# Aishwarya Ganesan

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## Current Employment

☐ **University of Illinois Urbana-Champaign** — Urbana, IL
*Assistant Professor* — Aug '22 –

## Post Ph.D. Work Experience

☐ **VMware Research** — Remote
*Consulting: Affiliated Researcher* — Feb '23 – Oct '24

☐ **VMware Research** — Palo Alto, CA
*Postdoctoral Researcher* — Oct '20 – Aug '22

## Education

☐ **University of Wisconsin – Madison**
Ph.D. in Computer Sciences, Advisors: Andrea Arpaci-Dusseau and Remzi Arpaci-Dusseau — 2015–2020

☐ **Indian Institute of Technology Bombay**
M.Tech in Computer Science and Engineering — 2011–2013

☐ **Coimbatore Institute of Technology, Anna University**
B.Tech in Information Technology — 2006–2010

## Honors & Awards

☐ **SOSP'24 Best Paper Award** — 2024
For our paper *LazyLog*

☐ **NSF CAREER Award** — 2024
(Title: Storage-Aware Fault Tolerance; $699K)

☐ **IBM Illinois Discovery Accelerator (IIDA) Institute Grant for $480K** — 2023
(w/ Indranil Gupta, Kenton McHenry, Luigi Marini, Ram Alagappan)

☐ **List of Teachers Ranked as Excellent By Their Students for Spring 2023** — 2023

☐ **List of Teachers Ranked as Outstanding By Their Students for Fall 2022** — 2022

☐ **Selected for Rising Stars in EECS '21** — 2021

☐ **Graduate Student Instructor Award** — 2020
For teaching graduate-level distributed systems at UW Madison

☐ **FAST Best Paper Award** — 2020
For our paper *Consistency-Aware Durability*

☐ **Facebook Ph.D., Fellowship** — 2019-2020
Fellowship in distributed systems; funding towards tuition, stipend, and travel.

☐ **Facebook Distributed Systems Research Award for $50,000** — 2020
Jointly with Ramnatthan Alagappan, Andrea Arpaci-Dusseau, and Remzi Arpaci-Dusseau

☐ **CS Department Golden Brick Award** — 2019
For leading diversity efforts as president of UW Madison chapter of ACM-W

☐ **Selected for Rising Stars in EECS '18** — 2018

☐ **FAST Best Paper Award** — 2018
For our paper *Protocol-Aware Recovery*

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

## Peer-Reviewed Conference Publications

**Bold names:** *My students and me*
*: *co-primary authors*
$: *equal contribution*

[1] **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%) **SOSP '24**
***Best Paper Award***
***Invited for fast-tracked publication in ACM Transactions on Computer Systems***

[2] **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**

[3] 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**

[4] 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**

[5] **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%) **SOSP '21**
***Invited for fast-tracked publication in ACM Transactions on Storage***

[6] 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%) **OSDI '20**
***Invited to Workshop on Learned Algorithms, Data Structures, and Instance-Optimized Systems @ VLDB '21***

[7] **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%) **FAST '20**
***Best Paper Award***
***Invited for fast-tracked publication in ACM Transactions on Storage***

[8] 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%) **SYSTOR '19**

[9] 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%) **OSDI '18**

[10] 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%) **FAST '18**
***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 finanical database startup (TigerBeetle)***

[11] **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%) **FAST '17**
***Best Paper Nominee***
***Invited for fast-tracked publication in ACM Transactions on Storage***
***Invited to USENIX ;login:***

[12] Ramnatthan Alagappan, **Aishwarya Ganesan**, Yuvraj Patel, Thanumalayan Sankaranarayana 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%) **OSDI '16**

[13] 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%) **MOBICOM '14**

## PEER-REVIEWED JOURNAL AND WORKSHOP PUBLICATIONS & DEMOS

[1] **Aishwarya Ganesan**, Ramnatthan Alagappan, Anthony Rebello, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. *Exploiting Nil-External Interfaces for Fast Replicated Storage.* ACM Transactions on Storage (TOS), May 2022. (***Fast-tracked***) **ACM TOS '22**

[2] Xudong Sun, Lalith Suresh, **Aishwarya Ganesan**, Ramnatthan Alagappan, Michael Gasch, Lilia Tang, and Tianyin Xu. *Reasoning About Modern Datacenter Infrastructures using Partial Histories.* 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. *Strong and Efficient Consistency with Consistency-aware Durability.* ACM Transactions on Storage (TOS), 17(1), January 2021. (***Fast-tracked***) **ACM TOS '21**

[4] Ramnatthan Alagappan, **Aishwarya Ganesan**, Eric Lee, Aws Albarghouthi, Vijay Chidambaram, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. *Protocol-Aware Recovery for Consensus-Based Distributed Storage.* ACM Transactions on Storage (TOS), 14(3), October 2018. (***Fast-tracked***) **ACM TOS '18**

[5] **Aishwarya Ganesan**, Ramnatthan Alagappan, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. *Redundancy Does Not Imply Fault Tolerance: Analysis of Distributed Storage Reactions to File-System Faults.* ACM Transactions on Storage (TOS), 13(3), September 2017. (***Fast-tracked***) **ACM TOS '18**

[6] **Aishwarya Ganesan**, Swati Rallapalli, Krishna Chintalapudi, Venkat Padmanabhan, Lili Qiu. *Demo: Tracking User Browsing on a Demo Floor*, 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. *Sieve: Chaos Testing for Kubernetes Controllers.* ;login: The USENIX Magazine. 2024. (***Invited***) **;LOGIN:**

[2] **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.* ;login: The USENIX Magazine, 42(2), Summer 2017. (***Invited***) **;LOGIN:**

[3] Rajalakshmi Nandakumar, Swati Rallapalli, Krishna Chintalapudi, Venkat Padmanabhan, Lili Qiu, **Aishwarya Ganesan**, Saikat Guha, Deepanker Aggarwal, Aakash Goenka. *Physical Analytics: A New Frontier for (Indoor) Location Research.* Microsoft Technical Report no. MSR-TR-2013-107, October 2013. **TECH REPORT**

## Grants

- ☐ 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)

## Coverage On Research

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

## Other Work Experience

☐ **Microsoft Research** — Redmond, WA
*Research Intern*, Systems Research Group — SUMMER '17
Mentor: Anirudh Badam

☐ **Microsoft Research** — Bangalore, India
*Research Fellow*, Mobility, Networks, and Systems Group — JUL '13 – APR '15
Mentors: Krishna Chintalapudi and Venkat Padmanabhan

☐ **United Online Software Development Limited** — Hyderabad, India
*Software Engineer* — 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

☐ **Departmental Service**

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|---|---|
| Graduate study committee | 2025 |
| Graduate awards committee | 2024 |
| Recruiting committee | 2023 |

☐ **Leadership Roles**

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|---|---|
| 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

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|---|---|
| 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

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|---|---|
| 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

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|---|---|
| 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 '23
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 SOSP '21 Oct '21

☐ **From Wisckey 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**

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|---|---|
| Poster at OSDI | Nov '17 |
| Talk at Microsoft Gray Systems Lab | Jun '16 |

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

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|---|---|
| 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 |