

Dr. Pranay Kumar Saha, Assistant Professor

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Work Experience

- Oct 2023 – ...  **Assistant Professor**, Indian Institute of Technology (Indian School of Mines) Dhanbad, Jharkhand, India.
- Jun 2022 – Oct 2023  **Research Fellow** Electrical and Computer Engineering, National University of Singapore.

Education

- 2022  **Ph.D. Computer Science and Engineering** Indian Institute of Technology Patna, 8.75. **Thesis title:** Intelligent operation strategies for smart microgrid & electric vehicle on demand system
Supervisors: Dr. Arijit Mondal and Dr. Samrat Mondal
- 2016  **M.Tech. Computer Science and Engineering**, Indian Institute of Technology (Indian School of Mines) Dhanbad, 8.87.
- 2013  **B.Tech. Computer Science and Engineering**, Kalinga Institute of Industrial Technology Bhubaneswar, 8.43.

Research Publications

Journal Articles

- 1 **P. K. Saha**, A. Trivedi, and D. Srinivasan, "Robust optimization for optimal electrical asset placement in small and medium-sized industries," in *Sustainable Energy, Grids and Networks*, vol. 43, p. 101736, ISSN: 2352-4677.  DOI: 10.1016/j.segan.2025.101736 (Quartile: Q1, Impact Factor: 4.8).
- 2 **P. K. Saha**, N. Chakraborty, A. Mondal, and S. Mondal, "Intelligent real-time utilization of hybrid energy resources for cost optimization in smart microgrids," in *IEEE Syst. J.*, vol. 18, no. 1, pp. 186–197.  DOI: 10.1109/JSYST.2024.3352617 (Quartile: Q1, Impact Factor: 4).
- 3 R. Sarkar, **P. K. Saha**, S. Mondal, and A. Mondal, "Mage: Microgrids with advanced grid efficiency through battery-aware ev management," in *Sustainable Cities and Society*, vol. 107, p. 105399, ISSN: 2210-6707.  DOI: 10.1016/j.scs.2024.105399 (Quartile: Q1, Impact Factor: 10.5).
- 4 **P. K. Saha**, N. Chakraborty, A. Mondal, and S. Mondal, "Optimal sizing and efficient routing of electric vehicles for a vehicle-on-demand system," in *IEEE Trans. Ind. Informatics*, vol. 18, no. 3, pp. 1489–1499.  DOI: 10.1109/TII.2021.3091597 (Quartile: Q1, Impact Factor: 11.7).
- 5 **P. K. Saha** and A. Mondal, "Efficient online heuristic approach for handling fluctuation in renewable energy in a microgrid," in *IEEE Syst. J.*, vol. 16, no. 2, pp. 2471–2482.  DOI: 10.1109/JSYST.2021.3061453 (Quartile: Q1, Impact Factor: 4).

- 6 P. Dass, **P. K. Saha**, and H. Om, "Improved traceable-resistant efficient authentication schemes for wireless networks," in *Int. J. Bus. Data Commun. Netw.*, vol. 12, no. 2, pp. 28–61. [DOI: 10.4018/IJBDCN.2016070103](#).

Conference Proceedings

- 1 Y. Liang and **P. K. Saha**, "Energy consumption forecasting based on long short-term memory neural network with realistic smart meter data," in *IEEE Symposium Series on Computational Intelligence, SSCI 2022, Singapore, December 4-7, 2022*, H. Ishibuchi, C. Kwoh, A. Tan, et al., Eds., IEEE, 2022, pp. 1374–1379. [DOI: 10.1109/SSCI51031.2022.10022120](#).
- 2 Y. Liang, **P. K. Saha**, and J. H. D. Lam, "Optimal residential building energy management using genetic algorithm," in *IEEE Symposium Series on Computational Intelligence, SSCI 2022, Singapore, December 4-7, 2022*, H. Ishibuchi, C. Kwoh, A. Tan, et al., Eds., IEEE, 2022, pp. 1368–1373. [DOI: 10.1109/SSCI51031.2022.10022294](#).
- 3 R. Sarkar, **P. K. Saha**, S. Mondal, and A. Mondal, "Intelligent scheduling of v2g, v2v, G2V operations in a smart microgrid," in *e-Energy '20: The Eleventh ACM International Conference on Future Energy Systems, Virtual Event, Australia, June 22-26, 2020*, ACM, 2020, pp. 417–418. [DOI: 10.1145/3396851.3403517](#).
- 4 **P. K. Saha**, N. Chakraborty, A. Mondal, and S. Mondal, "Coordinated scheduling of residential appliances and heterogeneous energy sources in a smart microgrid," in *Proceedings of the 6th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation, BuildSys 2019, New York, NY, USA, November 13-14, 2019*, ACM, 2019, pp. 362–363. [DOI: 10.1145/3360322.3361001](#).

Professional Recognition

2022– ...	 IEEE Member
2017–2022	 IEEE Student Member
2016	 Visvesvaraya Fellowship, Ministry Of Electronics & Information Technology
2014	 GATE Scholarship, AICTE

Role and Responsibility

in IIT (ISM) Dhanbad

2024 & 2025	 Co-FIC, HackFest, Institute Level.
2023 – ...	 DPGC Member, Department Level.
2024 – ...	 Treasurer, CSE Society, Department Level.

Courses Taught

Winter 2023-24, Monsoon & Winter 2024-25	Computer Programming Theory and Lab
Winter 2023-24	Research Methodology
Winter 2024-25	Wireless Network