

Yazhuo Zhang

☎ (+1)404-242-6125 | ✉ yazhuo.zhang@emory.edu | 🌐 <http://yazhuozhang.com> | 📄 yazhuo

Education

Ph.D. in Computer Science, Emory University

COMPUTER SCIENCE DEPARTMENT, ADVISOR: YMIR VIGFUSSON

Atlanta, USA

Aug.2019 - Present

M.S. in Software Engineering, South China University of Technology

SOFTWARE ENGINEERING DEPARTMENT, ADVISOR: DEYOU TANG

Guangzhou, China

Sep.2016 - Jun.2019

B.S. in Software Engineering, South China University of Technology

SOFTWARE ENGINEERING DEPARTMENT, ADVISOR: DEYOU TANG

Guangzhou, China

Sep.2012 - Jun.2016

Publications

1. Yazhuo Zhang, Rebecca Isaacs, Yao Yue, Juncheng Yang, Lei Zhang, Ymir Vigfusson. **“LatenSeer: Causal Modeling of End-to-End Latency Distribution by Harnessing Distributed Tracing.”** *14th ACM Symposium on Cloud Computing (SoCC’23)*.
2. Yazhuo Zhang, Juncheng Yang, Yao Yue, Ymir Vigfusson, Rashmi Vinayak. **“SIEVE: Simple and Efficient Eviction Policy for Turn-key Web Cache Replacement.”** *The 20th USENIX Symposium on Networked Systems Design and Implementation (NSDI’24)*.
3. Juncheng Yang, Yazhuo Zhang, Ziyue Qiu, Yao Yue, Rashmi Vinayak. **“FIFO queues are all you need for cache eviction.”** *The 29th ACM Symposium on Operating Systems Principles (SOSP’23)*.
4. Juncheng Yang, Ziyue Qiu, Yazhuo Zhang, Yao Yue, Rashmi Vinayak. **“FIFO can be Better than LRU: the Power of Lazy Promotion and Quick Demotion.”** *The 19th Workshop on Hot Topics in Operating Systems (HotOS’23)*.
5. Deyou Tang, Yazhuo Zhang, Qingmiao Zeng. **“Optimization of Hardware-oblivious and Hardware-conscious Hash-join Algorithms on KNL.”** *The 4th International Conference on Cloud Computing and Internet of Things (CCIOT’19)*.
6. Deyou Tang, Henglin Liang, Yazhuo Zhang, Qingmiao Zeng. **“Parallelization of Back Propagation Neural Network on Knights Landing Platform”**. *The 14th International Conference on Natural Computation, Fuzzy Systems and Knowledge Discovery (CNC-FSKD’18)*.

Work Experience

Research Intern @ Magnition

CDN Performance What-if Analysis (Manager/Mentor: Irfan Ahmad)

June. 2023 - Present

- Conducted a thorough survey of the existing CDN architecture and performance requirements through reviewing academic literature and interviewing CDN industry experts.
- Designed and implemented a versatile CDN simulator utilizing the Lingua Franca language. This simulator facilitates explorations of various parameter spaces, including but not limited to resource allocation and eviction policies.
- Currently engaged in the rigorous assessment of the CDN simulator’s performance and applicability in real-world scenarios, aiming to optimize its effectiveness and utility.

Research Intern @ Akamai

MetroCache Routing Performance Analysis (Manager: Anna Blasiak, Mentor: Scott Roche)

May 2022 - Aug 2022

- Collected traffic data on test machines with the geo-choice feature enabled, providing geo-partition and geo-choice results for each ECOR.
- Designed and conduct experiments focused on determining the impact of various parameter settings on geo-choice results, leading to a deep understanding of geo-choice performance and its correlation with parameter adjustments.
- Identified optimal parameters’ range for geo-choice feature. Additionally, uncovered potential capacity deficiencies in specific regions.
- Devised an interactive tool for for monitoring geo-choice feature’s performance, thus enhancing the company’s capacity to promptly identify and rectify performance-related issues.

Researcher @ Twitter

What-if Analysis for Hypothetical Service Migration (Manager: Yao Yue, Mentor: Rebecca Isaacs)

Feb 2021 - May 2022

- Enhanced Google Cloud Dataflow for the construction of service dependency trees, capable of querying tens of millions of Zipkin traces and storing crucial details of sibling spans.
- Devised a latency-critical path model, LatenSeer, which can estimate end-to-end latency distributions under hypothetical latency changes in internal services, further reporting each service’s latency slack.
- Evaluated LatenSeer using prototypes and production traces. LatenSeer predicts end-to-end latency distribution within 5.35% error (D-Statistic).
- Helped investigate cache cluster behavior during failover periods and clock skew distributions among production machines.

Teaching Experience

2021	Teaching assistant: CS326 Analysis of Algorithms	<i>Emory University</i>
2020	Teaching assistant: CS551 System programming	<i>Emory University</i>
2020	Teaching assistant: CS170 Introduction to Computer Science	<i>Emory University</i>
2018	Teaching assistant: Fundamentals of Computers	<i>SCUT</i>
2017	Teaching assistant: Database	<i>SCUT</i>
2017	Lab instructor: Parallel Algorithms and Programming	<i>SCUT</i>

Awards and Honors

2023	OSDI'23 diversity grant
2023	HotOS'23 travel grant
2022	OSDI'22 diversity grant
2021	OSDI'20 student grant
2018	Outstanding cadres of Student Association
2016	Excellence of Commercial Promise of Intel Cup Parallel Application Challenge

Services & Activities

2021	External Reviewer: USENIX Annual Technical Conference (ATC'21)
2022	Volunteer: 12th Workshop on Large Scale Distributed Systems and Middleware (LADIS)
2020	External Reviewer: 12th USENIX Workshop on Hot Topics in Cloud Computing(HotCloud'20)