Name, Rank:

Md Zahidul Islam, Assistant Professor

Department/School:

School of ECBE

Education:

Ph.D. from New York University

Appointments:

Start date 08/16/2025

Description of areas of expertise in research, scholarship, and creative activities:

I specialize in power systems research with an interdisciplinary focus on integrating power systems, communication networks, and artificial intelligence. My work develops innovative solutions for grid monitoring, control, resilience, and optimization to address the challenges of today's evolving energy grid. This includes leveraging advanced communication technologies, AI-driven analytics, and cyber-physical architectures to enhance reliability, efficiency, and security.

Courses (last five years)

ECE 587: Modern Power System Operation

Graduate students (last five years; include project, thesis, dissertation title and year completed)

Hired two PhD students during Fall 2025 semester.

1. Biswas Rudra Jyoti Arka: Will be working on projects related to power systems and AI.
2. Md. Sayed Hasan Rifat: Will be working on projects related to power systems and its communication networks.

Recent publications or creative activities (last five years)

[*J1*] M. Z. Islam, Y. Lin, V. M. Vokkarane and J. Ogle, "Observability-Aware Resilient PMU Networking," in *IEEE Transactions on Power Systems*, vol. 40, no. 1, pp. 218-230, Jan. 2025.

[*J2*] M. Z. Islam, Y. Lin, V. M. Vokkarane, N. Yu, "Robust Learning-based Real-time Load Estimation Using Sparsely Deployed Smart Meters with High Reporting Rates", Applied Energy, Volume 352, 2023, 121964.

[*J3*] M. Z. Islam, S. N. Edib, V. M. Vokkarane, Y. Lin and X. Fan, "A Scalable PDC Placement Technique for Fast and Resilient Monitoring of Large Power Grids," in IEEE Transactions on Control of Network Systems, vol. 10, no. 4, pp. 1770-1782, Dec. 2023.

[*J4*] M. Z. Islam, Y. Lin, V. M. Vokkarane, and V. Venkataramanan, "Cyber-physical Cascading Failure and Resilience of Power Grid: A Comprehensive Review", Frontiers in Energy Research, 11, p.1095303.

[*C1*] Y. Ding, M. Z. Islam, J. Shiau, A. D. Amico, Y. Tian, Z. Jiang, S. Ozharar, T. Wang, and Y. Lin," Resilient DFOS Placement Strategy for Power Grid Monitoring: Integrating Fiber and Power Network Dependencies," 29th International Conference On Optical Fibre Sensors (OFS), Porto, Portugal, 25-30 May 2025.

[*C2*] M. Z. Islam, Y. Ding, Y. Tian, T. Wang, Y. Lin, "Integration of Fiber Optic Sensing and Sparse Grid Sensors for Accurate Fault Localization in Distribution Systems", 2025 IEEE Power & Energy Society General Meeting (PESGM), Austin, TX, USA, 2025 (accepted).

[*C3*] P. Christou, M. Z. Islam, Y. Lin, and J. Xiong, "LLM4DistReconfig: A fine-tuned large language model for power distribution network reconfiguration," 2025 Annual Conference of the Nations of the Americas Chapter of the ACL (NAACL), Albuquerque, New Mexico, USA, April 29–May 4, 2025.

[*C4*] M. Z. Islam, W. Zhang, Y. Lin, "Learning-based Customer Voltage Visibility with Sparse High-Reporting-Rate Smart Meters," 2024 IEEE Power & Energy Society General Meeting (PESGM), Seattle, WA, USA, 2024, pp. 1-5.

* J-Journals, C-conferences

Grants or other funding (last five years)

Startup funding from the school

Website for full CV (if applicable):

https://zahidul-ece.github.io/cv/