

Chen Luo

Department of Computer Science, University of California, Irvine – Irvine – CA

☎ 949-372-8206 • ✉ cluo8@uci.edu

Objective

To obtain a software engineering internship specializing in Data Management Systems

Education

University of California, Irvine, CA *Sept. 2016–Present*

Ph.D. in Computer Science, Specialized in Data Management Systems

Supervisor: Prof. Michael J. Carey, GPA: 4.00/4.00

Tsinghua University, China *Sept. 2013–July 2016*

M.Eng. in Software Engineering

GPA: 94.1/100, Ranking: 2 out of 136

Tongji University, China *Sept. 2009–July 2013*

B.Eng. in Software Engineering

GPA: 4.72/5, Ranking: 2 out of 169

Research Experience

LSM-based Storage Management in AsterixDB, University of California, Irvine *Sep. 2017–Present*

- Designed efficient LSM point lookup methods to improve the applicability of secondary indexes
- Proposed new maintenance strategies for LSM-based secondary indexes and filters for efficient data ingestion and query processing
- Investigating flow control mechanisms to minimize stalls and variances in LSM-based storage engines

Indexing in HTAP Systems, IBM Almaden Research Center *June 2017–Sep. 2017*

- Designed and implemented an indexing method for Hybrid Transactional/Analytical Processing (HTAP) systems, which
 - Unifies multi-zone data organization in HTAP systems
 - Supports multi-version timestamped queries for MVCC schemes
 - Performs non-blocking index maintenance to achieve maximum query concurrency

PSpec-SQL, Tsinghua University *July 2014–Dec. 2015*

- Built a privacy-integrated data analytics system on top of Spark-SQL, which:
 - Provides a high-level privacy language for specifying privacy policies
 - Enforces privacy compliances against submitted queries using program analysis techniques
 - Integrates with differential privacy to offer provable privacy guarantees

Large-Scale Software Model Inference, Tsinghua University *Mar. 2014–July 2014*

- Proposed a MapReduce-based approach for inferring software models from large logs
- Demonstrated efficiency and scalability with extensive experiments on AWS cloud

Work Experience

Research Summer Intern, IBM Almaden Research Center *June 2017–Sep. 2017*

- Worked on indexing management in Hybrid Transaction/Analytical Processing (HTAP) systems

Software Developer Intern, eBay China Development Center *July 2012–Mar. 2013*

- Participated in the development of eBay's web application framework
- Redeveloped the internal web traffic analytics system with MapReduce

Selected Publications

- [1] **Chen Luo**, Michael J. Carey. Efficient Data Ingestion and Query Processing for LSM-Based Storage Systems. *Under Review for International Conference on Very Large Data Bases (PVLDB)*
- [2] **Chen Luo**, Pinar Tozun, Yuanyuan Tian, Ronald Barber, Vijayshankar Raman, and Richard Sidle. Umzi: Unified Multi-Zone Indexing for Large-Scale HTAP. *International Conference on Extending Database Technology (EDBT)*, 2019, to appear
- [3] **Chen Luo**, Fei He, and Carlo Ghezzi. Inferring Software Behavioral Models with MapReduce. *Science of Computer Programming*, 145 (2017): 13-36
- [4] **Chen Luo**, Fei He, Dong Yan, Dan Zhang, Xin Zhou, and Bow-Yaw Wang. PSpec: A Formal Privacy Language for Data Analytics (Poster). *International Conference on Software Engineering (ICSE)*, 2017