

Shreesha G. Bhat

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RESEARCH INTERESTS

Distributed Systems, Data Streaming, Systems for AI, Storage Systems, CXL

EDUCATION

University of Illinois Urbana-Champaign

2023 - 2028 (expected)

PhD in Computer Science | Advisors: [Ram Alagappan](#), [Aishwarya Ganesan](#) | CGPA: 4.0/4.0

Indian Institute of Technology, Madras

2018 - 2023

Dual Degree (BTech + MTech) in Computer Science & Engineering | Advisor: [Kartik Nagar](#) | CGPA: 9.66/10.00

PUBLICATIONS

A Logically Disaggregated Cache for Replicated Storage Systems

EuroSys '26 [Kiran Hombal](#), [Henry Zhu](#), [Shreesha G. Bhat](#), [Neil Kaushikkar](#), [Ramnatthan Alagappan](#), [Aishwarya Ganesan](#)
The 21st European Conference on Computer Systems ([EuroSys](#)) 2026

Low End-to-End Latency atop a Speculative Shared Log with Fix-Ante Ordering

OSDI '25 [Shreesha G. Bhat](#), [Tony Hong](#), [Xuhao Luo](#), [Jiyu Hu](#), [Aishwarya Ganesan](#), [Ramnatthan Alagappan](#)
The 19th USENIX Symposium on Operating Systems Design and Implementation ([OSDI](#)) 2025

[LazyLog: A New Shared Log Abstraction for Low-Latency Applications](#)

SOSP '24 [Xuhao Luo](#), [Shreesha G. Bhat*](#), [Jiyu Hu*](#), [Ramnatthan Alagappan](#), [Aishwarya Ganesan](#) (*equal contribution)
The 30th Symposium on Operating Systems Principles ([SOSP](#)) 2024

Best Paper Award | Invited to Transactions on Computer Systems |

Automating Cutoff-based Verification of Distributed Protocols

FMCAD '23 [Shreesha G. Bhat](#), [Kartik Nagar](#)
Formal Methods in Computer-Aided Design ([FMCAD](#)) 2023

Brief Announcement: Automating and Mechanising Cutoff Proofs for Parameterized Verification of Distributed Protocols

DISC '21 [Shreesha G. Bhat](#), [Kartik Nagar](#)
35th International Symposium on Distributed Computing ([DISC](#)) 2021

REFEREED JOURNAL PUBLICATIONS

[LazyLog: A New Shared Log Abstraction and Design for Modern Low-Latency Applications](#)

TOCS '25 [Xuhao Luo](#), [Shreesha G. Bhat*](#), [Jiyu Hu*](#), [Ramnatthan Alagappan](#), [Aishwarya Ganesan](#) (*equal contribution)
ACM Transactions on Computer Systems ([TOCS](#)) August 2025

Invited for Publication

RESEARCH EXPERIENCE

Research @ Distributed and Storage Systems Lab | UIUC

Aug '23 – present

Research Assistant | Guide: [Ram Alagappan](#), [Aishwarya Ganesan](#)

- Designed and implemented two new shared log abstractions, SpecLog and LazyLog, which address the high end-to-end and append latencies respectively in traditional shared log systems.
- Contributed to projects on CXL data sharing and replicated storage systems.
- Currently working on a new shared log abstraction for AI agents interacting with real-time data streams.

Networking and Distributed Systems Lab | Hewlett Packard Labs

May'25 – August'25

Research Associate Intern | Guide: [Puneet Sharma](#)

- Designing infrastructure for agentic AI applications.

Improving Cloud Reliability through Systematic Testing | Microsoft Research India

Aug '22 – Jul '23

Research Intern | Guide: [Akash Lal](#)

- Worked on improving reliability of Azure Cloud Services using concurrency testing tools such as [Coyote](#) for C++ programs.
- Built a deterministic concurrency testing framework for a production scale replication library, [Azure RSL](#), which provides an implementation of the Paxos consensus algorithm. Implemented several optimizations to improve state-space coverage.

Parameterized Verification of Distributed Protocols | IIT Madras

Sep '20 – Jul '23

Young Research Fellow | Guide: [Kartik Nagar](#)

- Investigated cutoff-based techniques for verifying that distributed protocols meet their specification irrespective of the size of the parameter they are instantiated with (such as number of nodes).
- Proposed a framework to mechanize simulation based proofs for cutoffs and applied the approach on a variety of distributed protocols using Z3 as a backend SMT solver.

AWARDS & ACHIEVEMENTS

- Awarded the **Best Paper Award** at SOSP 2024 for the paper titled *LazyLog: A New Shared Log Abstraction for Low-Latency Applications*.
- Selected as a undergraduate research fellow as part of the (YRF) program.
- Secured prizes for excellent academic performance in the 1st, 2nd, 7th and 8th semesters at IIT Madras.
- Secured All India Rank of **851** and **619** in JEE (Joint Entrance Examination) Advanced & Mains 2018.
- Qualified for KVPY fellowship with an All India Rank of **142**.
- Among the **top 300** in India qualified to write national olympiad examinations for Physics, Chemistry and Astronomy (INPhO, INChO, INAO).

SERVICE

- **Artifact Evaluation Committees:** OSDI'24, ATC'24, FAST'26 (Spring and Fall)
- **Shadow Program Committees:** EuroSys'26
- **Student Volunteer:** SOSP'24

GRANTS

- **Conference Travel Grants:** OSDI'25, SOSP'24