JINYANG LI

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EDUCATION

University of Michigan, Ann Arbor — Michigan, USA
Ph.D. Computer Science and Engineering — Sep 2020 – Present
Advisor: Prof. H. V. Jagadish

Peking University — Beijing, China
Bachelor of Science, Computer Science and Technology — Sep 2016 – Jun 2020

RESEARCH INTEREST

Ethics issues in Data Science and Artificial Intelligence, including data representativeness, diversity, fairness, and validity.

PUBLICATIONS

1. Yinda Zhang, **Jinyang Li**, Yutian Lei, Tong Yang, Zhetao Li, Gong Zhang, Bin Cui, *On-Off Sketch: A Fast and Accurate Sketch on Persistence*, *VLDB 2020.*
2. Tong Yang, Haowei Zhang, **Jinyang Li**, Junzhi Gong, Steve Uhlig, Shigang Chen, Xiaoming Li, *HeavyKeeper: An Accurate Algorithm for Finding Top-k Elephant Flows*, *IEEE/ACM Transactions on Networking (ToN), 2019*
3. Tong Yang, Jie Jiang, Yang Zhou, Long He, **Jinyang Li**, Bin Cui, Steve Uhlig, Xiaoming Li, *Fast and Accurate Stream Processing by Filtering the Cold*, *The International Journal on Very Large Data Bases (VLDB Journal), 2019*
4. Tong Yang, **Jinyang Li**, Chenxingyu Zhao, Gaogang Xie, Xiaoming Li, *Mathematical analysis on forwarding information base compression*, *CCF Transactions on Networking, 2019*

RESEARCH EXPERIENCE

Database Group, University of Michigan — Michigan, USA
Advisor: Professor H. V. Jagadish — Sep 2020 – Present

- *Goal: To find and solve bias and inequity in AI algorithms and systems.*
- Working on detecting minority groups with low accuracy of machine learning models.

FORWARD Data Lab, University of Illinois at Urbana-Champaign — Illinois, USA
Advisor: Professor Kevin Chen-Chuan Chang — Jun 2019 – Jan 2020

- *Goal: To provide ordered access to relational database systems for user interaction.*
- Designed a framework supporting direct exploration and order manipulation of databases.
- Designed an index structure to maintain the mapping from positions of rows in a spreadsheet to primary keys of rows in a database while supporting typical user operations.

Network Big Data Lab, Peking University — Beijing, China
Advisor: Professor Tong Yang — Sep 2017 – Aug 2019

- *Goal: To design data structures for fast and accurate networking measurement and stream processing.*
- Proposed a data structure to find frequent, persistent and recent items in a data stream; paper accepted by VLDB 2020.
- Proposed a data structure to achieve fast and accurate stream processing by filtering cold items; paper accepted by *IEEE/ACM ToN.*
- Proposed a data structure to help accurately find top-k elephant flows; paper accepted by *VLDB Journal.*
- Proposed a variant of Cuckoo filter to achieve elasticity by techniques of virtualization, shrinkage and extension