

Sarath Babu

Post Doctoral Researcher,
Indian Institute of Technology Bombay

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Education

- 2018 - 2023 **Ph.D., Computer Science And Engineering**, National Institute of Technology Calicut, Kozhikode,
Title : Robust multicast routing protocols for vehicular ad-hoc networks,
Status : Ph.D. degree awarded on 02, September 2023.
- 2016–2018 **M.Tech., Network Engineering**, Government Engineering College Idukki, Kerala, CGPA – 8.56.
- 2011–2015 **B.Tech., Computer Science and Engineering**, Valia Koonambaikulathamma College of Engineering And Technology, Chavancode, Paripally, Thiruvananthapuram, CGPA - 7.31.

Research Experience/Internship

- August 2023 onwards **Post Doctoral Researcher, Department of Computer Science and Engineering, Indian Institute Technology Bombay**,
Project Title: AI-powered adaptive cyber defense framework.
- January 2018 **Internship at Indian Institute Technology Guwahati, Assam**,
Project Title: Application-Aware Routing on Network on Chip,
Under the guidance of Dr.John Jose,
January 2018 - April 2018.
- September 2017 **Internship at Indian Institute Technology Guwahati, Assam**,
Project Title: Congestion Management in Mesh Network On Chip,
Under the guidance of Dr.John Jose,
September 2017 - November 2017.

Achievements

- Qualified UGC-NET in Computer Science and Applications in the year 2021.
- VANET Testbed creation for Science and Engineering Research Board (SERB) project (EMR/2016/007502), Government of India under Core Research Grant (CRG).

Outreach Activities

- Technical-talk/ Hands-on training in SERB Karyashala High-End Workshop on "**Developing Robust and Secure Routing Algorithms for real-time Vehicular Networks**", at National Institute of Technology Calicut, Kerala
- Assisted in syllabus preparation for the elective course titled "**CSXXXXY: Vehicular Networks- From Theory to Practice**" offered at National Institute of Technology, Calicut Kerala.
- Hands-on training at Indian Institute of Information Technology (IIIT) Kottayam for AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "**Sensor Data Analytics**"

Reviewer

- IEEE Transactions on Vehicular Technology
- International Journal of Communication Systems, Wiley
- IEEE conferences

Publications

[Journals/Conferences/Book Chapter]

- Sarath Babu, & Virendra Singh, "BD-MDLC: Behavior Description-Based Enhanced Malware Detection for Windows Environment using Longformer Classifier", **Computers & Security**, 104031, 2024
- Sarath Babu, & Arun Raj Kumar P., "CDSPAN: A Collaborative Distributed SPANner backbone for multiple source multicast routing in vehicular network", **IEEE Transactions on Vehicular Technology**, vol. 73, no. 4, pp. 5213-5228, April 2024, doi: 10.1109/TVT.2023.3330676-[Q1 journal]
- Sarath Babu, and Arun Raj Kumar P., "DTMR: An adaptive distributed tree-based multicast routing protocol for vehicular networks.", **Computer Standards & Interfaces** vol. 79, 103551, ISSN 0920-5489, 2022, <https://doi.org/10.1016/j.csi.2021.103551>.- [Q1 journal]
- Sarath Babu, and Arun Raj Kumar P., "A comprehensive survey on simulators, emulators, and testbeds for VANETs.", **International Journal of Communication Systems** Vol. 35(8): e5123, (2022), <https://doi.org/10.1002/dac.5123>- [Q2 journal]
- Abhijit Das, Sarath Babu, John Jose, Sangeetha Jose, and Maurizio Palesi., "Critical packet prioritization by slack-aware re-routing in on-chip networks."Twelfth **IEEE/ACM International Symposium on Networks-on-Chip (NOCS)**. IEEE, 2018.
- Midhula, K. S., Sarath Babu, John Jose, and Sangeetha Jose, "Performance Enhancement of NoCs Using Single Cycle Deflection Routers and Adaptive Priority Schemes.", **VLSI Design and Test: 22nd International Symposium, VDAT 2018**, Madurai, India, June 28-30, 2018, Springer Singapore, 2019.
- Pougajendy, Jayashree, Arun Raj Parthiban, and Sarath Babu., "Secure routing in software-defined networking and Internet of Things for big data.", **IET Handbook of Big Data Analytics Volume 2: Applications in ICT, security, and business analytics**, (Computing, 2021), Chap. 3, pp. 37-72.

Awaiting Publications

- Sarath Babu, & Arun Raj Kumar P., "Group Communication in Vehicular Networks: A Comprehensive Survey on Routing Perspectives", **Wireless Personal Communications**, -[Under review]
- Rushikesh Kawale, Sarath Babu, & Virendra Singh, "Stegoslayer: A Robust Browser-Integrated Approach for Thwarting Stegomalware", **International Conference on Information Systems Security**, -[Submitted]
- Tarun Basit, Sarath Babu, & Virendra Singh, "Critical Behavior Sequence Monitoring for Early Malware Detection", **17th International Conference on Security of Information and Networks**, -[Submitted]

Skills

Programming Languages	C, C++, and Python
Simulators	NS3, SUMO SIM, BookSim, and Cisco Packet Tracer
Database	MySQL

Professional Memberships

- Since 2022 Institute of Electrical and Electronics Engineers (IEEE)
- Member Number: 95567238
- Since 2022 Association for Computing Machinery (ACM)
- Member Number: 7473740

References

Dr. Virendra Singh

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CSE And EE*

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Dr. John Jose

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