

Diyu Zhou

Ph.D.
School of Computer and Communication Sciences
INN 240, Station 14, EPFL
Lausanne, VD 1015, CH

Email: diyu.zhou@epfl.ch
Web: <https://zhou-diyu.github.io/>
Phone: +41-76-302-68-27

RESEARCH INTERESTS

Computer Systems, Operating Systems, Storage Systems, Dependable Computing, Concurrency, Virtualization, and Software Debugging and Testing

RESEARCH SUMMARY

My current research focuses on two areas: (1) Novel storage systems that fully exploit modern storage devices. (2) Frameworks and algorithms for synchronization primitives that scale to massive multi-core machines. My Ph.D. thesis is on building practical and low-overhead dependability mechanisms (fault-tolerance mechanisms and debugging tools) for hypervisors, containers, and server applications.

EDUCATION

University of California, Los Angeles

Ph.D., Computer Science

December 2020

Advisor: Yuval Tamir

Thesis: Practical Dependable Systems with OS/Hypervisor Support

University of California, Los Angeles

M.S., Computer Science

June 2018

Peking University

B.S., Computer Science

June 2013

EMPLOYMENT HISTORY

École Polytechnique Fédérale de Lausanne

Postdoctoral scholar

June, 2021 - present

Host: Sanidhya Kashyap

PEER-REVIEWED PUBLICATIONS

[C.7] **TENET: Memory Safe and Fault tolerant Persistent Transactional Memory**

R. Madhava Krishnan, [Diyu Zhou](#), Wook-Hee Kim, Sudarsun Kannan, Sanidhya Kashyap, and Changwoo Min
Accepted to 21st USENIX Conference on File and Storage Technologies (FAST '23)

[C.6] **Odinfs: Scaling PM performance with Opportunistic Delegation**

[pdf](#) [Diyu Zhou](#), Yuchen Qian, Vishal Gupta, Zhifei Yang, Changwoo Min, and Sanidhya Kashyap

In proceedings of 16th USENIX Symposium on Operating Systems Design and Implementation (OSDI '22), Carlsbad, CA, USA, pages 179-193, July 2022. Acceptance Rate: $49/253 = 19.4\%$

[C.5] **Application-Informed Kernel Synchronization Primitives**

[pdf](#) [Sujin Park](#), [Diyu Zhou](#), Yuchen Qian, Irina Calciu, Taesoo Kim, and Sanidhya Kashyap

In proceedings of 16th USENIX Symposium on Operating Systems Design and Implementation (OSDI '22), Carlsbad, CA, USA, pages 667-682, July 2022. Acceptance Rate: $49/253 = 19.4\%$

[C.4] **RRC: Responsive Replicated Containers**

[pdf](#) [Diyu Zhou](#) and Yuval Tamir

In proceedings of 2022 USENIX Annual Technical Conference (ATC '22), Carlsbad, CA, USA, pages 85-99, July 2022. Acceptance Rate: $64/393 = 16.2\%$

- [C.3] **Fault-Tolerant Containers Using NiLiCon**
[pdf](#) Diyu Zhou and Yuval Tamir
 In proceedings of 34th IEEE International Parallel and Distributed Processing Symposium (IPDPS '20), New Orleans, LA, USA, pages 1082-1091, May 2020. Acceptance Rate: $110/446 = 24.7\%$
- [C.2] **PUSh: Data Race Detection Based on Hardware-Supported Prevention of Unintended Sharing**
[pdf](#) Diyu Zhou and Yuval Tamir
 In proceedings of ACM/IEEE 52nd Annual Symposium on Microarchitecture (MICRO '19), Columbus, OH, USA, pages 886–898, October 2019. Acceptance Rate: $79/345 = 22.8\%$
- [C.1] **Fast Hypervisor Recovery Without Reboot**
[pdf](#) Diyu Zhou and Yuval Tamir
 In proceedings of 48th IEEE/IFIP International Conference on Dependable Systems and Networks (DSN '18), Luxembourg City, Luxembourg, pages 115-126, June 2018. Acceptance Rate: $51/202 = 25.2\%$

DISSERTATIONS

- [T.1] **Practical Dependable Systems with OS/Hypervisor Support**
[pdf](#) Diyu Zhou
 Ph.D. Dissertation, University of California, Los Angeles, December, 2020

TEACHING EXPERIENCE

- University of California, Los Angeles**
Teaching Assistant, CS111: Operating Systems, 8 quarters
- University of California, Los Angeles**
Teaching Assistant, CS151B: Computer Systems Architecture, 9 quarters
- University of California, Los Angeles**
Teaching Assistant, CS35L: Software Construction Laboratory, 3 quarters

HONORS AND SCHOLARSHIPS

UCLA Computer Science Department Fellowship	2020
UCLA Computer Science Department Travel Grant	2019
Micro 2019 Travel Grant	2019
UCLA Doctoral Student Travel Grant	2019
DSN 2018 Travel Grant	2018
UCLA Graduate Division Fellowship	2013
Tencent Technology Excellence Scholarship	2012
Yihai Kerry Scholarship	2011
Second Prize, The 10th Peking University Netease Youdao Cup Programming Contest	2011
5th in the world and 1st in Region 10, IEEE Xtreme 4.0 Programming Contest	2010
Silver Medal, The 2010 ACM-ICPC Asia Tianjin Regional Contest	2010
Silver Medal, The 2010 ACM-ICPC Asia Harbin Regional Contest	2010
Second Prize, The 9th Peking University Netease Youdao Cup Programming Contest	2010
Gold Medal, National Olympiad in Informatics in Provinces	2008

LANGUAGES

- English:** Full professional proficiency
Chinese: Native

PROFESSIONAL MEMBERSHIPS

ACM Member, ACM SIGMICRO
IEEE Member

SUPERVISION OF JUNIOR RESEARCHERS

Yuchen Qian

Master student in Computer Science, EPFL

Mar 2021 - Dec 2021

Sujin Park

Ph.D. student in Computer Science, Georgia Tech

Jun 2021 - Mar 2022

Zhifei Yang

Ph.D. student in Computer Science, EPFL

Sep 2021 - Mar 2022

Guochao Xie

Master student in Computer Science, EPFL

Sep 2021 - Jun 2022

Longyu Liang

Master student in Computer Science, EPFL

Jan 2022 - Jun 2022

Vojtech Aschenbrenner

Ph.D. student in Computer Science, EPFL

Feb 2022 - present

Mohamed Yassine Boukhari

Master student in Computer Science, EPFL

Sep 2022 - present

REFERENCES

References available upon request.