



Dr. Nilotpal Chakraborty
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Joined the Institute in August 2023

About

Hello, my name is Nilotpal and I am an Assistant Professor in the Department of Computer Science and Engineering at the Indian Institute of Information Technology (IIIT), Guwahati. Prior to that, I served at IIT Kottayam and IIMUT Jipur in the same position. I completed my PhD in Computer Science and Engineering from the Indian Institute of Technology (IIT) Patna in 2019, after which I moved to Aalborg University Denmark for Postdoc. I was also with EMAX Group, Belgium where I worked as an IT solution and Innovation Expert. I completed my M.Tech in Systems Management from Devi Ahilya University, Indore in 2014 and B.Tech in Information Technology in 2010 from Assam University, Silchar.

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Research Interests

Scheduling and optimization in smart grid and electric vehicles, AI and Blockchain for Cyber Physical Systems

Teaching

At IIITG, I have taught the following courses:

- Computer Networks - Theory and Lab (Autumn 2023)
- Introduction to Cyber Physical Systems (Spring 2024)

Publication

Journal

- P. K. Saha, N. Chakraborty, A. Mondal and S. Mondal, "Intelligent Real-Time Utilization of Hybrid Energy Resources for Cost Optimization in Smart Microgrids", IEEE Systems Journal, (2024), doi: 10.1109/SYST.2024.3352617
- P. K. Saha, N. Chakraborty, A. Mondal and S. Mondal, "Optimal Sizing and Efficient Routing of Electric Vehicles for a Vehicle-on-Demand System", IEEE Transactions on Industrial Informatics, vol. 18, no. 3, (2022), pages. pp. 1489-1499, doi: 10.1109/TII.2021.3091597
- N. Chakraborty, A. Mondal, and S. Mondal, "Intelligent Charge Scheduling and Eco-Routing for Electric Vehicles: A Multi-Objective Heuristic Approach", in Elsevier Sustainable Cities and Society, 102820, (2021), DOI: <https://doi.org/10.1016/j.scs.2021.102820>
- N. Chakraborty, A. Mondal and S. Mondal, "Scheduling Interdependent Smart Appliances with Mixed-Preemption Policy for Peak Load Minimization", in IETE Journal of Research, 66:6, (2020), pages. 797-805, DOI: 10.1080/03772063.2020.1775140
- N. Chakraborty, A. Mondal, and S. Mondal, "Efficient Load Control Based Demand Side Management Schemes Towards a Smart Energy Grid System", in Elsevier Sustainable Cities and Society, vol. 59, (2020), pages. 102175, DOI: <https://doi.org/10.1016/j.scs.2020.102175>
- N. Chakraborty, A. Mondal, and S. Mondal, "Multiobjective Optimal Scheduling Framework for HVAC Devices in Energy-Efficient Buildings", in IEEE Systems Journal, vol. 13, no. 4, (2019), pages. 4398-4409, DOI: 10.1109/JSYST.2019.2933308
- N. Chakraborty, A. Mondal, and S. Mondal, "Efficient Scheduling of Nonpreemptive Appliances for Peak Load Optimization in Smart Grid", in IEEE Transactions on Industrial Informatics, vol. 14, no. 8, (2018), pages. 3447-3458, DOI: 10.1109/TII.2017.2781284
- N. Chakraborty, A. Mondal, and S. Mondal, "Intelligent Scheduling of Thermostatic Devices for Efficient Energy Management in Smart Grid", in IEEE Transactions on Industrial Informatics, vol. 13, no. 6, (2017), pages. 2899-2910, DOI: 10.1109/TII.2017.2695241

Conference

- R. Chakraborty and N. Chakraborty, "IwMiner: Mining Relevant Tweets of News Articles", The 23rd International Symposium on Cluster, (2023), Cloud and Internet Computing (CCGrid 2023), Bangalore, India
- Suryakanta Panda, Nilotpal Chakraborty, Anghuman Jana, "Secured Peer-To-Peer Energy Trading and Demand Response in Transactive Energy Systems", 21st QSTS International Conference on Information Technology, (2023), NIT, Raipur
- N. Chakraborty and E. Kalaimannan, "Simulating Deferrable Loads for the Development of Next Generation Energy Systems", 9th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (ACM BuildSys 2022), (2022), Boston, USA, November 2022
- N. Chakraborty, R. Chakraborty, and E. Kalaimannan, "Scheduling Energy Flexible Devices Under Constrained Peak Load Consumption in Smart Grid", 13th ACM/IEEE International Conference on Cyber-Physical Systems (IC CPS), (2022), Milan, Italy, May 2022.
- N. Chakraborty and E. Kalaimannan, "Poster: Optimal Sizing of Hybrid Renewable Energy Sources via Efficient Demand Response in Microgrid", 11th ACM International Conference on Future Energy Systems (ACM e-Energy), (2020), Australia (held virtual), June 2020
- R. Chakraborty, R. Das, and N. Chakraborty, "Link Prediction in Signed Networks", 31st ACM Conference on Hypertext and Social Media (HT 2020), (2020),
- R. Chakraborty, S. Bhandari, N. Chakraborty, and R. Das, "Tex2Sign: Creating Signed Networks of News Events", TextStory20@ECIR2020, (2020), Lisbon, Portugal, April 2020
- R. Chakraborty and N. Chakraborty, "Are we friends or enemies? Let's ask thy neighbour", 25th ACM International Conference on Intelligent User Interface Companion (IUI 20), (2020), Cagliari, Italy, March 2020
- P. K. Saha, N. Chakraborty, A. Mondal, and S. Mondal, "Coordinated Scheduling of Residential Appliances and Heterogeneous Energy Sources in a Smart Microgrid", in The 6th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (ACM BuildSys 2019), (2019), New York, U.S., November 2019
- N. Chakraborty, A. Mondal, and S. Mondal, "Intelligent Scheduling of Smart Appliances in Energy Efficient Buildings: A Practical Approach", 2019 32nd International Conference on VLSI Design and 2019 18th International Conference on Embedded Systems (VLSID), (2019), Delhi, NCR, India, January 2019
- A. Gayen and N. Chakraborty, "HISC, NEMO: High Scalability in Nested Network Mobility Using Hierarchical Attachment Approach", in Proceedings of the 24th Annual International Conference on Mobile Computing and Networking (MobiCom 18), (2018), pages. 693-695, ACM, New York, NY, USA
- N. Chakraborty, A. Mondal, and S. Mondal, "Work-in-Progress: Towards Optimal Scheduling of Thermal Comfortability and Smoothing of Load Profile in Energy Efficient Buildings", 2018 International Conference on Embedded Software (EMSOFT), (2018), Tain, September-October 2018
- N. Chakraborty, A. Mondal, and S. Mondal, "Multi-Objective Heuristic: Charge Scheduling and Eco-Routing Mechanism for Electric Vehicles", in Proceedings of the 9th International Conference on Future Energy Systems (ACM e-Energy 18), (2018), ACM, Karlsruhe, Germany, June 2018
- N. Chakraborty, A. Mondal, and S. Mondal, "MinPeak: An intelligent scheduler for non-preemptive appliances in smart grid", 2017 IEEE Region 10 Symposium (TENSymp), (2017), Cochin, July 2017
- A. Gupta, N. Chakraborty, and S. Mondal, "CETO: An efficient clustering based energy theft detection technique in smart grid", 2017 IEEE Region 10 Symposium (TENSymp), (2017), Cochin, July 2017.
- A. Bhattacharya, S. Das, A. Gayen and N. Chakraborty, "HAP: Hierarchical attachment process for mobile nodes in nested network mobility", 2017 IEEE Region 10 Symposium (TENSymp), (2017), Cochin, July 2017
- N. Chakraborty and E. Kalaimannan, "Minimum cost security measurements for attack tree based threat models in smart grid", 2017 IEEE 8th Annual Ubiquitous Computing, Electronics and Mobile Communication Conference (UEMCON), (2017), pages. 614-618, New York City, NY
- N. Chakraborty and E. Kalaimannan, "Selective scheduling: Controlling non-preemptive devices in smart grid environment", 2017 IEEE Power & Energy Society Innovative Smart Grid Technologies Conference (ISGT), (2017), pages. 1-5, Washington, DC
- A. Bhalakanti, Anjana N.B., Divya A., K. Divya, N. Chakraborty, and G. K. Patra, "Secure computation over cloud using fully homomorphic encryption", 2016 2nd International Conference on Applied and Theoretical Computing and Communication Technology (ICATCC), (2016), pages. 633-636, Bangalore
- N. Chakraborty and G. K. Patra, "Advanced Cryptographic Techniques for Secured Cloud Computing", IJCA Proceedings on International Conference on Current Trends in Advanced Computing (ICTA 2014, (2014), pages. 10-13, Bangalore





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