



## Dr. Umashankar Ghugar – Ph. D.

**Name** : Dr. Umashankar Ghugar  
**Designation** : Associate Professor  
**Department** : Computer Science and engineering  
(JOINED THE INSTITUTE IN 2026)  
**Contact** : +919937254435 (M)  
**Email** : umashankar.ghugar@silicon.ac.in

### RESEARCH INTERESTS

- Security in Wireless Sensor Network, Vehicular Ad hoc Network, IDS, AI/ML

### Academic Qualifications

- Ph. D. (IDS IN WSNs), BERHAMPUR UNIVERSITY, Odisha, INDIA
- M. Tech. (Utility Buzz Management), FAKIR MOHAN UNIVERSITY, Odisha, INDIA
- B.E., OEC, BPUT, Rourkela, Odisha, INDIA

### Teaching Experience/Industrial Experience/Research Experience

Teaching Experience – 14 years+

Research Experience – 10 years

## PUBLICATIONS

### JOURNALS

1. Kumar, JNVR Swarup, **Umashankar Ghugar** et al. "Enhanced Connectivity for Non-Critical In-Vehicle Systems Using EnRF24L01." IEEE Sensors Journal (2025), [SCI/SCOPUS/Q1/IF-4.3].
2. Mishra, Kaushik, **Umashankar Ghugar** et al. "Predicting Diabetes with Federated Learning: A Digital Twin and Medical Fog-based IoT Framework." ACM Transactions on Internet Technology (2025), [SCI/SCOPUS/Q1/IF-3.9].
3. Dash, S., **Ghugar, U.**, Godavarthi, D., & Mohanty, S. N. (2024). HCSRL: hyper ledger composer system for reducing logistics losses in the pharmaceutical product supply chain using a blockchain-based approach. Scientific reports, 14(1), 13528, [SCOPUS/WOS/ESI/Q1/IF-4.6].
4. Dash, S.; Chakravarty, S.; Giri, N.C.; **Ghugar, U.**; Fotis, G. Performance Assessment of Different Sustainable Energy Systems Using Multiple-Criteria Decision-Making Model and Self-Organizing Maps. Technologies, 2024, 12(3), 42. [SCOPUS/WOS/ESI/Q1/IF-3.6].
5. Kaushik Mishra, **Umashankar Ghugar**, et. al. "A Collaborative Computation and Offloading for Compute-intensive and Latency-sensitive Dependency-aware Tasks in Dew-enabled Vehicular Fog Computing: A Federated Deep Q-Learning Approach", (2023). IEEE Transactions on Network and Service Management. [SCI/SCOPUS/Q1/IF-5.3].

6. Bhoi, Sushil Kumar, **Umashankar Ghugar** et al. "Exploring the Security Landscape: A Comprehensive Analysis of Vulnerabilities, Challenges, And Findings In Internet Of Things (IoT) Application Layer Protocols." *Migration Letters* 21.S6 (2024): 1326-1342. [SCOPUS/WOS, ESI, Q2, IF-1.7].
7. **Ghugar, Umashankar**, et al. "LB-IDS: Securing wireless sensor network using protocol layer trust-based intrusion detection system." *Journal of Computer Networks and Communications* (2019) [ESCI/SCOPUS/Q2/IF-2.0].
8. **Ghugar, Umashankar**, et al. "PL-IDS: physical layer trust-based intrusion detection system for wireless sensor networks", *International Journal of Information Technology*, Springer (2018): 489-494. [SCOPUS, DBLP/Q2].
9. Santosh Kumar Paul, Sunil Kumar Dhal, Rakesh Nayak, **Umashankar Ghugar**, "Energy-Aware Optimization of Cloud Request Placement and Resource Monitoring Using an Evolutionary Algorithm for Cloud-assisted Systems", *International Journal of Computer Networks and Applications (IJCNA)*, 11(6), PP: 821-834, 2024, DOI: 10.22247/ijcna/2024/49.[SCOPUS/ Q3].
10. Rabindra Kumar Shial, Premanshu Rath, Sudhir Ranjan Patnaik, Sarat Chandra Nayak, **Umashankar Ghugar**, "ANTMAC: Addressing Novel Congestion Technique Hybrid Model for Collision Control in IoT-based Environments using Contention-based MAC Protocol", *International Journal of Computer Network and Information Security(IJCNIS)*, Vol.16, No.6, pp.45-55, 2024. DOI:10.5815/ijcnis.2024.06.04 [SCOPUS/Q3].
11. Rabindra Kumar Shial, Premanshu Rath, Sudhir Ranjan Patnaik, **Umashankar Ghugar**, "HEERPOP: Hybrid Energy Efficiency Routing Protocol for Optimal Path in the Internet of Things-Based Sensor Networks", *International Journal of Computer Networks and Applications (IJCNA)*, 11(4), PP: 494-505, 2024, DOI: 10.22247/ijcna/2024/31[SCOPUS/Q3].
12. Minakshi Sahu, Nilambar Sethi, Susant Kumar Das, **Umashankar Ghugar**, "NDTRA-MAT: A Novel Technique for Evaluating the Data Transfer Rate, Reducing the False Alarm Rate, and avoiding Packet Droppings Rate against Malicious Activity in Wireless Sensor Networks", *International Journal of Computer Networks and Applications (IJCNA)*, (2023),10(1), PP: 1-9, 2023, DOI:10.22247/ijcna/2023/218507 [SCOPUS/Q3].
13. **Ghugar, Umashankar**, et al. " DLTIDS: A Dual-Layer Trust-Based Intrusion Detection System for Blackhole Attacks in Wireless Sensor Networks. " *Nanotechnology Perceptions* [SCOPUS/Q4].
14. **Ghugar, Umashankar**, and Jayaram Pradhan. "Survey of wormhole attack in wireless sensor networks." *Computer Science and Information Technologies*, (2021). (UGC Listed).
15. Bikash Ranjan Bag, **Umashankar Ghugar** "HTBIDS: Hybrid Trust-Based Intrusion Detection System for Physical Layer in WSN",

International Journal of Advanced Trends in Computer Science and Engineering, Volume 10, No.1, January - February (2021). (UGC Listed).

16. **Ghugar, Umashankar**, and Jayaram Pradhan. "A Review on Wormhole Attacks in Wireless Sensor Networks", International Journal of Information Communication Technology and Digital Convergence June 2019(UGC Listed).
17. Nanda, Sameer, and **Umashankar Ghugar**. "Approach to an efficient vulnerability management program." International Journal of Innovative Research in Computer and Communication Engineering, IJRCCE (2017).(UGC Listed).
18. **Ghugar, Umashankar**, and Jayaram Pradhan. "A study on black hole attack in wireless sensor networks." IJACTA 5.1 (2017).(UGC Listed).
19. **Ghugar, Umashankar**, Jayaram Pradhan, and Monalisa Biswal. "A novel intrusion detection system for detecting black hole attacks in wireless sensor network using AODV Protocol." IJCSN-International Journal of Computer Science and Network 5.4 (2016) (UGC LISTED).
20. Bhoi, Ashok Kumar, **U. Ghugar** Satya Prakash Sahoo, and Manas Ranjan Kabat. "Core Based Group Communication with QoS Support.", IOSR Journal of Computer Engineering (IOSR-JCE), July-Aug- 2013(UGC LISTED).

#### CONFERENCE PAPERS PRESENTED

1. Dash, Vivek Priyadarshi, **U. Ghugar** et al. "Analysis of Sentiment in Political Tweets on Social Networks using Machine Learning approaches." 2025 4th OPJU International Technology Conference (OTCON) on Smart Computing for Innovation and Advancement in Industry 5.0. IEEE, 2025. [SCOPUS INDEXED].
2. Shial, Rabindra Kumar, **U. Ghugar** et al. "APRP: A Multi-Path Routing Protocol for Efficient IoT Networks with Dynamic Energy Harvesting." 2025 4th OPJU International Technology Conference (OTCON) on Smart Computing for Innovation and Advancement in Industry 5.0. IEEE, 2025. [SCOPUS INDEXED].
3. Sharma, Ashish K., **U. Ghugar** et al. "Transforming Heart Health Prediction: Harnessing the Potential of Hybrid Machine Learning Models." 2025 4th OPJU International Technology Conference (OTCON) on Smart Computing for Innovation and Advancement in Industry 5.0. IEEE, 2025. [SCOPUS INDEXED].
4. Sekhar, P. Sudam, **U. Ghugar** et al. "Detecting Mental Health of the People Using Social Media Data Posting." 2025 4th OPJU International Technology Conference (OTCON) on Smart Computing for Innovation and Advancement in Industry 5.0. IEEE, 2025.[SCOPUS INDEXED].
5. Jiwani, Salim Amirali, **U. Ghugar** et al. "Quantum elliptic curve cryptography algorithm implements security protocol functions." 2025 4th OPJU International Technology Conference (OTCON) on

Smart Computing for Innovation and Advancement in Industry 5.0. IEEE, 2025.[SCOPUS INDEXED].

6. Mohapata, Soumya Ranjan, **U. Ghugar** et al. "TBNDG: Trust-Based Malicious Node Detection for Grey-Hole Attacks in VANET's." 2024 Eighth International Conference on Parallel, Distributed and Grid Computing (PDGC). IEEE, 2024. [SCOPUS / WOS INDEXED].
7. Nayak, Manjushree, **U. Ghugar** et al. "Classification of Retinal Fundus Images for Diabetic Retinopathy Using KNN." International Conference on Advanced Network Technologies and Computational Intelligence. Cham: Springer Nature Switzerland, 2024.[SCOPUS INDEXED].
8. Gopagoni, Deepa Rani, P. V. Lakshmi, and **Umashankar Ghugar**. "A Case Study of Computer-Based Alzheimer Disease Diagnosis." Recent Advances in Artificial Intelligence and Smart Applications: Proceedings of RAAISA 2024: 119. (SCOPUS INDEXED).
9. Nayak, Rakesh, **U. Ghugar** et al. "Defense Strategy Security Mechanism for Sensor Networks." International Conference on Cognitive Computing and Cyber Physical Systems. Cham: Springer Nature Switzerland, 2024,(SCOPUS INDEXED).
10. M. Nayak, J. K. Gardia, **U. Ghugar**, A. Jain and R. Nayak, "Revolutionizing Healthcare Management: IoT-Based Medicine Dispenser and Temperature Monitoring Systems," 2024 OPJU International Technology Conference (OTCON) on Smart Computing for Innovation and Advancement in Industry 4.0, Raigarh, India, 2024, pp. 1-6, doi: 10.1109/OTCON60325.2024.10688081.(SCOPUS INDEXED).
11. S. A. Jiwani, J. Shinde, B. Bag, R. Nayak, R. K. Shial and **U. Ghugar**, "A Case Study on the Application of Machine Learning to the Process of Crop Forecasting," 2024 OPJU International Technology Conference (OTCON) on Smart Computing for Innovation and Advancement in Industry 4.0, Raigarh, India, 2024, pp. 1-5, doi: 10.1109/OTCON60325.2024.10688298. (SCOPUS INDEXED).
12. Dash, Satyabrata, **U. Ghugar** et al. "ITD-ML: Improving Diagnosis Capabilities for Thyroid Disease Using Machine Learning." International Conference on Information Systems and Management Science. Cham: Springer Nature Switzerland, 2023(SCOPUS INDEXED).
13. Jain, Amit, Rakesh Nayak, and **Umashankar Ghugar**. "Analysis and Mitigation of DDOS Vulnerabilities in Cloud Computing." 2023 3rd International Conference on Smart Generation Computing, Communication and Networking (SMART GENCON). IEEE, 2023. (SCOPUS INDEXED).
14. A. Bhoi, S. K. Baliarsingh, P. P. Dev, **U. Ghugar** and M. R. Biswal, "IoT-Based Smart Irrigation System for Optimal Water-Resource Utilization in Indian Agriculture," 2023 OITS International Conference on Information Technology (OCIT), Raipur, India, 2023, pp. 278-283, doi: 10.1109/OCIT59427.2023.10430840. (SCOPUS INDEXED).

15. S. Pusarla, **U. Ghugar**, T. Özseven, B. K. Dewangan, T. Choudhury and J. C. Patni, "A Compressive Study on Detection Accuracy Model for DoS Attack in SDN Using Ensemble Learning Techniques," 2023 7th International Symposium on Innovative Approaches in Smart Technologies (ISAS), Istanbul, Turkiye, 2023, pp. 1-6, doi: 10.1109/ISAS60782.2023.10391345. (SCOPUS INDEXED).
16. **U. Ghugar**, G. Sivanarayan, G. Rajareddy, K. S. Varma and G. Lakshmeeswari, "TBSMFA: Trust-Based Security Mechanism for SYN Flooding Attack at Transport Layer using DRICC technique in WSN," 2022 OPJU International Technology Conference on Emerging Technologies for Sustainable Development (OTCON), Raigarh, Chhattisgarh, India, 2023, pp. 1-6, doi: 10.1109/OTCON56053.2023.10113952. (SCOPUS INDEXED).
17. P. Gupta, **U. Ghugar**, C. V. Vardhan, R. Nayak and C. S. Rajpoot, "A Novel Design and Development model for people counting in a Closed Environment with Machine Learning Approach," 2022 OPJU International Technology Conference on Emerging Technologies for Sustainable Development (OTCON), Raigarh, Chhattisgarh, India, 2023, pp. 1-5, doi: 10.1109/OTCON56053.2023.10114007. (SCOPUS INDEXED).
18. Minakshi Sahu, Nilambar Sethi, Susant Kumar Das, \***Umashankar Ghugar**, "MANDS: Malicious Node Detection System for Sinkhole attack in WSN using DRI and Cross Check Method". Computational Intelligence in Pattern Recognition. LNNS, Springer, Singapore, 2022(SCOPUS INDEXED).
19. **Umashankar Ghugar**, Jayaram Pradhan "NL-IDS: NL-IDS: Trust-Based Intrusion Detection System for Network Layer in Wireless Sensor Networks",5th IEEE International Conference on Parallel, Distributed and Grid Computing (PDGC-2018), 20-22 Dec, 2018, Solan, India. (WOS/ SCOPUS INDEXED).
20. **Umashankar Ghugar**, Jayaram Pradhan, "ML-IDS: MAC Layer Trust Based Intrusion Detection System for Wireless Sensor Networks", (ICCIDM-2018 Published in AISC series, Springer (SCOPUS INDEXED).

#### BOOK CHAPTERS

1. Dash, Shial, Rabindra Kumar, et al. "HERPEE: Hybrid Energy-Aware Routing Protocol with Energy Estimation in IoT-Based Sensor Networks." Computing, Communication and Intelligence. CRC Press, 2026. 14-17.[SCOPUS INDEXED].
2. Jiwani, Salim Amirali, et al. "A Case Study of the Application of Deep Learning to Detect Skin Cancer." Computing, Communication and Intelligence. CRC Press, 2026. 53-56. [SCOPUS INDEXED].
3. Nayak, Rakesh, et al. "Overview of fog computing and IoT-based technology security and smart healthcare systems." Advances in Fog Computing and the Internet of Things for Smart Healthcare. Elsevier, 2026. 383-398.

4. Nayak, Rakesh, Umashankar Ghugar, and P. Sudam Sekhar. "Ethical Data Practices in Digital Health: A Patient-Centric Future in Society 5.0." *Industry 5.0 for Society 5.0: Advancing Medical IoT and Smart Healthcare (Part 1)*. Bentham Science Publishers, 2025. 195-214.
5. Nayak, Rakesh, Umashankar Ghugar, and Satyabrata Das. "Security, Privacy, and Interoperability in IoT Ecosystems." *Future of AI, IoT, and Sustainability*. Cham: Springer Nature Switzerland, 2025. 37-52, (SCOPUS INDEXED).
6. Ghugar, Umashankar, and Rakesh Nayak. "Introduction to digital twin technology." *Digital Twin Technology for Better Health: A Healthcare Odyssey (2025)*, (SCOPUS INDEXED).
7. Ghugar, Umashankar, Rakesh Nayak, and Joseph Bamidele Awotunde. "Enabling Technologies: for Seamless Human-Machine Interaction in Industry 5.0." *Computational Intelligence for Analysis of Trends in Industry 4.0 and 5.0 (2025)*: 215.(SCOPUS INDEXED).
8. Nayaka, Rakesh, and Umashankar Ghugarb. "Ensuring security and confidentiality in swarm-embedded", *Integrated Technologies in Electrical, Electronics and Biotechnology Engineering (2025)*.(SCOPUS INDEXED).
9. Nayak, Rakesh, et al. "Data Privacy and Compliance in Information Security." *Securing the Digital Frontier: Threats and Advanced Techniques in Security and Forensics (2025)*.(SCOPUS INDEXED).
10. Jain, Amit, Rakesh Nayak, and Umashankar Ghugar. "Soft computing and system engineering for smart manufacturing." *Soft Computing in Smart Manufacturing and Materials*. Elsevier, 2025. 169-192(SCOPUS INDEXED).
11. Prashanth, Bolukonda, et al. "Predictive Analysis in Patient Care." *The Impact of Algorithmic Technologies on Healthcare (2025)*: 61-83(SCOPUS INDEXED).
12. Rao, I. Sundara Siva, et al. "An Investigation of the Applicability of Machine Learning Methods to the Forecasting of Cardiovascular Disease." *Computing, Communication and Intelligence (2025)*. CRC Press 111-115(SCOPUS INDEXED).
13. Gartia, Jitendra Kumar, et al. "Fingers Identification Architecture for AIR CANVAS." *Computing, Communication and Intelligence (2025)*: 91,(SCOPUS INDEXED)`.
14. Ghugar, Umashankar, et al. "SPSHS: Security and Privacy Concerns in Smart Healthcare Systems." *Smart Healthcare Systems*. CRC Press, 2025. 44-56(SCOPUS INDEXED).
15. Nayak, Rakesh, et al. "Role of Data Science and Cybersecurity in Fighting Healthcare Fraud." *Cybersecurity and Data Management Innovations for Revolutionizing Healthcare*. IGI Global, 2024. 81-97(SCOPUS INDEXED)`.

16. Nayak, Rakesh, Ch Rajaramesh, and Umashankar Ghugar. "Challenges in Building Predictive Models." *Intelligent Techniques for Predictive Data Analytics* (2024): 25. (SCOPUS INDEXED).
17. Nayak, Rakesh, et al. "Case Study on the Social Impact of Intelligent Technologies: An Overview." *Sustainable Science and Intelligent Technologies for Societal Development*. IGI Global, 2023. 85-95, (SCOPUS INDEXED).
18. Nayak, Rakesh, and Umashankar Ghugar. "A Case Study on Intelligent Engineering Applications for Sustainability Using AI and ML Approaches." *Intelligent Engineering Applications and Applied Sciences for Sustainability*. IGI Global, 2023. 443-455, (SCOPUS INDEXED).
19. Gurpreet Singh Chhabra, Umashankar Ghugar, et al. "Applications of Cognitive IoT for the Wellbeing of Human Life: An Empirical Study", *Computational Intelligence for Sustainable Development*, Nova Science Publisher, 2022, (In Press). (SCOPUS INDEXED).
20. Chetana Khetmal, Nilesh Bhosale, Umashankar Ghugar, and Bikash Ranjan Bag "BADs-MANET: Blackhole Attack Detection System in Mobile Networks Using Data Routing Information (DRI) and Cross Check Mechanism", *The Role of IoT and Blockchain: Techniques and Applications*-CRC Press (Taylor & Francis Group)-2022(Google Scholars, SCOPUS INDEXED).
21. Ghugar, Umashankar, and Jayaram Pradhan. "Intrusion detection system in wireless sensor networks for wormhole attack using the trust-based system", *Handbook of Research on Information Security in Biomedical Signal Processing*. IGI Global, 2018. 198-209. (Clarivate Analytics, SCOPUS INDEXED).

#### **LISTS OF BOOKS[AUTHORS/EDITED]**

1. Problem-Solving and Programming With C, 1st Edition by Dr. Praveen Gupta, Dr. Umashankar Ghugar, Dr. Satyabrata Dash, Publisher: Lambert Academic Publishing, Germany, ISBN- 978-620-7-48659-5.
2. Operating Systems: Principles and Practice, 1st Edition, Kindle Edition by Dr. Abhisek Guru. Dr. Anu Sharma, Leelkamth Dewangan and Dr. Umashankar Ghugar, Publisher: INENCE, ISBN- 979-8860512047.
3. "A Textbook on Automata Theory", 1st Edition Kindle Edition by Suman Swarnkar (Author), Prashant Tamrakar (Author), Umashankar Ghugar (Author), Upasana Sinha (Author) Format: Kindle Edition
4. Book Title: "Developing AI, IoT and Cloud Computing-Based Tools and Applications for Women's Safety" by Parul Dubey, Dr. Gurpreet Singh Chhabra, Dr. Bui Thanh Hung, Dr. Umashankar Ghugar, Publisher: CRC Press (Taylor & Francis Group) (Indexing By Scopus).

**PATENTS**

1. Utility patent published titled "SIGN LANGUAGE RECOGNITION SYSTEM AND METHOD EMPLOYED THEREOF", having application no: 202341048909, September 2023.
2. Design patent published and granted titled, "IOT BASED STREET CLEANING VEHICLE", having application no- 388885-001, journal No-37/2023 dated 14.09.2023.

**EXTERNAL EXPERT/ TPC MEMBER / SESSION CHAIR/ EDITORIAL BOARD MEMBER**

1. Act as an Academic Editor in International Journal of Antennas and Propagation (Wiley Publisher).
2. Act as a National Advisory Board Members for the 5th OPJU International Technology Conference (OTCON 5.0) on Smart Computing for Innovation and Advancement in Industry 5.0 (26th - 28th June, 2026).
3. Act as a Program Committee Member for the 12th International Conference on Computer Science and Engineering (CSEN 2025) November 08 ~ 09, 2025, Melbourne, Australia.
4. Act as a Session Chair in ICCTCCI-2024, conducted by the Department of CSE, IMIT, Cuttack on 24th March 2024.
5. Act as an External Expert for faculty recruitment for Dept. of CSE, SoET, Centurion University of Technology and Management, Bhubaneswar campus on 08th January 2024.
6. Act as a TPC MEMBER for the 6th International Conference on Information Systems and Management Science (ISMS 2023) 23-24 December 2023, Raipur, India Jointly organised by the Department of Computer Science and Engineering, OP Jindal University, Raigarh, India and faculty of ICT, University of Malta, Msida, Malta.
7. Act as an Editorial Board Member in "International Journal of Computer Science and Information Technology (IJCSIT)", AIRCC Publisher.
8. Act as a TPC MEMBER for the 6th IFIP-International Internet of Things (IoT) Conference 2-3 November 2023 Dallas-Fort Worth Metroplex, Texas, USA.

**MEMBER AS A REVIEWER FOR JOURNALS AND CONFERENCES**

1. Wireless Personal Communications
2. Applied Artificial Intelligence
3. IEEE Access
4. IEEE Transaction on Education
5. IEEE Transactions on Neural Networks and Learning Systems
6. Security And Privacy (Wiley)
7. International Journal of Communication Systems (Wiley)

8. International Journal of Distributed Sensor Networks
9. International Journal of Knowledge Discovery in Bioinformatics (IGI Global).
10. International Journal of Information Security and Privacy (IGI Global).
11. Computer Standards & Interfaces (ScienceDirect)
12. Computer Sciences
13. 3rd International Conference on Advances in Computer Engineering and Communication Systems (ICACECS-2022), VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad, Telangana, India.
14. ICCIDM-2018-Published in AISC series (Springer, Indexing by Scopus), VSSUT, Burla, Odisha.
15. International Conference on Computer Science, Engineering and Applications (ICCSEA-2022, Published in IEEE and indexing by Scopus) and Conducted by GIET University, Gunupur.
16. International Conference on Computational Intelligence in Pattern Recognition (CIPR-2019-Published in AISC series (Springer) and indexing by Scopus), IEST, SHIBPUR, West Bengal.

#### AWARDS RECEIVED

1. Berhampur University Scientist Rankings 2024 By World Scientist and University Rankings (Sort by Last 6 Years H Index) 2023 Ad Scientific Index. (<https://www.adscientificindex.com/?University=Berhampur+University+Berhampur>)
2. Berhampur University Scientist Rankings 2023 By World Scientist and University Rankings (Sort by Last 6 Years H Index) 2023 Ad Scientific Index. (<https://www.adscientificindex.com/?University=Berhampur+University+Berhampur>)
3. Best Paper Presentation Award (OTCON 2.0) Entitled "TBSMFA: Trust-Based Security Mechanism for Syn Flooding Attack at Transport Layer using DRI-CC Technique in WSN" By OP Jindal University, Raigarh, Chhattisgarh, India.
4. Research Scholar for Outstanding Research Publication 2019 (Professional Stream) At Berhampur University, Bhanja Bihar, Orissa.
5. Research Scholar for Outstanding Research Publication 2018 (Professional Stream) At Berhampur University, Bhanja Bihar, Orissa.
6. Research Scholar for Outstanding Research Publication 2017 (Professional Stream) At Berhampur University, Bhanja Bihar, Orissa
7. Research Scholar for Outstanding Research Publication 2016 (Professional Stream) At Berhampur University, Bhanja Bihar, Orissa.
8. Fellowship (UGC), To Pursue a Regular and Full-Time Ph.D. Degree For the Year 2014-15.

#### LIST OF CERTIFICATION/FDPS/WORKSHOPS/STTP ATTENDED

1. AICTE Sponsored ATAL Academy Online FDP on “Optimizing Next-Gen Computing for Smart System Development” at National Institute of Technology Warangal from 13/10/2025 to 18/10/2025.
2. Participated in one-week offline FDP on “Artificial Intelligence and Machine Learning” sponsored by Intel Unnati and conducted by Chandigarh University, Mohali.
3. Certified by NPTEL “Cyber Security and Privacy” dated 21st Nov 2023.
4. Certified by Coursera Project Network “Getting started with Azure IOT Hub” on dated 26<sup>th</sup> June 2023.
5. Certified by Coursera Project Network “Access an EC2 instance shell from the AWS console” on dated 26<sup>th</sup> June 2023.
6. Certified by Coursera Project Network “Automize Business Communication using Power Automate” on 26th June 2023.
7. Participated in Online FDP on “INDUSTRY-SPECIFIC ESSENTIAL CYBER SECURITY” by HACKERSERA from 23rd May 2022 to 1st July 2022.
8. Participated in 5 days of Online FDP on “CYBER SECURITY AND BLOCKCHAIN TECHNOLOGIES” conducted by Amity University, Kolkata from 25th July 2022 to 29th July 2022.
9. Participated in 10 days of Online FDP on “SUSTAINABLE COMPUTING AND APPLICATION IN SMART CITIES” sponsored by Meity, E&ICT, NIT, WARANGAL, and VSSUT, Burla from 07th – 16th February 2022.
10. Certified By the International Cyber Security Institute (ICSI) as a “CERTIFIED NETWORK SECURITY SPECIALIST(CNSS)”.
11. Participated in 8 days of Online FDP on “CLOUD AND FOG COMPUTING PLATFORMS FOR INTERNET OF THINGS APPLICATIONS” sponsored by Meity, E&ICT and NIT, WARANGAL from 16th – 23rd December 2020.
12. AICTE Sponsored ATAL Academy Online FDP on “ARTIFICIAL INTELLIGENCE “conducted by the NIT, WARANGAL from 22nd May 2020 to 26th May 2020.
13. AICTE Sponsored ATAL Academy Online FDP on “CYBER SECURITY “conducted by the NITTTR, CHANDIGARH from 28th May 2020 -1st June 2020.
14. Participated in the “AWARENESS GENERATION ON INTELLECTUAL PROPERTY RIGHTS” workshop held on 28th March 2018 at Berhampur University (Odisha), sponsored by DST, govt. of India.
15. Participated in a week workshop on “RECENT TRENDS IN COMPUTER SCIENCE AND ENGINEERING” held from 24th July 2017 to 28th July 2017 at Parala Maharaja Engineering College, Berhampur, Odisha.

16. STTP on "Elements of Research & Hands-on Session on Selection of Research Area, Reading and Writing of Research Paper" at NIT, Raipur from Dt.20.03.2017 to Dt.24.03.2017.
17. Participated in the "IGNITING YOUTH INNOVATION" workshop held on February 23, 2017, at Berhampur University (Odisha).
18. Participated in the 4th "International Conference on Computational Intelligence in Data Mining (ICCIDM)" held from 11th to 12th November 2017 at the Department of CA, CSE&IT, VSSUT, Burla.
19. STTP on "Matlab Application in Engineering" at NITTTR, Kolkata Extension Centre, Bhubaneswar from Dt.17-10-2016 to Dt.21-10-2016.
20. AICTE Sponsored Faculty Development Program on "RECENT TRENDS IN ADVANCED COMPUTING (RTAC-2013)" "conducted by the Department of Computer Science and Engineering, VSSUT, Burla, Odisha from 29th April 2013 -to 11th May 2013.
21. Sponsored by the Collaboration of NIT, Rourkela, and C-DAC, Hyderabad Workshop on "INFORMATION SECURITY" conducted by the Department of Computer Science, Silicon Institute of Technology (Silicon West), Sambalpur on 15th Dec 2013.

#### MEMBERSHIPS

1. IEEE MEMBER ID: 98576394
2. CSTA (Computer Science Teachers Association) has a membership number is 2973661.
3. IACSIT (International scientific association of Computer Science and Information Technology.)
4. IRED (INSTITUTE OF RESEARCH ENGINEER AND DOCTERS) having Membership No- AM1009909.
5. IAENG (INTERNATIONAL ASSOCIATION OF ENGINEERS) having Membership No- 179584.