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Specialisation: Control System

Area of interest:

Control system, Model Predictive Control, Event-triggered control, control of wastewater treatment, fuzzy logic, and soft computing techniques.

List of publications

1. Namita Boruah, B. K. Roy, "A novel event- triggered active model predictive control for synchronization of discrete-time chaotic systems," *Journal of Computational and Nonlinear Dynamics*, vol. 15, 2020.
2. Namita Boruah, B. K. Roy, "Event-triggered Nonlinear Model Predictive Control for a wastewater treatment plant," *Journal of Water Process Engineering*, vol. 32, 2019.
3. Namita Boruah, B. K. Roy, L. Seban, "Nonlinear Model Predictive Control in a Quadruple Tank System: An event-triggered Approach," *Journal of Adv. Research in Dynamical and Control Systems*, vol. 10, number 3, pp. 179-185, 2018.
4. L. Seban, N. Boruah, and B.K. Roy, "Development of FOPDT and SOPDT model from arbitrary process identification data using the properties of orthonormal basis function," *International Journal of Engineering & Technology*, 7, pp. 77-83, 2018.
5. N. Boruah, L. Seban, and B.K. Roy, "Design and performance comparison of different predictive controllers for magnetic levitation system," *International Journal of Control Theory and Applications*, vol. 9, pp. 103-110, 2016.

6. L. Seban, N. Boruah, and B.K. Roy, "Modified single layer economic model predictive control and application to shell and tube heat exchanger," *IFAC-Papers OnLine*, 49(1), pp.754-759, 2016.
7. N. Boruah, L. Seban, and B.K. Roy, "Fuzzy based multiple model predictive control design and performance analysis of magnetic elevator system," *International Journal of Applied Science and Engineering Research*, 4(5), pp.750-757, 2015.
8. N. Das, A. Bhuyan, P.P. Sonowal, A. Lama, and N. Boruah, "Design and Implementation of Arduino based low cost Autonomous Car," *International Conference on Energy, Power and Environment*, NIT Meghalaya, June 20-22, 2024.
9. Tuhin Das, Namita Boruah, Ajaan Anubhav Borah, and Sarmila Patra, "Enhanced Parameter Optimization of PID Controller for Single Area Power System using Hybrid ALO-GBO Algorithm," *International Conference on Energy, Power and Environment*, NIT Meghalaya, June 20-22, 2024.
10. Tuhin Das, Namita Boruah, Sarmila Patra and Ajaan Anubhav Borah, "Parameter Optimization of PID Controller for Single Area Power System using Evolutionary Algorithms," *International Conference on Modeling, Simulation and Optimization*, NIT Silchar, November 16-18, 2024.