

AISHWARYA GANESAN

WEBSITE: <https://aishwaryaganesan.github.io/> EMAIL: aganesn2@illinois.edu

CURRENT EMPLOYMENT

- | | |
|---|------------|
| <input type="checkbox"/> University of Illinois Urbana-Champaign | Urbana, IL |
| <i>Assistant Professor</i> | AUG '22 – |

POST PH.D. WORK EXPERIENCE

- | | |
|---|-------------------|
| <input type="checkbox"/> VMware Research | |
| <i>Consulting: Affiliated Researcher</i> | FEB '23 – OCT '24 |
| <input type="checkbox"/> VMware Research | |
| <i>Postdoctoral Researcher</i> | OCT '20 – AUG '22 |

EDUCATION

- | | |
|--|-----------|
| <input type="checkbox"/> University of Wisconsin – Madison | |
| Ph.D. in Computer Sciences, Advisors: Andrea Arpaci-Dusseau and Remzi Arpaci-Dusseau | 2015–2020 |
| <input type="checkbox"/> Indian Institute of Technology Bombay | |
| M.Tech in Computer Science and Engineering | 2011–2013 |
| <input type="checkbox"/> Coimbatore Institute of Technology, Anna University | |
| B.Tech in Information Technology | 2006–2010 |

HONORS & AWARDS

- | | |
|--|-----------|
| <input type="checkbox"/> SOSP'24 Best Paper Award | 2024 |
| For our paper <i>LazyLog</i> | |
| <input type="checkbox"/> NSF CAREER Award | 2024 |
| (Title: Storage-Aware Fault Tolerance; \$699K) | |
| <input type="checkbox"/> IBM Illinois Discovery Accelerator (IIDA) Institute Grant for \$480K | 2023 |
| (w/ Indranil Gupta, Kenton McHenry, Luigi Marini, Ram Alagappan) | |
| <input type="checkbox"/> List of Teachers Ranked as Excellent By Their Students for Spring 2023 | 2023 |
| <input type="checkbox"/> List of Teachers Ranked as Outstanding By Their Students for Fall 2022 | 2022 |
| <input type="checkbox"/> Selected for Rising Stars in EECS '21 | 2021 |
| <input type="checkbox"/> Graduate Student Instructor Award | 2020 |
| For teaching graduate-level distributed systems at UW Madison | |
| <input type="checkbox"/> FAST Best Paper Award | 2020 |
| For our paper <i>Consistency-Aware Durability</i> | |
| <input type="checkbox"/> Facebook Ph.D., Fellowship | 2019-2020 |
| Fellowship in distributed systems; funding towards tuition, stipend, and travel. | |
| <input type="checkbox"/> Facebook Distributed Systems Research Award for \$50,000 | 2020 |
| Jointly with Ramnathan Alagappan, Andrea Arpaci-Dusseau, and Remzi Arpaci-Dusseau | |
| <input type="checkbox"/> CS Department Golden Brick Award | 2019 |
| For leading diversity efforts as president of UW Madison chapter of ACM-W | |
| <input type="checkbox"/> Selected for Rising Stars in EECS '18 | 2018 |
| <input type="checkbox"/> FAST Best Paper Award | 2018 |
| For our paper <i>Protocol-Aware Recovery</i> | |

<input type="checkbox"/> Grace Hopper Celebration of Women in Computing Scholarship	2017
<input type="checkbox"/> FAST Best Paper Award Nominee For our paper <i>Redundancy Does Not Imply Fault-Tolerance</i>	2017
<input type="checkbox"/> Departmental Research Fellowship, University of Wisconsin – Madison	2015
<input type="checkbox"/> Department Gold Medal For ranking first during undergraduate studies	2010
<input type="checkbox"/> Tata Consultancy Services endowed Best Student Award	2010

GRANTS

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- ☐ NSF CAREER Award for \$699K (Title: Storage-Aware Fault Tolerance)
 - ☐ IBM Illinois Discovery Accelerator (IIDA) Institute Grant for \$480K (along with Indranil Gupta, Kenton McHenry, Luigi Marini, Ram Alagappan)
 - ☐ Facebook Distributed Systems Research Award for \$50,000 (along with Ramnatthan Alagappan, Andrea Arpaci-Dusseau, and Remzi Arpaci-Dusseau)

PEER-REVIEWED CONFERENCE PUBLICATIONS

Bold names: *My students and me*

*****: *co-primary authors*

\$: *equal contribution*

- [1] **Shreesha Bhat**, Tony Hong, **Xuhao Luo**, **Jiyu Hu**, **Aishwarya Ganesan**, Ramnatthan Alagappan. *Low End-to-End Latency atop a Speculative Shared Log with Fix-Ante Ordering*. In Proceedings of the 19th USENIX Symposium on Operating Systems Design and Implementation, OSDI 25, July 2025. **OSDI 25**
- [2] **Xuhao Luo**, **Shreesha Bhat**^{\$}, **Jiyu Hu**^{\$}, Ramnatthan Alagappan, and **Aishwarya Ganesan**. *LazyLog: A New Shared Log Abstraction for Low-Latency Applications*. In Proceedings of the 30th ACM Symposium on Operating Systems Principles (SOSP24), Austin, TX. 2024. (Acceptance rate: 43/245 = 17.6%)
Best Paper Award
Invited for fast-tracked publication in ACM Transactions on Computer Systems **SOSP '24**
- [3] **Xuhao Luo**, Ramnatthan Alagappan, and **Aishwarya Ganesan**. *SplitFT: Fault Tolerance for Disaggregated Datacenters via Remote Memory Logging*. In Proceedings of the European chapter of ACM SIGOPS, Athens, Greece. April 2024. (Acceptance rate: 39/244 = 16%) **EUROSys '24**
- [4] Yi Xu*, **Henry Zhu***, Prashant Pandey, Alex Conway, Rob Johnson, **Aishwarya Ganesan**, Ramnatthan Alagappan. *IONIA: High-Performance Replication for Modern Disk-based KV Stores*. In Proceedings of the 22nd USENIX Conference on File and Storage Technologies, Santa Clara, CA. Feb 2024. (Acceptance rate: 22/123 = 17.8%) **FAST '24**
- [5] Xudong Sun, Wenqing Luo, Tyler Gu, **Aishwarya Ganesan**, Ramnatthan Alagappan, Michael Gasch, Lalith Suresh, and Tianyin Xu. *Automatic Reliability Testing For Cluster Management Controllers*. In Proceedings of the 16th USENIX Symposium on Operating Systems Design and Implementation, July 2022. (Acceptance rate: 49/253 = 19.4%) **OSDI '22**
- [6] **Aishwarya Ganesan**, Ramnatthan Alagappan, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. *Exploiting Nil-Externality for Fast Replicated Storage*. In Proceedings of the 28th ACM Symposium on Operating Systems Principles, October 2021. (Acceptance rate: 54/348 = 15.5%)
Invited for fast-tracked publication in ACM Transactions on Storage **SOSP '21**

- [7] Yifan Dai, Yien Xu, **Aishwarya Ganesan**, Ramnatthan Alagappan, Brian Kroth, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. *From Wisckey to Bourbon: A Learned Index for Log-structured Merge Trees*. In Proceedings of the 14th USENIX Conference on Operating Systems Design and Implementation, 2020. (Acceptance rate: 70/398 = 17.6%)
Invited to Workshop on Learned Algorithms, Data Structures, and Instance-Optimized Systems @ VLDB '21
- [8] **Aishwarya Ganesan**, Ramnatthan Alagappan, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. *Strong and Efficient Consistency with Consistency-aware Durability*. In Proceedings of the 18th Conference on File and Storage Technologies, February 2020. (Acceptance rate: 23/138 = 16.7%)
Best Paper Award
Invited for fast-tracked publication in ACM Transactions on Storage
- [9] Iyswarya Narayanan, **Aishwarya Ganesan**, Anirudh Badam, Sriram Govindan, Bikash Sharma, Anand Sivasubramaniam. *Getting More Performance with Polymorphism from Emerging Memory Technologies*. In Proceedings of the 12th ACM International Conference on Systems and Storage, June 2019. (Acceptance rate: 16/44 = 36.4%)
- [10] Ramnatthan Alagappan, **Aishwarya Ganesan**, Jing Liu, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. *Fault Tolerance, Fast and Slow: Exploiting Failure Asynchrony in Distributed Systems*. In Proceedings of the 13th USENIX Conference on Operating Systems Design and Implementation, 2018. (Acceptance rate: 47/257 = 18.3%)
- [11] Ramnatthan Alagappan, **Aishwarya Ganesan**, Eric Lee, Aws Albarghouthi, Vijay Chidambaram, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. *Protocol-Aware Recovery for Consensus-Based Storage*. In Proceedings of the 16th USENIX Conference on File and Storage Technologies, February 2018. (Acceptance rate: 23/140 = 16.4%)
Best Paper Award
Best of the Rest at ATC '19
Invited for fast-tracked publication in ACM Transactions on Storage
PAR/CTRL adopted by a financial database startup (TigerBeetle)
- [12] **Aishwarya Ganesan**, Ramnatthan Alagappan, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. *Redundancy Does Not Imply Fault Tolerance: Analysis of Distributed Storage Reactions to Single Errors and Corruptions*. In Proceedings of the 15th USENIX Conference on File and Storage Technologies, 2017. (Acceptance rate: 28/118 = 23.7%)
Best Paper Nominee
Invited for fast-tracked publication in ACM Transactions on Storage
Invited to USENIX ;login:
- [13] Ramnatthan Alagappan, **Aishwarya Ganesan**, Yuvraj Patel, Thanumalayan Sankaranarayanan Pillai, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. *Correlated Crash Vulnerabilities*. In Proceedings of the 12th USENIX Conference on Operating Systems Design and Implementation, November 2016. (Acceptance rate: 47/267 = 17.6%)
- [14] Swati Rallapalli, **Aishwarya Ganesan**, Krishna Chintalapudi, Venkat Padmanabhan, Lili Qiu. *Enabling Physical Analytics in Retail Stores using Smart Glasses*. In Proceedings of the 20th Annual International Conference on Mobile Computing and Networking, September 2014. (Acceptance rate: 36/220 = 16.4%)

PEER-REVIEWED JOURNAL AND WORKSHOP PUBLICATIONS & DEMOS

- | | |
|---|--------------------|
| [1] Aishwarya Ganesan , Ramnatthan Alagappan, Anthony Rebello, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. <i>Exploiting Nil-External Interfaces for Fast Replicated Storage</i> . ACM Transactions on Storage (TOS), May 2022. (<i>Fast-tracked</i>) | ACM Tos '22 |
| [2] Xudong Sun, Lalith Suresh, Aishwarya Ganesan , Ramnatthan Alagappan, Michael Gasch, Lilia Tang, and Tianyin Xu. <i>Reasoning About Modern Datacenter Infrastructures using Partial Histories</i> . In Proceedings of the Workshop on Hot Topics in Operating Systems, June 2021. | HotOS '21 |
| [3] Aishwarya Ganesan , Ramnatthan Alagappan, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. <i>Strong and Efficient Consistency with Consistency-aware Durability</i> . ACM Transactions on Storage (TOS), 17(1), January 2021. (<i>Fast-tracked</i>) | ACM Tos '21 |
| [4] Ramnatthan Alagappan, Aishwarya Ganesan , Eric Lee, Aws Albarghouthi, Vijay Chidambaram, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. <i>Protocol-Aware Recovery for Consensus-Based Distributed Storage</i> . ACM Transactions on Storage (TOS), 14(3), October 2018. (<i>Fast-tracked</i>) | ACM Tos '18 |
| [5] Aishwarya Ganesan , Ramnatthan Alagappan, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. <i>Redundancy Does Not Imply Fault Tolerance: Analysis of Distributed Storage Reactions to File-System Faults</i> . ACM Transactions on Storage (TOS), 13(3), September 2017. (<i>Fast-tracked</i>) | ACM Tos '18 |
| [6] Aishwarya Ganesan , Swati Rallapalli, Krishna Chintalapudi, Venkat Padmanabhan, Lili Qiu. <i>Demo: Tracking User Browsing on a Demo Floor</i> , In Proceedings of the 20th Annual International Conference on Mobile Computing and Networking, September 2014. | MOBICom '14 |

OTHER PUBLICATIONS

- | | |
|---|--------------------|
| [1] Xudong Sun, Wenqing Luo, Jiawei Tyler Gu, Aishwarya Ganesan , Ramnatthan Alagappan, Michael Gasch, Lalith Suresh, Tianyin Xu. <i>Sieve: Chaos Testing for Kubernetes Controllers</i> . ;login: The USENIX Magazine. 2024. (<i>Invited</i>) | ;LOGIN: |
| [2] Aishwarya Ganesan , Ramnatthan Alagappan, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. <i>Redundancy Does Not Imply Fault Tolerance: Analysis of Distributed Storage Reactions to Single Errors and Corruptions</i> . ;login: The USENIX Magazine, 42(2), Summer 2017. (<i>Invited</i>) | ;LOGIN: |
| [3] Rajalakshmi Nandakumar, Swati Rallapalli, Krishna Chintalapudi, Venkat Padmanabhan, Lili Qiu, Aishwarya Ganesan , Saikat Guha, Deepanker Aggarwal, Aakash Goenka. <i>Physical Analytics: A New Frontier for (Indoor) Location Research</i> . Microsoft Technical Report no. MSR-TR-2013-107, October 2013. | TECH REPORT |

COVERAGE ON RESEARCH

- | | |
|---|----------|
| <input type="checkbox"/> The Morning Paper. Protocol-Aware Recovery for Consensus-Based Storage (link). | Feb 2018 |
| <input type="checkbox"/> ZDNet. Eliminating storage failures in the cloud (link). | Feb 2018 |
| <input type="checkbox"/> The Morning Paper. Redundancy does not imply fault tolerance (link). | Mar 2017 |
| <input type="checkbox"/> DHSR's Blog. Injecting Faults in Distributed Storage (link). | Mar 2017 |
| <input type="checkbox"/> StorageMojo. StorageMojo's Best Paper of FAST 2017 (link). | Mar 2017 |

OTHER WORK EXPERIENCE

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|--|---------------------------|
| <input type="checkbox"/> Microsoft Research
Research Intern, Systems Research Group
Mentor: Anirudh Badam | Redmond, WA
SUMMER '17 |
|--|---------------------------|

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> Microsoft Research
<i>Research Fellow, Mobility, Networks, and Systems Group</i>
Mentors: Krishna Chintalapudi and Venkat Padmanabhan | Bangalore, India
JUL '13 – APR '15 |
| <input type="checkbox"/> United Online Software Development Limited
<i>Software Engineer</i> | Hyderabad, India
JUL '10 – JUN '11 |

GRADUATE STUDENT ADVISING

*: co-advised with Ram Alagappan

\$: co-advised with Ram Alagappan and Tianyin Xu

- ☐ Xuhao Luo* (Ph.D. student, since Spring 2023)
- ☐ Henry Zhu* (Ph.D. student, since Fall 2022)
- ☐ Shreesha Bhat* (Ph.D. student, since Fall 2023)
- ☐ Kiran Hombal* (Ph.D. student, since Fall 2023)
- ☐ Jiyu Hu* (Ph.D. student, since Fall 2023)
- ☐ Seokjoo Cho* (Ph.D. student, since Fall 2024)
- ☐ Emaan Atique* (Ph.D. student, since Spring 2025)
- ☐ Chaitanya Bhandari* (MS student, graduating Spring 2024. *Thesis: Replication-Aware File-System Crash Consistency.*)
- ☐ Ramya Bygari* (MS student, graduating Spring 2024. *Thesis: Exploring Remote Memory for Buffer Cache Extension: A Preliminary Investigation.*)
- ☐ Wenqing Luo\$ (MS student, graduated Spring 2023. *Thesis: Towards Application Recoverability Atop Cloud-native Storage*)

OTHER MENTORING

- ☐ Yifan Dai, Yien Xu (graduate student at UW Madison; Bourbon OSDI 2020 paper)
- ☐ Yi Xu (graduate student at UCSD)

SERVICE

- | | |
|---|------|
| <input type="checkbox"/> Departmental Service | |
| Graduate study committee | 2025 |
| Graduate awards committee | 2024 |
| Recruiting committee | 2023 |
| <input type="checkbox"/> Leadership Roles | |
| Mentoring program at FAST'25 Co-chair | 2025 |
| Co-organized Women in Systems meetup at SOSP 24 | 2024 |
| ATC External Review Committee Co-chair | 2024 |
| PACMI Workshop Co-chair at SOSP '24 | 2024 |
| Poster session Co-chair at OSDI '24 | 2024 |
| Mentoring program at FAST'24 Co-chair | 2024 |
| Doctoral workshop at SOSP'23 Co-chair | 2023 |
| FAST '23 WiP/Poster Co-chair | 2023 |
| SOSP '21 AMA Co-chair | 2021 |
| Journal of Systems Research, Student Editorial Board Co-chair | 2021 |
| Founded and organized graduate student research symposium at UW Madison | 2019 |

□ **Program Committee Member**

SOSP '25, Program Committee Member	2025
HotOS '25, Program Committee Member	2025
ATC '25, Program Committee Member	2025
Eurosys '25 (Fall), Program Committee Member	2025
FAST '25, Program Committee Member	2025
SOSP '24, Program Committee Member	2024
Doctoral workshop at SOSP'24, Program Committee Member	2024
OSDI '24, Program Committee Member	2024
ATC '24, Program Committee Member	2024
Eurosys '24 (Fall), Program Committee Member	2024
FAST '24, Program Committee Member	2024
MSST '24, Program Committee Member	2024
HotStorage '24, Program Committee Member	2024
Eurosys '24 (Spring), Program Committee Member	2024
APSys '23, Program Committee Member	2023
HotStorage '23, Program Committee Member	2023
NVMW '23, Program Committee Member	2023
SYSTOR '23, Program Committee Member	2023
OSDI '23, Program Committee Member	2023
SRC PACT '23, Program Committee Member	2023
SoCC '22, Program Committee Member	2022
HotStorage '22, Program Committee Member	2022
APSys '21, Program Committee Member	2021
SYSTOR '21, Program Committee Member	2021
HAOC '21 (co-organized with EuroSys '21), Program Committee Member	2021
EuroDW '21 (co-organized with EuroSys '21), Program Committee Member	2021

□ **External Reviewer and Shadow PC Member**

ACM Transactions on Storage, Reviewer	2024
FAST, External Reviewer	2021
NVMW, External Reviewer	2020
ACM Transactions on Storage, Reviewer	2019
EuroSys, Shadow PC Member	2019
FAST, External Reviewer	2018
EuroSys, Contributor to PC Reviews	2017
OSDI, External Reviewer	2016

□ **Outreach**

SOSP '21 Mentoring	2021
OSDI '21 Mentoring	2021
EuroDW '21 Mentoring	2021
President, W-ACM, UW Madison chapter of ACM's Women in Computing	2018–2019
UW Madison CS department outreach at Grace Hopper Conference career fair	2018
WACM Graduate Student Mentor (for women undergraduate and graduate students)	2017

INVITED TALKS AND PRESENTATIONS

- **A Learned Index for Log-Structured Merge Trees**
Practical Adoption Challenges of ML for Systems in Industry, co-located with MLSys '23. SPRING '22
UT Austin SPRING '23
- **Consistency and Performance in Distributed Storage Systems**
Meta FALL '22
- **Consistency and Performance in Distributed Storage**
University of Waterloo JAN '22
Virginia Tech JAN '22
Pennsylvania State University FEB '22
Boston University (ECE) FEB '22
University of Virginia FEB '22
Purdue University FEB '22
University of Utah FEB '22
University of Toronto MAR '22
University of Illinois at Urbana-Champaign MAR '22
University of Washington MAR '22
University of Michigan MAR '22
Massachusetts Institute of Technology MAR '22
University of North Carolina at Chapel Hill MAR '22
University of Southern California MAR '22
University of California, Santa Cruz MAR '22
University of California, Irvine APR '22
- **Exploiting Nil-Externality for Fast Replicated Storage**
Talk at SOSR '21 OCT '21
- **From Wiskey to Bourbon: A Learned Index for Log-structured Merge Trees**
Invited talk at Workshop on Learned Algorithms, Data Structures, and Instance-Optimized (co-organized with VLDB '21) AUG '21
- **Consistency and Performance in Distributed Storage Systems**
Invited talk at University of Waterloo JUN '21
Invited talk at Rutgers University OCT '20
Invited talk at VMware Research JUN '20
- **Strong and Efficient Consistency with Consistency-aware Durability**
Microsoft AUG '20
VMWare Tech Talk MAR '20
Talk and Poster at FAST FEB '20
- **A Measure-then-Build Approach to Distributed Storage Reliability**
Talk at Facebook Research Women in Research Lean In event SEP '19
Poster at Facebook Research Fellowship and Emerging Scholars Summit SEP '19
Poster at Rising Stars in EECS, MIT OCT '18
- **Fault Analysis of Scalable Distributed Storage**
Talk at SCI Labs Kick-off Meeting APR '17
- **Redundancy Does Not Imply Fault Tolerance**
Invited talk at Hydra '20 JUL '20
Poster at SCI Labs Kick-off Meeting APR '17
Talk and Poster at FAST MAR '17
Invited Poster at NetApp University Day FEB '17

☐ **Correlated Crash Vulnerabilities**

Poster at OSDI

NOV '17

Talk at Microsoft Gray Systems Lab

JUN '16

☐ **Tracking User Browsing on a Demo Floor**

Invited Demo and Poster at Microsoft Research's TechVista

JAN '15

Invited Demo and Poster at COMSNETS

JAN '15

Demo and Poster at MobiCom

SEP '14