R, PHP, HTML+CSS+JS

Software: PyTorch, Jupyter, NumPy, NetCDF, Docker, Git, LaTeX

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1. ARM: Atmospheric Radiation Measurement    2. ADIOS: the Adaptable IO System from ORNL

HPC experience: ORNL CADES, LBNL NERSC

## ACTIVITIES AND AWARDS

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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

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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

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**Simon C. Leemann**

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Accelerator Technology & Applied Physics Division

Lawrence Berkeley National Laboratory

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**Jitendra Kumar**

Research Scientist

Climate Change Science Institute

Oak Ridge National Laboratory

**Michael A. Langston**

Professor

Department of EECS

The University of Tennessee, Knoxville

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