Xinyi (Cindy) CHEN

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EDUCATION

University of Pennsylvania (UPenn) Sept. 2019 – present
Ph.D. student in Computer Science *Philadelphia, United States*
Advisor: Prof. Vincent Liu
GPA: 4.0/4.0

Shanghai Jiao Tong University (SJTU) Sept. 2015 – Jun. 2019
B.S. in Computer Science *Shanghai, China*
GPA: 3.80/4.0

PUBLICATIONS

[1] Qizhen Zhang, Yifan Cai, **Xinyi Chen**, Sebastian Angel, Ang Chen, Vincent Liu, Boon Thau Loo, "Understanding the Effect of Data Center Resource Disaggregation on Production DBMSs", in *the 46th International Conference on Very Large Data Bases (VLDB)*, 2020.

[2] Shaobo Wang, Hui Lyu, Jiachi Zhang, Chenyuan Wu, **Xinyi Chen**, Wenchao Zhou, Boon Thau Loo, Susan B. Davidson, Chen Chen, "Provenance for Probabilistic Logic Programs", in *the 23th International Conference on Extending Database Technology (EDBT)*, 2020 (***Best Paper Award***).

[3] Yin Lin, **Xinyi Chen**, Xiaofeng Gao, Bin Yao, Guihai Chen, "R2 -Tree: An Efficient Indexing Scheme for Server-Centric Data Center Networks", in *the 29th International Conference on Database and Expert Systems Applications (DEXA)*, 2018.

RESEARCH EXPERIENCE

DBMSs in Data Center Resource Disaggregation
Sept. 2019 – Mar. 2020

University of Pennsylvania - Advisors: Prof. Vincent Liu and Prof. Boon Thau Loo

- Run two popular open-source DBMSs (MonetDB and PostgreSQL) and test their performance with TPC-H benchmark in a recently released operating system for resource disaggregation.
- Evaluate the two DBMS with various configurations and compare their performance with that of single-machine Linux with the same hardware resources.
- The results show that there are significant performance degradation in disaggregation data center when running DBMS.

Data Provenance for Probabilistic Programming
Jul. 2018 – Oct. 2018

Research Intern in distributed system group, University of Pennsylvania - Advisor: Prof. Boon Thau Loo

- Designed a unified language called P3log (based on Datalog) which can capture different probabilistic programming language models in distributed system and machine learning.
- Supported provenance in system and proposed several novel provenance queries, for example, identifying the most influential tuples in the query.
- Developed a prototype of P3log and the evaluation shows P3log can maintain provenance trees with low overhead.

Indexing Scheme for Data Center Network Dec. 2016 – Feb. 2018

Shanghai Jiao Tong University - Advisor: Prof. Xiaofeng Gao

- Extracted a general pattern vector through analyzing the feature of sever-centric data center networks.
- Based on the general pattern vector, designed a novel layered indexing scheme called R2-Tree which reduce the query scale by hierarchy.
- The performance for three typical server-centric data center networks: DCell , Ficonn, HCN are evaluated on Amazon's EC2 platform and the technical advancement of R2-Tree is proven comparing to the former research: RT-HCN in this topic.

HONORS & AWARDS

Academic Scholarship *Awarded to top 10% undergraduates for academic performance in SJTU* 2016-2018

Zhiyuan Honors Scholarship *Awarded to top 5% undergraduates for academic performance in SJTU* 2016-2018

Tung Scholarship *Awarded to 7 computer science undergraduates in SJTU for academic performance* 2016