

LU XING

<https://www.cs.purdue.edu/homes/xingl/>

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EDUCATION

Purdue University, West Lafayette, IN

- PhD student in Computer Science (Advisor: Prof. Walid G. Aref) *May 2020 - May 2027 (Expected)*
- M.S. in Computer Science *May 2022*
- M.S. student in Computer Science (GPA: 4.0/4.0) *Jan 2018 - May 2020*

University of Science and Technology of China, Hefei, China

- PhD in Biochemistry and Molecular Biology *Sept 2010 - June 2016*
- B.S. in Bioscience (GPA: 3.55/4.3) *Sept 2006 - June 2010*

PROFESSIONAL EXPERIENCE

Teaching Assistant

August 2022 - Present

Department of Computer Science, Purdue University

Research Intern

May 2022 - August 2022

Remote Internship, Google

Advisor: Ahmed Mahmood

- Investigated density-based geospatial data partitioning

Research Assistant

June 2021 - May 2022

Department of Computer Science, Purdue University

Advisor: Walid G. Aref

- Investigated persistent memory indexing and spatial indexes under insert-heavy workloads.

Teaching Assistant

June 2020 - May 2021

Department of Computer Science, Purdue University

Research Assistant

Aug 2019 - May 2020

Department of Computer Science, Purdue University

Advisor: Xavier Tricoche

- Investigated a novel solution to visualize the geometry underlying the chaotic behavior of dynamical system.

Scientific Software Engineer Intern

May 2019 - July 2019

Enthought, Inc., Austin, TX

Advisor: Ajeet Vivekanandan

- Implemented a web interface for displaying sequencing data using React.js and plotted biological data using various JavaScript libraries.
- Built a web interface for whole genome alignment using D3.js.

Big Data Engineer Intern

June 2018 - July 2018

Anhui USTC iFLYTEK Co., Ltd, Hefei, China

Advisor: Xue-Song Wang

- Implemented a deep learning model based on RNN for medical sentence generation used in text prompt.
- Built an interacting interface to display the prompted text by adding a front-end layer on top of RNN model.

PUBLICATIONS

1. Lu Xing, Mir Mahathir Mohammad, Walid G. Aref, El Kindi Rezig. *LORY-J: Location-aware Join Discovery from Data Lakes. VLDB Demo, 2026*
2. Lu Xing, Venkata Sai Pavan Kumar Vadrevu, Walid G. Aref. *The Ubiquitous Skiplist: A Survey of What Cannot be Skipped About the Skiplist and its Applications in Big Data Systems. ACM Computing Surveys*, accepted for publication, 2025.

3. Lu Xing, Ruihong Wang, Walid G. Aref. *An Adaptive Index for Oscillating Write-Heavy and Read-Heavy Workloads*. In Proceedings of 37th International Conference on Scalable Scientific Data Management (**SSDBM**), accepted for presentation, 2025.
4. Libin Zhou, Lu Xing, Yeasir Rayhan, Walid G. Aref. *GTX: A Write-Optimized Latch-free Graph Data System with Transactional Support*. In Proceedings of **SIGMOD** (2025)
5. Lu Xing, Eric Lee, Tong An, Bo-Cheng Chu, Ahmed Mahmood, Ahmed M. Aly, Jianguo Wang, Walid G. Aref. *An Experimental Evaluation and Investigation of Waves of Misery in R-trees*. In Proceedings of the **VLDB** Endowment (2022)
6. Jeremiah Blocki, Ben Harsha, Siteng Kang, Seunghoon Lee, Lu Xing, Samson Zhou. *Data-Independent Memory Hard Functions: New Attacks and Stronger Constructions*. In **Annual International Cryptology Conference** (pp. 573-607). Springer, Cham.
7. Lu Xing*, Yang Zhao*, Jinghui Gao*, Chengbin Xiang and Jian-Kang Zhu, 2016. *The ABA receptor PYL9 together with PYL8 plays an important role in regulating lateral root growth*. **Scientific reports**, 6, p.27177.
8. Yang Zhao*, Lu Xing*, Xingang Wang, Yueh-Ju Hou, Jinghui Gao, Pengcheng Wang, Cheng-Guo Duan, Xiaohong Zhu and Jian-Kang Zhu, 2014. *The ABA receptor PYL8 promotes lateral root growth by enhancing MYB77-dependent transcription of auxin-responsive genes*. **Science signaling**, 7(328), pp.ra53-ra53.
9. Yang Zhao, Zhulong Chan, Jinghui Gao, Lu Xing, Minjie Cao, Chunmei Yu, Yuanlei Hu, Jun You, Haitao Shi, Yingfang Zhu, Yuehua Gong, Zixin Mu, Haiqing Wang, Xin Deng, Pengcheng Wang, Ray A. Bressan, and Jian-Kang Zhu, 2016. *ABA receptor PYL9 promotes drought resistance and leaf senescence*. Proceedings of the National Academy of Sciences **PNAS**, 113(7), pp.1949-1954.
10. Yang Zhao, Zhulong Chan, Lu Xing, Xiaodong Liu, Yueh-Ju Hou, Viswanathan Chinnusamy, Pengcheng Wang, Chengguo Duan and Jian-Kang Zhu, 2013. *The unique mode of action of a divergent member of the ABA-receptor protein family in ABA and stress signaling*. **Cell Research**, 23(12), pp.1380-1395.
11. Ping Xu, Xiao-Teng Cai, Yao Wang, Lu Xing, Qiong Chen, Cheng-Bin Xiang, 2014. *HDG11 upregulates cell-wall-loosening protein genes to promote root elongation in Arabidopsis*. **Journal of experimental botany**, 65(15), pp.4285-4295.
12. Yueh-Ju Hou, Yingfang Zhu, Pengcheng Wang, Yang Zhao, Shaojun Xie, Giorgia Batelli, Bangshing Wang, Cheng-Guo Duan, Xingang Wang, Lu Xing, Mingguang Lei, Jun Yan, Xiaohong Zhu and Jian-Kang Zhu, 2016. *Type one protein phosphatase 1 and its regulatory protein inhibitor 2 negatively regulate ABA signaling*. **PLoS genetics**, 12(3), p.e1005835.

TEACHING

- Teaching Assistant, CS 541: Database Systems (Graduate level) @Purdue University, Fall 2020, Spring 2023, Fall 2023, Spring 2024 and Fall 2024
- Teaching Assistant, CS 448: Introduction to Relational Database Systems (Undergraduate level) @Purdue University, Spring 2021, Fall 2022, Spring 2025 and Spring 2026
- Teaching Assistant, CS 251: Data Structures @Purdue University, Summer 2020

AWARDS AND HONORS

- Computer Science Graduate Student Association Travel Grant, Summer 2025
- Graduate Teaching Award, Fall 2023
- Purdue Graduate School Summer Research Grant, 2023, 2024