

AISHWARYA GANESAN

WEBSITE: <https://aishwaryaganesan.github.io/>

EMAIL: aganesn2@illinois.edu

CURRENT EMPLOYMENT

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

- | | |
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| <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
Advisor: S. Sudarshan | 2011–2013 |
| <input type="checkbox"/> Coimbatore Institute of Technology, Anna University
B.Tech in Information Technology | 2006–2010 |

HONORS & AWARDS

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| <input type="checkbox"/> Selected for Rising Stars in EECS '21 | 2021 |
| <input type="checkbox"/> Graduate Student Instructor Award
For teaching graduate-level distributed systems at UW Madison | 2020 |
| <input type="checkbox"/> FAST Best Paper Award
For our paper <i>Consistency-Aware Durability</i> | 2020 |
| <input type="checkbox"/> Facebook Ph.D., Fellowship
Fellowship in distributed systems; funding towards tuition, stipend, and travel. | 2019-2020 |
| <input type="checkbox"/> Facebook Distributed Systems Research Award for \$50,000
Jointly with Ramnathan Alagappan, Andrea Arpaci-Dusseau, and Remzi Arpaci-Dusseau | 2020 |
| <input type="checkbox"/> CS Department Golden Brick Award
For leading diversity efforts as president of UW Madison chapter of ACM-W | 2019 |
| <input type="checkbox"/> Selected for Rising Stars in EECS '18 | 2018 |
| <input type="checkbox"/> FAST Best Paper Award
For our paper <i>Protocol-Aware Recovery</i> | 2018 |
| <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 |

PEER-REVIEWED CONFERENCE PUBLICATIONS

- | | | |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| [1] | Xudong Sun, Wenqing Luo, Tyler Gu, Aishwarya Ganesan , Ramnatthan Alagappan, Michael Gasch, Lalith Suresh, and Tianyin Xu. <i>Automatic Reliability Testing For Cluster Management Controllers</i> . In Proceedings of the 16th USENIX Symposium on Operating Systems Design and Implementation, July 2022. (Acceptance rate: 49/253 = 19.4%) | OSDI '22 |
| [2] | Aishwarya Ganesan , Ramnatthan Alagappan, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. <i>Exploiting Nil-Externality for Fast Replicated Storage</i> . In Proceedings of the 28th ACM Symposium on Operating Systems Principles, October 2021. (Acceptance rate: 54/348 = 15.5%)
<i>Invited for fast-tracked publication in ACM Transactions on Storage</i> | SOSP '21 |
| [3] | Yifan Dai, Yien Xu, Aishwarya Ganesan , Ramnatthan Alagappan, Brian Kroth, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. <i>From Wiskey to Bourbon: A Learned Index for Log-structured Merge Trees</i> . In Proceedings of the 14th USENIX Conference on Operating Systems Design and Implementation, 2020. (Acceptance rate: 70/398 = 17.6%)
<i>Invited to Workshop on Learned Algorithms, Data Structures, and Instance-Optimized Systems @ VLDB '21</i> | OSDI '20 |
| [4] | Aishwarya Ganesan , Ramnatthan Alagappan, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. <i>Strong and Efficient Consistency with Consistency-aware Durability</i> . In Proceedings of the 18th Conference on File and Storage Technologies, February 2020. (Acceptance rate: 23/138 = 16.7%)
<i>Best Paper Award</i>
<i>Invited for fast-tracked publication in ACM Transactions on Storage</i> | FAST '20 |
| [5] | Iyswarya Narayanan, Aishwarya Ganesan , Anirudh Badam, Sriram Govindan, Bikash Sharma, Anand Sivasubramaniam. <i>Getting More Performance with Polymorphism from Emerging Memory Technologies</i> . In Proceedings of the 12th ACM International Conference on Systems and Storage, June 2019. (Acceptance rate: 16/44 = 36.4%) | SYSTOR '19 |
| [6] | Ramnatthan Alagappan, Aishwarya Ganesan , Jing Liu, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. <i>Fault Tolerance, Fast and Slow: Exploiting Failure Asynchrony in Distributed Systems</i> . In Proceedings of the 13th USENIX Conference on Operating Systems Design and Implementation, 2018. (Acceptance rate: 47/257 = 18.3%) | OSDI '18 |
| [7] | 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 Storage</i> . In Proceedings of the 16th USENIX Conference on File and Storage Technologies, February 2018. (Acceptance rate: 23/140 = 16.4%)
<i>Best Paper Award</i>
<i>Best of the Rest at ATC '19</i>
<i>Invited for fast-tracked publication in ACM Transactions on Storage</i> | FAST '18 |
| [8] | 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> . In Proceedings of the 15th USENIX Conference on File and Storage Technologies, 2017. (Acceptance rate: 28/118 = 23.7%)
<i>Best Paper Nominee</i>
<i>Invited for fast-tracked publication in ACM Transactions on Storage</i>
<i>Invited to USENIX ;login:</i> | FAST '17 |
| [9] | Ramnatthan Alagappan, Aishwarya Ganesan , Yuvraj Patel, Thanumalayan Sankaranarayanan Pillai, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau. <i>Correlated Crash Vulnerabilities</i> . In Proceedings of the 12th USENIX Conference on Operating Systems Design and Implementation, November 2016. (Acceptance rate: 47/267 = 17.6%) | OSDI '16 |

- [10] 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] 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**
- [2] **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**
- [3] 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**
- [4] **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**
- [5] **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] **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:**
- [2] 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**

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
- ☐ DHRS's Blog. Injecting Faults in Distributed Storage ([link](#)). Mar 2017
- ☐ StorageMojo. StorageMojo's Best Paper of FAST 2017 ([link](#)). Mar 2017

GRANTS

- ☐ Travel grants for FAST '17, FAST '18
- ☐ Facebook Distributed Systems **Research Award for \$50,000** (along with Ramnatthan Alagappan, Prof. Andrea Arpaci-Dusseau, and Prof. Remzi Arpaci-Dusseau)

PRIOR WORK EXPERIENCE

- ☐ **VMware Research**
*Postdoctoral Researcher*Palo Alto, CA
OCT '20 – AUG '22
- ☐ **Microsoft Research**
*Research Intern, Systems Research Group*Redmond, WA
SUMMER '17
Mentor: Anirudh Badam
- ☐ **Microsoft Research**
*Research Fellow, Mobility, Networks, and Systems Group*Bangalore, India
JUL '13 – APR '15
Mentors: Krishna Chintalapudi and Venkat Padmanabhan
- ☐ **United Online Software Development Limited**
*Software Engineer*Hyderabad, India
JUL '10 – JUN '11

TEACHING

- ☐ **Distributed Systems, University of Wisconsin – Madison**
InstructorSPRING '20
[Course webpage](#)
Graduate Student Instructor Award
Course evaluation score: instructor – **6.42/7**, course – **6.5/7**
- ☐ **Distributed Systems, University of Wisconsin – Madison**
Guest LecturesFALL '18, FALL '17
- ☐ **Design and Analysis of Algorithms, Indian Institute of Technology, Bombay**
Teaching AssistantSPRING '13
- ☐ **Implementation Techniques of DBMS, Indian Institute of Technology, Bombay**
Teaching AssistantFALL '12

RESEARCH MENTORING

- ☐ **Yi Xu (graduate student at UC San Diego)**
Exploiting persistent memory in modern key-value stores (internship at VMware Research, under submission)
- ☐ **Yifan Dai, Yien Xu**
Learned indexes for log-structured merge trees (CS 739 course project, OSDI 2020)
- ☐ **Sreya Dutta Roy, Nikita Kad, Venkat Allam, Shreeshrita Patnaik**
Predicted ordering in geo-replicated logs (CS 739 course project)
- ☐ **Akshat Jain, Grishma Gupta, Venkata Malireddy**
Learning based ordering for replicated state machines (CS 739 course project)
- ☐ **Deepak Srinath, Lokit Kumar Paras, Nithin Venkatesh, Phanindra Moganti**
Speculative geo-replicated message ordering (CS 739 course project)
- ☐ **Ruohui Wang, Kaiwei Tu, Max Zhang, Emma He**
Read-triggered durability for HDFS (CS 739 course project)
- ☐ **Muthunagappan Muthuraman, Srivatsan Ramesh, Suryadev Sahadevan Rajesh, Vinith Venkatesan**
Consistency-aware durability for highly available systems (CS 739 course project)
- ☐ **Aashish Richhariya, Akanksha, Sanchit Jain**
Consistency at the edge (CS 739 course project)
- ☐ **Dax Chen, Yi-Shiun Chang, Chia-Wei Chen, Pei-Hsuan Wu**
Performance and reliability isolation in ZooKeeper (CS 739 course project)

- **Kumar Biplav, Aditya Rungta, Nisarg Shah, Shaurya Shekhar**
Fast consensus for fast storage (CS 739 course project)
- **Neil Perry (undergrad at UW Madison)**
Corruption analysis of Ethereum blockchain (now a graduate student at Stanford)

SERVICE

- **Chair**
 - 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**
 - OSDI '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**
 - 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

- **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

REFERENCES

Andrea C. Arpaci-Dusseau

Carl de Boer Professor and Susan Beth Horwitz Professor
of Computer Sciences
University of Wisconsin – Madison
dusseau@cs.wisc.edu

Remzi H. Arpaci-Dusseau

Grace Wahba Professor and Chair of Computer Sciences
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Sujata Banerjee

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Aditya Akella

Professor, Regents Chair in Computer Sciences #1
University of Texas at Austin
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