

Jaishree Mayank, Ph.D.

Assistant Professor (Grade-I)

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Work Experience

- Assistant Professor-(Grade-I), Department of Computer Science and Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, May 2025 – Present.
- Assistant Professor-(Grade-II), Department of Computer Science and Engineering, Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram, February 2022 – April 2025.
- Assistant Professor-(Grade-II), Department of Computer Science and Engineering, Indian Institute of Information Technology, Vadodara, February 2021 – February 2022.
- Research Associate, Indian Institute of Technology, Kharagpur, September 2020 – January 2021.

Education

- Ph.D., Indian Institute of Technology, Patna, May 2020 .
Thesis title: Non-Preemptive Scheduling: Feasibility Analysis and Performance Optimization in Real-Time Cyber -Physical Systems .

Ph.D Students (Ongoing)

- Swathiga Vaishnavi: TSN Scheduling .

Specialization

- Real-time Scheduling Strategies in Cyber-Physical Systems
- AI Techniques for Scheduling and Routing Algorithms for Vehicle Route
- AI Techniques for In-Vehicle System Performance
- TSN for Automotive and Industrial Applications

Courses

- C Programming
- Data Structures and Algorithms
- Operating Systems
- Computer Organization and Architecture
- Optimization Techniques

Research Publications

Journal Articles

- 1 R. M. C. Kota, A. R. Molla, J. Mayank, A. Sarkar, A. Mondal, and S. Dey, "Minimizing backbone ethernet traffic for enabling inter-zonal messages in software-defined vehicles," *To appear in IEEE Embedded Systems Letters*, 2025.
- 2 J. Mayank and A. Mondal, "A unified job scheduler for optimization of different system performance metrics," *Concurrency and Computation: Practice and Experience*, vol. 37, no. 12-14, e70111, 2025.
- 3 J. Mayank and A. Mondal, "Efficient sat encoding scheme for schedulability analysis of non-preemptive tasks on multiple computational resources," *Journal of Systems Architecture*, vol. 110, p. 101 818, 2020.
- 4 J. Mayank and A. Mondal, "Polynomial time schedulability test for periodic non-preemptive 2-task system," *Information Processing Letters*, vol. 154, p. 105 867, 2020.
- 5 N. Kumar, J. Mayank, and A. Mondal, "Reliability aware energy optimized scheduling of non-preemptive periodic real-time tasks on heterogeneous multiprocessor system," *IEEE Transactions on Parallel and Distributed Systems*, vol. 31, no. 4, pp. 871–885, 2019.
- 6 J. Mayank and A. Mondal, "An integer linear programming framework for energy optimization of non-preemptive real time tasks on multiprocessors," *Journal of Low Power Electronics*, vol. 15, no. 2, pp. 162–167, 2019.
- 7 J. Mayank, A. Mondal, and A. Sarkar, "Control-schedule co-design for fast stabilization in real time systems facing repeated reconfigurations," *Design Automation for Embedded Systems*, vol. 23, pp. 79–101, 2019.

Conference Proceedings

- 1 R. M. C. Kota, A. R. Molla, J. Mayank, A. Sarkar, A. Mondal, and S. Dey, "Optimal real-time inter-zone message communication via ethernet backbone in software defined vehicles," in *23rd ACM International Symposium on Formal Methods and Models for System Design (MEMOCODE, ES Week)*, ACM, 2025, pp. 1–6.
- 2 C. Vasantha, J. Mayank, A. Agarwal, and A. Mondal, "Intelligent algorithm for optimizing delivery time in electric vehicle fleet systems," in *17th International Conference on COMMunication Systems and NETworks (COMSNETS)*, IEEE, 2025, pp. 1–6.
- 3 R. M. C. Kota, J. Mayank, and S. K. Nayak, "Maximization of profit and throughput of ev-charging station integrated with pv and ess," in *2024 IEEE 99th Vehicular Technology Conference (VTC2024-Spring)*, IEEE, 2024, pp. 1–6.
- 4 R. M. C. Kota, J. Mayank, and A. Sarkar, "Efficient scheduling of real-time messages over heterogeneous in-vehicle network domains," in *2024 IEEE 100th Vehicular Technology Conference (VTC2024-Fall)*, IEEE, 2024, pp. 1–6.
- 5 N. Kumar, J. Mayank, and A. Mondal, "An ilp framework for energy optimized scheduling for weakly-hard real-time systems: Work-in-progress," in *Proceedings of the International Conference on Embedded Software Companion*, 2019, pp. 1–2.
- 6 J. Mayank and A. Mondal, "Non-preemptive multiprocessor scheduling for periodic real-time tasks," in *2017 7th International Symposium on Embedded Computing and System Design (ISED)*, IEEE, 2017, pp. 1–6.
- 7 J. Mayank and A. Mondal, "Performance optimization of real time control systems using variable time period," in *2015 19th International Symposium on VLSI Design and Test*, IEEE, 2015, pp. 1–6.