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Joined the Institute in December 2012

## About

Hello, welcome to my home page. I am Assistant Professor in the Department of Computer Science & Engineering at Indian Institute of Information Technology, Guwahati. I joined IITG in December, 2012.

## Research Interests

Real-Time Systems, Energy & Temperature Aware Scheduling Strategies for Multicore Platforms.

## Teaching

At IITG, I have taught the following courses:

- IT Workshop-I (Object Oriented Programming with Java)
- Real-Time Systems
- Data structures
- Database Management Systems

## Publication

### Journal

- Yanshu Sharma, Shounak Chakraborty, Sanjay Moulik, "ETA-HP: an energy and temperature-aware real-time scheduler for heterogeneous platforms", The Journal of Supercomputing, (2022), pages. 1 - 25, Springer[SCI]
- Sanjay Moulik, "RESET: A real-time scheduler for energy and temperature aware heterogeneous multi-core systems", Integration-The VLSI Journal, (2021), pages. 59 - 69, Elsevier,ISSN 0167-9260 [SCI]
- Sanjay Moulik, Zinea Das, Rajesh Devaraj, Shounak Chakraborty, "SEAMERS: A Semi-partitioned Energy-Aware scheduler for heterogeneous Multicore Real-time Systems", Journal of Systems Architecture, (2021), pages. 101953, Elsevier, ISSN 1383-7621 [SCI]
- Sanjay Moulik, Arnab Sarkar, Hemangee K. Kapoor, "TARTS: A Temperature-Aware Real-Time Deadline-Partitioned Fair Scheduler", Journal of Systems Architecture, (2020), pages. 101847, Elsevier,ISSN 1383-7621 [SCI]
- Sanjay Moulik, Rishabh Chaudhary, Zinea Das, "HEARS: A Heterogeneous Energy-Aware Real-time Scheduler", Microprocessors and Microsystems,Volume 72, (2020), pages. 102939, Elsevier,ISSN 0141-9331 [SCI]
- Sanjay Moulik, Rajesh Devaraj, Arnab Sarkar, "HEALERS: A Heterogeneous Energy-Aware Low-overhead Real-time Scheduler", IET Computers & Digital Techniques,Volume 13, no. 6, (2019), pages. 470-480, Institution of Engineering and Technology,doi: 10.1049/iet-cdt.2019.0023 [SCI-E]
- Sanjay Moulik, Arnab Sarkar, Hemangee K. Kapoor, "Energy aware frame based fair scheduling", Sustainable Computing: Informatics and Systems,Volume 18, (2016), pages. 66-77, Elsevier,ISSN 2210-5379 [SCI-E]

### Conference

- Y. Sharma, and S. Moulik, "CETAS: A Cluster based Energy and Temperature Efficient Real-time Scheduler for heterogeneous platforms", ACM/SIGAPP Symposium On Applied Computing (SAC), (2022), Brno, Czech Republic
- Y. Sharma, Shounak Chakraborty and S. Moulik, "RESTORE: Real-Time Task Scheduling on a Temperature Aware FinFET based Multicore", Design, Automation and Test in Europe Conference (DATE), (2022), Antwerp, Belgium,Rank - B (Accepted)
- Y. Sharma and S. Moulik, "SMART-EDF: An EDF based semi-partitioned energy-aware multicore scheduler for real-time systems", EEE TENCON, (2021), Auckland, New Zealand ,Rank - C
- S. Mishra, S. Moulik and V. Prakash, "Invalid Scenarios of External Cluster Validity Indices: An Analysis Using Bell Polynomial", IEEE International Conference on Systems, Man, and Cybernetics (SMC), (2021), Melbourne, Australia,Rank - B
- S. Moulik, Z. Das, and G. Salkia, "CEAT: A Cluster based Energy Aware Scheduler for Real-Time Heterogeneous Systems", IEEE International Conference on Systems, (2020), Man, and Cybernetics (SMC), Toronto, Canada,Rank - B
- S. Moulik, R. Chaudhary, Z. Das and A. Sarkar, "EA-HRT: An Energy-Aware scheduler for Heterogeneous Real-Time systems", IEEE/ACM ASP-DAC, (2020), Beijing, China,Rank - A
- Y. Sharma, Z. Das, A. Das and S. Moulik, "TA-HRT: A temperature-aware scheduler for heterogeneous real-time multicore systems", IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom), (2020), Guangzhou, China,Rank - A
- S. Moulik and Z. Das, "TASOR: A Temperature-Aware Semi-Partitioned Real-time Scheduler", IEEE TENCON, (2019), Kochi, Kerala, India, Rank - C
- S. Moulik, R. Devaraj and A. Sarkar, "HEART: A Heterogeneous Energy-Aware Real-Time Scheduler", 2019 32nd International Conference on VLSI Design and 2019 18th International Conference on Embedded Systems (VLSID),Delhi, INCR, India, (2019), pages. 476-481, IEEE,Rank - C
- S. Moulik, R. Devaraj and A. Sarkar, "COST: A Cluster-Oriented Scheduling Technique for Heterogeneous Multi-cores", 2018 IEEE International Conference on Systems, (2018), pages. 1951-1957, Man, and Cybernetics (SMC), Miyazaki, Japan,Rank - B
- S. Moulik, R. Devaraj and A. Sarkar, "HETERO-SCHED: A Low-Overhead Heterogeneous Multi-core Scheduler for Real-Time Periodic Tasks", 2018 IEEE 20th International Conference on High Performance Computing and Communications (HPCC), (2018), pages. 659-666, Exeter, United Kingdom,Rank - B
- S. Moulik, A. Sarkar and H. K. Kapoor, "DFFair Scheduling with Slowdown and Suspension", 2018 31st International Conference on VLSI Design and 2018 17th International Conference on Embedded Systems (VLSID), Pune, (2018), pages. 43-48, IEEE,Rank - C
- S. Moulik, R. Devaraj, A. Sarkar and A. Shaw, "A Deadline-Partition Oriented Heterogeneous Multi-Core Scheduler for Periodic Tasks", 2017 18th International Conference on Parallel and Distributed Computing, Applications and Technologies (PDCAT), Taipei, (2017), pages. 204-210, (IEEE) Rank - B
- R. Sarkar, S. Moulik, N. Das, S. Basu, M. Nasipuri, D.K. Basu, "Word extraction from unconstrained handwritten Bangla document images using Spiral Run Length Smearing Algorithm", 2011 Indian International Conference on Artificial Intelligence, Bangalore, (2011), pages. 32-46,
- R. Sarkar, S. Moulik, N. Das, S. Basu, M. Nasipuri and M. Kundu, "Suppression of non-text components in handwritten document images", 2011 International Conference on Image Information Processing, Shimla, (2011), pages. 1-7, IEEE

### Book Chapters

- Y. Sharma, Z. Das and S. Moulik, "TEFRED: A Temperature and Energy Cognizant Fault-Tolerant Real-Time Scheduler Based on Deadline Partitioning for Heterogeneous Platforms", Lecture Notes in Computer Science,vol 13148, (2022), Springer, Cham
- Y. Sharma, Z. Das and S. Moulik, "SPORTS: A Semi-partitioned Real-Time Scheduler for Heterogeneous Multicore Platforms", Communications in Computer and Information Science,vol 1362, (2021), Springer, Singapore



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