

Haoyu Li

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EDUCATION

- Jun 2020 (Expected) **Shanghai Jiao Tong University**, Shanghai, China
M.E. in Software Engineering, advisor: Prof. Haibo Chen
Gpa: 3.9 / 4.0
- Jun 2018 **Shanghai Jiao Tong University**, Shanghai, China
B.E. in Software Engineering, advisor: Prof. Binyu Zang
Gpa: 3.6 / 4.3
- Jun 2013 **The First High School of Changsha**, Hunan, China

RESEARCH INTERESTS

Performance and Reliability of Computer Systems

Managed Runtime, Programming Languages, Operating Systems, and Computer Architecture

RESEARCH EXPERIENCES

@Institute of Parallel and Distributed Systems, SJTU, Advisor: Prof. Haibo Chen

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|---------------------|---|
| Current | A Non-volatile Memory Friendly Garbage Collector
Explore assumption mismatches between existing garbage collectors and emerging Intel Optane byte-addressable non-volatile memory. Try to improve the GC performance on NVM to a comparable level of DRAM. |
| Nov 2017 - Jul 2018 | ScissorGC: Scalable and Efficient Compaction for Java Full Garbage Collection
Solve the region dependency problem and improve object copying efficiency in ParOld GC with up to 5.6X GC throughput improvement and 61.8% application speedup.
Open-sourced at here , and submitted to OpenJDK at here |
| Oct 2016 - Oct 2017 | Espresso: Brewing Java For More Non-Volatility with Non-volatile Memory
Provide a general persistent heap design to manage persistent data in Java runtime, and a safe persistence programming model to persist application data with 256X speedup at best. |
| Sep 2016 - Dec 2016 | Tiger Programming Language Compiler
Implement a compiler, including both front and back end, according to <i>Modern Compiler Implementation in C</i> . |
| Jun 2016 - Sep 2016 | JOS: An Exo Kenel Lab
Implement booting, memory management, user environments, and preemptive multitasking of an exokernel-like system. |

@Department of System Software, Alibaba Group, Advisor: Sanhong Li

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| Sep 2018 - Jul 2019 | Platinum: A CPU-Efficient Concurrent Garbage Collector for Tail-Reduction of Interactive Services
Utilize idle cores to run mutator threads during Parallel Scavenge GC, and leverage MPK and RTM to protect mutators' concentrated working sets from being collected. Implement a concurrent collector with low CPU consumption. |
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PUBLICATIONS

[**VEE'19**] Li H, Wu M, Zang B, Chen H. ScissorGC: Scalable and Efficient Compaction for Java Full Garbage Collection. Proceedings of the Fifteenth ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments.

[**APSys'18**] Li H, Wu M, Chen H. Analysis and Optimizations of Java Full Garbage Collection. Proceedings of the Ninth Asia-Pacific Workshop on Systems.
Best Paper Runner Up

[**ASPLOS'18**] Wu M, Zhao Z, Li H, et al. Espresso: Brewing Java For More Non-Volatility with Non-volatile Memory. Proceedings of the Twenty-Third International Conference on Architectural Support for Programming Languages and Operating Systems.

SCHOLARSHIPS AND HONORS

Oct	2019	National Scholarship
Jun	2018	Shanghai Jiao Tong University Excellent Graduate
Nov	2017	Xin Dong Network Inc. Scholarship
Nov	2017	Shanghai Jiao Tong University Academic Progress Scholarship
Nov	2017, 2016	National Encouragement Scholarship
Nov	2017, 2016, 2015	Shanghai Jiao Tong University Academic Excellent Scholarship

TEACHING

Spring	2019	Teaching Assistant of Operating System
Fall	2018	Teaching Assistant of Principle and Technology of Compiler

SOCIAL EXPERIENCES

Nov 2017	Volunteer in Symposium on Operating Systems Principles
Jun 2016 - Sep 2017	Vice-minister of Library Students' Administration Committee
Jun 2014 - Jun 2015	Cofounder and President of Martial Arts Association in SJTU