Guanting Chen

Profile

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☺ Objective: I am interested in building data structures and design ideas in data systems, particularly, efficient and adaptive access methods with its underlying data structures and storage managements that are optimized for heterogeneous workloads. I'm looking for research opportunities where I could learn more about designing space behind advanced data systems and dive deeper into practical research.

EDUCATION BACKGROUND

Boston University, Boston, MA   *Sept. 2018 - Present*
  M.S. in Computer Science
  Advisor: Prof. Manos Athanassoulis

Beijing University of Technology, Beijing, China   *Sept. 2013 – July. 2017*
  B.Eng. in Information Security

SKILLS AND INTERESTS

Research Interests: Data systems and distributed systems.
Languages: C++/C, Java, Golang, Python, HTML/CSS/JavaScript, SQL
Framework & Protocol: DBMS, MapReduce, Raft, TCP/IP Stack, Django, Bootstrap
Tools: Git, Vim, RStudio, Shell, LaTex

PROJECT AND RESEARCH EXPERIENCE

Benchmarking on LSM-Trees based Key/Value Store Systems and LSM-Trees' Compaction Analysis

Direct Study, advised Prof. Manos Athanassoulis   *Sept. 2019 – Present*

➢ Investigate the design space and tuning parameters of compaction policies in LSM-Tree based data systems.
➢ Build benchmarking API and standalone accuracy tests for Bloom filters on RocksDB and discover its influence on disk I/O and point lookup performance.
➢ Benchmarking LSM-tree compaction policies with heterogeneous workloads to analyze tradeoffs among performance metrics.

Client-Server Echo Application and Optimized Reliable Transport Protocol

Course Project on Graduate Network   *Sept. 2019 – Nov. 2019*

➢ Developed a multi-thread client-server echo application performing measurements of RTT and throughput.
➢ Implemented an reliable transport protocol of optimized Go-Back-N with selective repeats.
➢ Emulated network conditions and analyzed performance metrics between protocols of GBN-SACK and SR.

Distributed MapReduce and Sharded Key/Value Storage System with Fault Tolerance

Course Project and Labs on Distributed Systems   *Sept. 2018 – Dec. 2018*

➢ Developed a fault-tolerant MapReduce library applied in word count and inverted index generation.
➢ Implemented Raft and fault-tolerant key/value store service with log compaction on replicated state machines.
➢ Built a sharded key/value service on top of our distributed key/value store using Raft.

SimpleDB

Course Project and Labs on Graduate Database System   *Sept. 2018 – Dec. 2018*

➢ Developed a simple database system including implementations of storage organizations, query operators, joining algorithms and optimizer, insertion and deletion in B+Tree indexing, buffer and transaction management.

Web Mining on User Profile Based on Social Network

Natural Science Foundation of China, advised by Prof. Zhen Yang   *Dec.2016 – Jun. 2017*
- ➢ Developed a web mining application that crawls data and predicts preference of users based on linear classification.
- ➢ Implemented the profiling model and benchmarks on model accuracy.

IPv6 Design and Deployment for Campus Network

Network Project of the Third Teaching Building at Beijing University of Technology   *Sept. 2014 – May 2015*
- ➢ Designed cabling infrastructure, IPV6 coverage and wireless system integration.
- ➢ Leaded the group to conduct field visits, demands and network topology analysis.

PUBLICATION

Chen Guanting, Zhao Hongbo, Sun Tianze, Hanjing, IPv6 Design and Deployment for Campus Network, (No. 1055357)
Mobile Messages, ISSN 1009-6434

WORK AND INTERNSHIP EXPERIENCE

DataSystems Lab, MiDAS Group @ Boston University

Research Intern, advised by Manos Athanassoulis, Subhadeep Sarkar   *Summer 2019*
- ➢ Researched on cost models and compaction policies in Log-Structured Merge-Tree.
- ➢ Built configurable visualizations of various LSM-Tree compaction policies on website.
- ➢ Benchmarked and analyzed query performance of different LSM-Tree file-picking algorithms on RocksDB.

Tingyun (Beijing Networkbench Systems Corporation), China

Technical Support Engineer   *Dec. 2016 – Jul. 2017*
- ➢ Monitored and analyzed performance bottlenecks of applications and provided technical support with diagnosis.
- ➢ Assisted in analysis reports and optimization scheme for full-stack performance challenges.

Beijing Anbi Electronic Technology Ltd, China

Software Engineer Intern   *Jun. 2016 – Sept. 2016*
- ➢ Developed on web backend authorization and logging management with Django.

EXTRA-CURRICULAR-ACTIVITIES

- ➢ **2016 National University Cybersecurity Competition (X-NUCA 2016)**   *Jul. 2016 – Aug. 2016*
- ➢ **The Finals of National College Student Skiing Competition**   *Mar. 2016 – Apr. 2016*
- ➢ **Employment Practice Community in Beijing University of Technology**   *Sept. 2014 – Jun. 2015*
- ➢ **China Internet Security Conference**   *Aug. 2016*
- ➢ **Employment Practice Community in Beijing University of Technology**   *Sept. 2014 – Jun. 2015*

AWARDS

- ➢ Excellent Volunteer in Employment Conference at Beijing University of Technology, 11/2015
- ➢ Association Dedication Award for Spiritual Civilization

OTHERS

▤ Webpage: https://cs-people.bu.edu/gtchen/
⌨ Github: https://github.com/gtchenus