

Shreesha G. Bhat

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RESEARCH INTERESTS

Distributed Systems, Storage Systems, Operating Systems, Networking

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

- SOSP '24** [LazyLog: A New Shared Log Abstraction for Low-Latency Applications](#)
[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
- FMCAD '23** [Automating Cutoff-based Verification of Distributed Protocols](#)
[Shreesha G. Bhat](#), [Kartik Nagar](#)
Formal Methods in Computer-Aided Design (FMCAD) 2023
- DISC '21** [Brief Announcement: Automating and Mechanising Cutoff Proofs for Parameterized Verification of Distributed Protocols](#)
[Shreesha G. Bhat](#), [Kartik Nagar](#)
35th International Symposium on Distributed Computing (DISC) 2021

RESEARCH EXPERIENCE

Improving Latencies in Shared Log Architectures | DASSL Lab, UIUC Aug '23 – present

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

- Designing and implementing new shared log abstractions that unlock low latencies for client 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.

SCHOLASTIC ACHIEVEMENTS

- 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**
- Selected as a undergraduate research fellow as part of the (YRF) program
- Among the **top 300** in India qualified to write national olympiad examinations for Physics, Chemistry and Astronomy (INPhO, INChO, INAO)

SKILLS

- **Languages** C, C++, Python, Golang, OCaml
- **Tools & Frameworks** RDMA, Z3, L^AT_EX, Git