Faculty Profile

Name: Prasant Kumar Nayak

Designation: Assistant Professor

Teaching Area: Mathematics

Research Interest: Mathematical Modeling with a focus on Dynamical Systems and Stability Analysis

Experience (In Years): 20 Years

Academic qualifications: M.Phil. and Ph.D. in Mathematics

Major Research Publications / Presentation:

1	Mathematical modelling for understanding computer virus behaviors in a network and its stability analysis	Swapnita Mohanty, Prasant Kumar Nayak, Arjun Kumar Paul	IEEE Explore(21st OITS International conferences on information technology(OCIT-2023) (peer-reviewed and refereed journal)	2024|volume 1/Issue:1:page No: /720-725 / /Scopus
2	SIQTRS e-epidemic model : A Comprehensive framework for analyzing and managing computer virus propagation in networks.	Swapnita Mohanty, Prasant Kumar Nayak, Arjun Kumar Paul	IEEE Explore(21st OITS International conferences on infernation technology(OCIT-2023) (peer-reviewed and refereed journal)	2024|volume 1/Issue:1:page No: /726-731 / /Scopus
3	Optimal Control of Malicious Codes in a Computer Network by Quarantine and Isolation Strategy	Swapnita Mohanty, Prasant Kumar Nayak, Saktiprasad Mohanty	Advances in Energy and Control Systems (peer-reviewed and refereed journal) ISBN:9789819701544,9819701546 ISSN No.1876-1100 E-ISSN:1876-1119 Springer Nature Singapore Q4 Journal	Conference proceedings info: ESDA/2024.pp.333-343/ Scopus
4	Quarantine Approach to Defend Against Malicious Codes in a Traditional Antivirus Computer Network	Swapnita Mohanty, Prasant Kumar Nayak, Saktiprasad Mohanty	Lecture Notes in Electrical Engineering Advances in Energy and Control Systems (peer-reviewed and refereed journal) ISBN:9789819701544,9819701546 ISSN No.1876-1100 E-ISSN:1876-1119 Springer Nature Singapore Q4 Journal	Conference proceedings info: ESDA 2024.pp.345-353/ Scopus
5	A Mathematical Analysis of Antivirus Effectiveness in Computer Networks Using a Modified SEIR Epidemic Model	Prasant Kumar Nayak, Subhashree Ram, Saktiprasad Mohanty	Conference Proceedings ISBN:978-93-342-7313-7	Conference proceedings of International Conference on Mathematical and Statistical Modeling in Innovative Areas 2025.pp.209-226

6	A Mathematical Modeling and Sensitivity Analysis Approach to Evaluate Signature-Based Antivirus Effectiveness in Networked Systems	Prasant Kumar Nayak, Subhashree Ram, Saktiprasad Mohanty	Conference Proceedings ISBN:978-93-342-7313-7	Conference proceedings of International Conference on Mathematical and Statistical Modeling in Innovative Areas 2025.pp.227-234
7	A Sensitivity Analysis Approach to Investigating Virus Transmission in Interconnected Computer Network	S. Mohanty, C. Parida, G. Mahanta, P.K. Nayak	IAENG International Journal of Computer Science Q 3 Journal	Year :2025|Volume 52/ Issue:09| Page No: 3459-3466/ 1819-9224/ IAENG/Scopus/
8	Modeling Virus Spread in Computer Networks: An Extended SEIR Approach Using Artificial Neural Networks with Levenberg-Marquardt Algorithm	S. Mohanty, C. Parida, G. Mahanta, P.K. Nayak	Computational and Mathematical Organization Theory Q 2 Journal	Year :2025|Volume 32/ Issue:1| Page No: -/ 1572-9346/