Faculty Profile



Dr. R. AUGUSTIAN ISAAC, M.E., Ph.D
Professor / AIML

HIGHLIGHTS:

- Number of Journal Publications: 74
- Scopus-Indexed Publications: 28
- SCI / SCIE Publications: 17
- H-Index: 4
- Patents Published: 3
- Patents Granted: NIL

PROFESSIONAL LINKS:

- Scopus ID: 57189763043
- Scopus Link: https://www.scopus.com/authid/detail.uri?authorId=57189763043
- Google Scholar ID: https://scholar.google.com/citations?user=fkpU-3IAAAAJ&hl=en
- ORCID: https://orcid.org/0009-0004-6479-6885
- Web of Science ResearcherID: JOZ-7957-2023
- Anna University Faculty ID: 2638671976
- AICTE Faculty ID: 1-43698576927
- LinkedIn: https://www.linkedin.com/in/dr-augustian-isaac-91495a91

PROFESSIONAL BACKGROUND:

- Teaching Experience till date: 25+ Years
- Industrial Experience: NIL

AREA OF SPECIALIZATION:

- Cyber Security and Digital Forensics
- IoT / Agricultural IoT Intrusion Detection
- Artificial Intelligence and Machine Learning
- Federated and Reinforcement Learning
- GenAI, NLP and Multimodal Language Models
- Medical Image Analysis
- Wireless Sensor Networks and LoRa / LPWAN Security
- Green Computing and Quantum Intelligence

PATENTS PUBLISHED/GRANTED:

1. "Multi-Layered Cybersecurity Framework Using Machine Learning Algorithms", Application No. 202441027153 A, Published on 12.04.2024, Patent Application Publication, India.
2. "Generative Adversarial Network (GAN)-Based Synthetic Data Generation for Privacy Preserving Machine Learning", Application No. 202441056350 A, Published on 02.08.2024, Patent Application Publication, India.
3. "The Effect of Application of the Children Learning in Science Model (CLIS) on Science Process Skills", Application No. 202442061955, Published on 15.08.2024, Patent Application Publication, India.

PUBLICATION:

- P. Sundaravadivel, **R. Augustian Isaac**, P. Vijayan, "Federated deep reinforcement learning with transformer-based anomaly detection for cybersecurity in next-generation agricultural IoT networks (FedTrans-AgriIDS)", Discover Artificial Intelligence, Springer Nature, Vol. 6, Article 1095, June 2026. DOI: 10.1007/s44163-026-01694-2
- P. Sundaravadivel, **R. Augustian Isaac**, U. Kumaran, E. S. Vinoth Kumar, "AI-ML driven map-matching algorithm for distinguishing highway and service road vehicular movements under GNSS degradation", Discover Artificial Intelligence, Springer Nature, June 2026.
- P. Sundaravadivel, **R. Augustian Isaac**, K. Premnath, CH. Vasanth Kumar, "Prostate gland cancer detection and grade classifying using Gleason score-based machine learning approach", Discover Artificial Intelligence, Springer Nature, May 2026. DOI: 10.1007/s44163-026-01380-3
- P. Sundaravadivel, **R. Augustian Isaac**, K. Premnath, CH. Vasanth Kumar, "Adaptive encryption and transmission in LoRa networks using reinforcement learning for effective security of IoT devices in end-to-end transmission", Discover Artificial Intelligence, Springer Nature, May 2026.
- P. Sundaravadivel, **R. Augustian Isaac**, U. Kumaran, G. Priyanga, "Lightweight multimodal large language model enabling efficient one shot industrial visual anomaly detection", Discover Artificial Intelligence, Springer Nature, Vol. 6, 2026. DOI: 10.1007/s44163-026-01252-w
- P. Sundaravadivel, **R. Augustian Isaac**, Suchitra Nath, A. Salini, "A deep reinforcement and federated learning-enabled framework for privacy-preserving electricity demand forecasting in smart grids", Innovative Computing and Communications – Proceedings of ICICC 2026, Vol. 7, Lecture Notes in Networks and Systems, Springer, 2026, pp. 94–121. DOI: 10.1007/978-3-032-30008-9
- P. Sundaravadivel, **R. Augustian Isaac**, M. Maleni, S. Nivetha, "AI-driven IoT framework for predictive healthcare monitoring using wearable sensors", Book Chapter, July 2026.
- E. S. Vinoth Kumar, **R. Augustian Isaac**, P. Sundaravadivel, P. Janaki Ramal, "Machine learning-driven development of a behaviour-based student classification system (SCS-B) for enhanced educational analytics", Scientific Reports, Vol. 15, Article 37428, October 2025. ISSN: 2045-2322. DOI: 10.1038/s41598-025-21332-8
- S. Fennila James, S. Mercy Gnana Gandhi, **R. Augustian Isaac**, P. Sundaravadivel, "Harnessing Artificial Intelligence and Machine Learning in English Language Teaching: Trends and Applications", Lecture Notes in Networks and Systems, Springer, 2025, pp. 163–180. DOI: 10.1007/978-981-95-0629-3_13
- **R. Augustian Isaac**, P. Sundaravadivel, V. S. Nici Marx, G. Priyanga, "Enhanced novelty approaches for resource allocation model for multi-cloud environment in vehicular Ad-Hoc

networks", Scientific Reports, Vol. 15, Article 9472, March 2025. ISSN: 2045-2322. DOI: 10.1038/s41598-025-93365-y

- S. Chib, H. R. Devarajan, S. Chundru, P. Pulivarthy, **R. Augustian Isaac**, K. M. Oku, "Standardized Post-Quantum Cryptography and Recent Developments in Quantum Computers", First International Conference on Advances in Computer Science, IEEE, February 2025.
- J. Relin Francis Raj, X. Arogya Presskila, R. Santhana Krishnan, R. Sarala, **R. Augustian Isaac**, N. Soundiraraj, "3D ResNet-18 Based Deep Convolutional Network for Automated Stroke Detection in Volumetric CT Scans", 3rd International Conference on Inventive Computing and Informatics (ICICI), IEEE, 2025.
- V. UmaRani, **R. Augustian Isaac**, K. Premnath, L. K. Hari Haran, "Efficient Chromosome Abnormal Detection Using YOLO-v8 Model", 3rd International Conference on Intelligent Systems, Advanced Computing and Communication (ISACC), IEEE, 2025.
- Hari Krishnan, B. Mohan, V. R. Navinkumar, et al., **R. Augustian Isaac**, "Simulation and Optimization of AlGaN/GaN HEMTs Using HfO2 Gate Oxide and Fe Trap Layer for High Power Performance", Conference Paper, August 2025.
- H. D. Khachariya, **R. Augustian Isaac**, R. Sasikala, M. Gokilavani, "Forging Connections Between AI and Quantum Computing in Decentralized Networks: Utilizing AI for Entanglement Distribution in Quantum Networks", In: Multidisciplinary Applications of AI and Quantum Networking, 2025, pp. 17–32.
- J. Relin Francis Raj, M. Saravana Karthikeyan, G. Vinoth Rajkumar, et al., **R. Augustian Isaac**, "A Multi-Source Approach to Film Recommendations Using Social Media, Search Data, and Streaming History", 5th International Conference on Sustainable Communication Networks and Applications (ICSCNA), IEEE, December 2024.
- P. SundaraVadivel, **R. Augustian Isaac**, P. Senthil Pandian, D. Rajesh Kumar, "A Very Compact and Highly Decoupled Four Element Antenna for n79 Band Application", International Journal of Microwave and Optical Technology, Vol. 19, No. 1, 2024, pp. 99–108.
- A. Deepa, R. Nandhini, G. R. Kannammal, **R. Augustian Isaac**, L. Abualigah, S. Varalakshmi, "Advancements in Neural Network Architectures for Image Recognition in Computer Vision Systems", Journal of Electrical Systems, Vol. 20, Issue 7s, 2024, pp. 2693–2703.
- P. Senthil Pandian, P. Sundaravadivel, **R. Augustian Isaac**, P. Hemavathy, E. S. Vinothkumar, P. Janaki Ramal, "Analysing IoT Smart System Application and Environment by Using Simulated Annealing Techniques", Journal of Theoretical and Applied Information Technology, Vol. 102, Issue 8, 2024.
- P. Hemavathy, Haitham Alhaji, D. Yuvaraj, P. Sundaravadivel, Saif Saad Alnuaimi, **R. Augustian Isaac**, "CNN based Smart Activity Recognition for Elderly and Physically Disabled", Journal of Electrical Systems, Vol. 20, Issue 3s, 2024, pp. 267–275. DOI: 10.52783/jes.1284
- T. P. Krishna Kumar, P. Malhotra, **R. Augustian Isaac**, D. Balasubramanian, "Exploring the Factors Influencing the Effectiveness of Digital Marketing in Changing Environment: A Theoretical and Empirical Investigation", Educational Administration: Theory and Practice, Vol. 30, Issue 4, 2024, pp. 7488–7493.
- S. S. Alnuaimi, B. H. Rasheed, D. Yuvaraj, P. Sundaravadivel, **R. Augustian Isaac**, "Hybrid Deep Learning Techniques for Large-Scale Video Classification", International Journal of Intelligent Systems and Applications in Engineering (IJISAE), Vol. 12, Issue 15s, 2024, pp. 78–86.

- **R. Augustian Isaac**, P. Sundaravadivel, D. Yuvaraj, P. Hemavathy, P. Janaki Ramal, P. Sankar, "Design of Domestic Plants Leaves Disease Detection Using Deep Learning", International Journal of Intelligent Systems and Applications in Engineering (IJISAE), Vol. 12, Issue 20, 2024, pp. 755–764.
- E. S. Vinothkumar, P. Hemavathy, Najeem Dheen Abdul Majeeth, V. Ramachandran, P. Sundaravadivel, **R. Augustian Isaac**, "Classification of Glaucoma Image Using Supervised Classifiers and Segmentation of Blood Vessel", International Journal of Intelligent Systems and Applications in Engineering (IJISAE), Vol. 12, Issue 3, 2024, pp. 499–507.
- K. Premnath, P. Sundaravadivel, **R. Augustian Isaac**, K. Srimathi, et al., "Deep Learning-Based Skin Lesion Classification for Cancer Detection", 2024.
- **R. Augustian Isaac**, M. Lakshmi, "Dynamic Power Management Through Clustering in Wireless Sensor Network", Journal of Engineering and Applied Sciences, Vol. 14, Issue 2, 2019, pp. 583–588.
- **R. Augustian Isaac**, P. Chaturvedi, P. Gareja, R. Grover, "Secured E-Banking System Using Artificial Intelligence", International Journal of Emerging Trends in Engineering Research (IJETER), Vol. 6, 2018.
- **R. Augustian Isaac**, A. K. Singh, P. Tamta, G. Singh, "Homework Writing Machine", International Journal of Advance Research and Innovative Ideas in Education (IJARIIE), Vol. 4, Issue 5, 2018.
- **R. Augustian Isaac**, S. Sri Gayathri, "Sign Language Interpreter", 2018.
- **R. Augustian Isaac**, M. Lakshmi, "Dynamic Power Management: An Integrated Approach for Lifetime Enhancement of Wireless Sensor Network", Journal of Network Communications and Emerging Technologies (JNCET), Vol. 7, Issue 10, 2017.
- S. Kabra, U. Singh, et al., **R. Augustian Isaac**, "Efficient Data Extraction in Web Services", 2017.
- S. Mercy Gnana Gandhi, **R. Augustian Isaac**, M. Z. A. F. Banu, "Media that Matters: Mobile Texting Leads to Language Decay", 2017.
- **R. Augustian Isaac**, Amreen Ayesha, et al., "Secure Offline/Online Device to Device Communication", 2016.
- **R. Augustian Isaac**, M. Lakshmi, "Modified Dynamic Power Management: An Integrated Approach for Lifetime Enhancement of Wireless Sensor Network (M-DPMM)".
- **R. Augustian Isaac**, M. Lakshmi, "Studies on Dynamic Power Management and Routing Techniques in Wireless Sensor Network".
- **R. Augustian Isaac**, A. Kathera, K. H. Venkatachalam, M. T. Raj, G. Gokulnath, "Spoofing Detection for Fingerprint, Palm-Vein and Facial Recognition Using Deep Representation".
- **R. Augustian Isaac**, et al., "Virtual Personal Assistant", Journal of Network Communications and Emerging Technologies (JNCET).
- **R. Augustian Isaac**, A. Agarwal, P. Singh, et al., "Face Recognition Security Module Using Deep Learning".

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:

- A Deep Reinforcement and Federated Learning-Enabled Framework for Privacy-Preserving Electricity Demand Forecasting in Smart Grids, International Conference on Innovative Computing and Communications (ICICC 2026).
- A Multi-Source Approach to Film Recommendations Using Social Media, Search Data, and Streaming History, Fifth International Conference on Sustainable Communication Networks and Applications (IEEE), Bharath Niketan Engineering College, 11 December 2024.
- ChatGPT & AI Workshop (Skill Nation) – ChatGPT in Microsoft Office, Merlin, Google Gemini and AI tools for debugging and productivity, 4 July 2024.