

# Manasvini Sethuraman

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## Summary

I am a Ph.D. graduate with five years of research experience in distributed systems and three years of software engineering experience, as well as experience with teaching undergraduate systems and networking.


## Education

- 2019 – 2024  **Ph.D. Computer Science** Georgia Institute of Technology  
GPA: 3.86/4
- 2014 – 2016  **M.S. in Computer Science** Georgia Institute of Technology  
GPA: 3.78/4
- 2010 – 2014  **B.E. Computer Science and Engineering** Anna University  
GPA: 8.91 /10





## Teaching

- Summer '24  **Instructor on Record**, Systems and Networking (CS2200)
- Fall '22, '20  **Teaching Assistant**, Advanced Operating Systems (CS6210)
- Spring '16  **Teaching Assistant**, Machine Learning (CS7641/CS4641)
- Fall '15  **Teaching Assistant**, Computability and Algorithms (CS6505)


## Distributed Systems Research Experience

- 2019 – 2024  **Graduate Research Assistant** Georgia Tech
  - Worked on projects related to bandwidth aware orchestration of applications in wireless networks.
  - Extended k3s (lightweight Kubernetes-like orchestrator) with a wireless bandwidth-aware container scheduler/migration using graph-based heuristics in Go.

## Work Experience

- Sep 2024— Present  **Software Engineer** Google.
  - Working on distributed infrastructure projects in Bigtable.
- 2023  **Ph.D. Software Engineering Intern** Google.
  - Implemented dictionary-based compression in C++ for Bigtable's on-disk data, enhancing storage efficiency for small blocks.
- 2020, 2021  **Software Engineering Intern**, Bloomberg L.P.
  - Developed a factory-pattern-based library in C++ for data comparison across four databases.
- 2016 — 2019  **Software Developer**, Bloomberg L.P.
  - Engineered a large-scale service in C++ for privileging users to research content based on entitlements, achieving a latency SLA of 10 ms.
  - Migrated data from multiple Oracle instances to a single Postgres cluster while ensuring consistency.

## Leadership

- 2021—2023  **Vice-President/Events chair**, School of Computer Science Grad Student Association

## Skills

Programming Languages	📖 C++ (proficient), Python (advanced), Go (familiar)
Frameworks	📖 gRPC, Kubernetes, Docker, Redis, Prometheus
Languages	📖 <b>Fluent:</b> English, Tamil, Hindi <b>Beginner:</b> French, Japanese

## Publications

- 1 M. Sethuraman, Z. S. Bischof, and A. Dainotti, "Towards improving outage detection with multiple probing protocols," in *International Conference on Passive and Active Network Measurement*, Springer, 2024, pp. 189–205.
- 2 M. Sethuraman, A. Sarma, N. Ghaisas, *et al.*, "Bass: A resource orchestrator to account for vagaries in network conditions in community wi-fi mesh," in *Proceedings of the 25th International Middleware Conference*, 2024, pp. 131–144.
- 3 M. Sethuraman, Z. S. Bischof, and A. Dainotti, "Poster: Analysis of IPv4 Address Space Utilization with ANT ISI dataset and Censys," in *ACM Internet Measurement Conference (IMC '22)*, Nice, France: Association for Computing Machinery, 2022, pp. 327–328, ISBN: 978-1-4503-9259-4/22/10. 📄 DOI: 10.1145/3517745.3563018.
- 4 M. Sethuraman, A. Sarma, A. Bauskar, A. Dhekne, and U. Ramachandran, "Clairvoyantedge: Prescient prefetching of on-demand video at the edge of the network," in *IEEE/ACM 7th Symposium on Edge Computing (SEC'22)*, 2022. 📄 DOI: 10.1109/SEC54971.2022.00010.
- 5 M. Sethuraman, A. Sarma, A. Dhekne, and U. Ramachandran, "Foresight: Planning for Spatial and Temporal Variations in Bandwidth for Streaming Services on Mobile Devices," in *12th ACM Multimedia Systems Conference (MMSys '21)*, 2021. 📄 DOI: 10.1145/3458305.3463384.
- 6 M. Sethuraman, R. E. Grinter, and E. Zegura, "Poster: Approaches to Understanding Indigenous Content Production on Wikipedia," in *3rd ACM SIGCAS Conference on Computing and Sustainable Societies (COMPASS '20)*, Espol, Ecuador: Association for Computing Machinery, 2020, pp. 327–328, ISBN: 9781450371292. 📄 DOI: 10.1145/3378393.3402249.

## References

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