

Mrs. SUNITHA T, M.E.,M.B.A.,(Ph.D)

AP/AI&DS

HIGHLIGHTS:

- Number of Journal Publications: 8
- H-Index: 4
- Patents Published: 13

PROFESSIONAL LINKS:

- Scopus ID: 57218909209
- Scopus Link: https://www.scopus.com/authid/detail.uri?authorId=57218909209
- Google Scholar ID: https://scholar.google.com/citations?user=IOOLg6kAAAAJ&hl=en
- Anna University Faculty ID: 2672641984
- AICTE Faculty ID: 1- 2295730135
- LinkedIn: http://www.linkedin.com/in/sunitha-thangappan-2a50b6372

PROFESSIONAL BACKGROUND:

- Teaching Experience till date: 18.3

AREA OF SPECIALIZATION:

- Python programming,
- Data Structures,
- Theory of computations,
- Compiler Design,
- Object oriented programming with java,
- Programming in C,
- Design and analysis of algorithms,
- Fundamentals of AI, Machine Learning
- Data Science

PATENTS:

- **A** Patent titled **"Quantum Machine Learning-Based Autonomous Cyber Defense System"** August 2026.

- **A** Patent titled **"Secure Multi-Cloud Architecture for Medical File Distribution Using Blockchain Technology"** August 2026.

- A Patent titled "**Federated Learning with Privacy-Preserving Systems and Methods Based on Block Chain-Based Gradient Verification and Secure Aggregation"** April 2026.

- A Patent titled "**Intelligent Expensive Management and Monitoring System",** Indian Patent, March 2026 .

- A Patent titled "**Foodloop: Ai-Powered Hyperlocal Application for Optimized Food Redistribution and Community Hunger Mitigation",** Indian Patent, Feb 2026.

- A Patent titled "**Artificial Intelligence Based Multimodal Diagnostic Model of Early Detection of Pancreatic Cancer**", Indian Patent, Dec 2025.

- A Patent titled "**Unified Interoperability Framework for Public and Non-Public Ict Systems in Smart City Disaster Response Operations",** Indian Patent, September 2025.
- A Patent titled "**Secure Multi-Cloud Architecture for Medical File Distribution Using Blockchain Technology"** August 2025

- A Patent titled "**System and Method for Predicting Hyper Triglyceridemia Risk Using Machine Learning Models**", Indian Patent, July 2025.

- A Patent titled "**Iot-Enabled Smart Irrigation System with Ai-Based Water Usage Optimization**", Indian Patent, June 2025.

- **Hybrid AI and Blockchain Architecture for Scalable and Secure IOT Applications**", Indian Patent, March 2025

- "**Edge Computing Framework for Real-Time Ai Inference and Decision Making In Autonomous Vehicles",** Indian Patent, August 2024**.**

- "**Bio-Inspired Neural Network Architecture for Real-Time Power Grid Optimization and Fault",** Indian Patent, August 2024

Publications:

Book Chapter:

- **"Machine Learning –Driven Classification of Volcanic Sesimicity and tremor signals for Early Eruption Forecasting"** on Source Title: Predicting Earthquakes,

Eruptions and Tsunamis with Machine Learning Forcasting. DOI: https://doi.org/10.4018/979-8-3373-8042-1.ch009

- **"Chronic Renal Disease Prediction Using Hybrid Model"** on Lecture notes in Networks and Systems, Pages:455, DOI: https://doi.org/10.1007/978-981-95-3489-0_34
- **"IoT-Enabled Smart Belt and Mobile App for Enhancing Women's Safety",** on Source Title: Innovative and Advances in Cognitive Systems, Pages:467, DOI: https://doi.org/10.1007/978-3-031-97713-8_30
- "**Unveiling Alzheimer's:Exploring Biomarkers for Diagnosis and progression"** on Source Title: Deep Generative Models for Integrative Analysis of Alzheimer's Biomarkers, Pages: 32, DOI: 10.4018/979-8-3693-6442-0.ch012.
- "**AI- Enhanced Security Information and Event Management (SIEM) System"** on Source Title: Deep Learning Innovations for Securing Critical Infrastructures Pages: 20, DOI: 10.4018/979-8-3373-0563-9.ch005.

International Journals:

- **"Wolf Mayfly Optimization-driven Dense Xception Network for Enhanced Mammogram-based Breast Cancer Diagnosis".** Int.J. Journal of Computational Intelligence System .Volume no:17, Article no.318, ISSN: 1875-6891, June 2026, https://doi.org/10.1007/s44196-026-01355-3**]**

- "**Taylor Series-based Activity and Trust Aware Federated Learning Aggregation for Malware Detection in IoT"** Int.J of Network Management **,** Volume 35, Issue 5, September 2026, ISSN: 1055-7148, DOI: **https://doi.org/10.1002/nem.70053**

- **"A Machine Learning Driven Framework for Accurate Brain Image Registration in Multimodal and Noisy Envirnments".** Int.J. of Advanced Computer Science and Application, Volume 17 Issue 4, Pages:384-394, ISSN: 2348-8549, April 2026, DOI: 10.14569/IJACSA.2026.0170439

- *"***Cybersecurity Architecture for Medical Live Monitoring Systems Using HTTP Protocols and SHA-256 Encryption".** J. of Computing and Bio-Medical Informatics. Volume 10 Issue 02, ISSN:2710-1606, April 2026, DOI: https://doi.org/10.56979/1002/2026/1252

- **"Securing Beyond-5G Communications in Cloud Assisted IoT Ecosystems via Lightweight Encryption Techniques".**SSRG Int.J. of Electronics and Communication Engineering, Volume 13 Issue 3, ISSN: 2348-8549 301-311, March 2026, DOI: https://doi.org/10.14445/23488549/IJECE-V13I3P124

- "**Intelligent Neural Framework for Assisting Individuals with Visual Impairment**", J.of Neonatal Surgery, Vol: 14, Issue 7, ISSN(Online): 2226-0439, pg.No: 451-457 April 2025.

- ”**A Novel Hybrid Neural Support Vector Algorithm for Lung Cancer Progression Prediction Using NN and SVM**”, J.of Neonatal Surgery, Vol: 14, Issue 5, ISSN(Online): 2226-0439, April 2025, DOI: https://doi.org/10.52783/jns.v14.2927

- **“Strengthening security in IoT-based smart cities utilizing cycle-consistent generative adversarial networks for attack detection and secure data transmission” ,** Peer to Peer Networking Application (SPRINGER) Vol. 18 , Issue 2, Article Number 79, ISSN:19366442, 25 January 2025, DOI: https://doi.org/10.1007/s12083-024-01838-0 (**SCI** Annexure)

- **“Smart forming solution for cost effective agriculture using IOT”,** Int'l J. (IJAST) Vol. 28 Issue 11 ISSN: 2005-4238, pg: 364-369 November 19.

- **“Unique Locomotive Wheelchair Robot Mechanism Using Gesture And Android”,** Int'l J. (IJFRSCE) Vol. 4 Issue 11 ISSN: 2454-4248, pg: 59-61 November 18.

- **“Prognostication Stereotype of Patients Morbidity and Mortality by Extraction of E-Health Records”,** Int'l J. (IJERMT) Vol. 6 Issue 6 ISSN: 2278-9359, pg: 215-220 June 2017.

- **“An Efficient Approach for Data Transmission Using Access Point in MSN”,** Int'l J. (IJARCSSE), Vol.6 issue 11, ISSN: 2277 128X, pp:196 - 199 November 2016.

- **“Translating Relational Queries into Spreadsheets”**, Int'l J. (IJCSWS) , Vol.3 issue 2, ISSN: 1122 - 4573, pp: 138 - 140 march/april 2016.

- **“An Adaptive Algorithm for Computing Subspace Skyline Queries Over Distributed Uncertain Data”,** Int'l J. (IJARCSSE) Vol .3 issue 7 , ISSN:2277 128X,pp: 1122-1125 July 2013.

Paper Presented / Published:

International Conferences:

- **“Uncovering Hidden Patterns In Breast Cancer With Deep Learning: Applications In Tumor HeterogeneityAnd Subtype Classification”**.In: Int’t Conference on Signal Processing, Computation, Electronics, Power and Telecommunication. ISBN: 979-8-3315-7120-7, March 2026 DOI: 10.1.109/ IconSCEPT66142.2025.11436643

- **“Classification of Obfuscated Privacy Malware using Deep Learning and Machine Learning Techniques”**.In: Int’t Conference on Signal Processing, Computation, Electronics, Power and Telecommunication. ISBN: 979-8-3315-7120-7, March 2026 DOI: 10.1.109/ IconSCEPT66142.2025.11436643

- **"Leveraging AI and PostgreSQL for an Inclusive Neurodivergent Career Platform"** Int'l Conference on Applied Artificial Intelligence and Computing (ICAAIC-2025), ISBN: 979-8-3315-6587-9, Jan 2026, D OI: 10.1109/ICAAIC64647.2025.11330970

- **"An AI-based Recommendation System for Connecting Individuals with Relevant NGOs"** Int'l Conference on Applied Artificial Intelligence and Computing (ICAAIC-2025), ISBN:979-8-3315-6587-9,Jan 2026,DOI: 10.1109/ ICAAIC64647. 2025.11330965

- **"AI-Powered Personalized Deep Learning Framework for Early Detection of Glioblastoma Using Multi-Modal MRI Data"**.In: Int't Conference on Data Science, Agents and Artificial Intelligence (ICDSAAI 2025), ISBN:979-8-3315-3755-5,March 2025. DOI: 10.1.109/ ICDSAAI65575 .2025.11011835

- **"Dynamic AI Collaboration Frameworks Using Real-Time Multimodal Feedback Loops for Complex Task Automation"**.In: Int't Conference on Data Science, Agents and Artificial Intelligence (ICDSAAI 2025), ISBN: 979-8-3315-3755-5,March 2025. DOI: 10.1109/ICDSAAI65575.2025.11011694

- **"Machine Learning for Real-Time Language Translation: A Server-Side Approach to Overcome Cross-Cultural Communication Challenges"**.In: Int't Conference on Soft Computing for Security Applications (ICSCSA 2024), E-ISBN:979-8-3315-1572-0, ISBN:979-8-3315-1573-7, March 2025. DOI: 10.1109/ICSCSA64454.2024.00023

- "**3D E-commerce Using AI Depth Algorithm Augmented Reality"** In: Int't Conference Proceeding on Signal Processing, Telecommunication and embedded systems with AI and ML Applications, pg-361-374, 9th Feb 2025 ,DOI: https://doi.org/10.1007/978-981-97-8422-6_42 (**springer nature(Lecture Notes)**

- "**Machine Learning Based Textile Fabric Defect Detection Network**". In Int't conference on Sustainable Expert Systems. ISBN: 979-8-3315-4036-4, Oct-2024

- **"Improving Solar Efficiency via CNN-LSTM and Cloud-Integrated IoT Prediction**". In Int't Conference on Sentiment Analysis and Deep Learning, ICSADL 2024, pp. 329–334

- **"Enhancing Security and Confidentiality using Trust Based Encryption (DHPKey) in Cloud Computing".** In In't Conference on Computing Communication and Networking Technologies, ICCCNT 2023, 2023.

- **"Analysis on Semantic categorization technique of analogous label by using Deep Learning Technique**". In Int'l Conference on Innovative Computing, Intelligent Communication and Smart Electrical Systems, ICSES 2022, 2022

- **"Hyper Triglycerides Prognosis using Machine Learning and Data Science "**.In: Int't Conference on Data Science and Artificial Intelligence , ISBN: 979-8-3503-4891-0, Dec-2023.

- **"Intelligent Road anomaly Detection and driver assistance system: Machine learning approach for enhanced road safety"**.In: Int't Conference on Smart electronics and communication , ISBN: 979-8-3503-0087-1, september-2023.

- **"A Secured and Efficient Blocked chain- based Multi Cloud Medical File Sharing"**.In: Int't Conference on Advances in Computing,Communication and Applied Informatics, May-2023.

- **"Key Observation to prevent IP spoofing in DDOS attack on cloud environment":** In kumar .R., Verma.R.K.,Sharma. T.K.,Verma. O.P., Sharma .S(eds) soft computing: Theories and applications. Lecture notes in Networks and Systems. Vol. 627, Singapore. June 2023.(Springer Indexed)

- "**An Efficient Security to Protect Data Sharing in Cloud by Using Signature Matching"** In the international conference (**ICICET'18**) at Kings Engineering College Chennai, on April 7th 2018.

- **"Unique Locomotive Wheelchair Robot Mechanism Using Gesture & Android"** In the international conference (**ICICA'18**) at Loyola Institute of Technology Chennai, on February 28th 2018.

- **"An Efficient Privacy Preservation Technology for Maintaining H-care Records "** In the international conference (**ICIETET'17**) at Panimalar Institute of Technology Chennai, on May 15th 2017

- **"Evaluation of Communication and Computation Efficient Algorithms For Distributed Skyline Queries"** pub. In Int'l Conf.(ICICES), IEEE Explorer, ISBN- 978-1-4673-5786-9, pp:201-206, Feb 2013.

- **"Evaluation of Communication and Computation Efficient Algorithms For Distributed Skyline Queries"** In the international conference(**ICICES'13**) at S.A Engineering college Chennai, on February 21st 2013

- **"To Evaluate the efficiency and progressiveness of DSUD Algorithm"** International conference (**NCIICT 2013)** At Eswari engineering College, on March 12th 2013.

Faculty Development Programs / workshops / attended:

- FDP on **"Recent Trends in Artificial Intelligence and IOT Applications"** at Arjun College of Technology from 6th April to 11th April 2026.

- FDP on **"AI-IOT-EDGE Transformation: Shaping the Next Generation of Smart Systems"** at RMK College of Engineering and Technology from 9th March to 14th March 2026.

- FDP on **"Artificial Intelligence and Machine Learning for Next Generation Engineering Appications"** at Rathnam Technical Campus from 23rd Feb to 28th Feb 2026.

- FDP on **"Agentic and Generative AI for Social Transformation:Application in Healthcare, Governance and Education"** at Ramco Institute of Technology from 27th Jan to 2nd Feb 2026.

- ATAL FDP on **"Emerging Technologies for Healthcare Applications" Organized** by Nethaji subhas university of Technology from 5th Jan to 10th Jan 2026.

- FDP on **"Data Visualization- Research Insights and Future Directions"** at Dr. Sivanthi Aditanar College of Engineering from 21st July to 25th July 2025.

- FDP on **"Artificial Intelligence's impact on Transforming Software, Robotics,Electrical, Electronics and Medchanical Fields"** at Dhaanish Ahmed College of Engineering from 21st July to 26th July 2025

- FDP on **"Recent Advancement in Artificial Intelligence(AI) & ML"** at St Joseph College of Engineering from 30th June to 4th July 2025

- SEP on **"QUANTUM COMPUTING: Concepts and Research Avenues"** at RMK College of Engineering and Technology from 19th May to 24th May 2025.

- PDP on **"Emerging Trends in Learning Technologies"** organized by National Institute of Technical Teachers Training and Research (NITTTR) from 28th Apr to 2nd May 2025.

- FDP on **"Future of Generative AI in Information Technology"** at St Joseph College of Engineering from 3rd Feb to 7th Feb 2025

- ATAL FDP on **"AI-driven Network Security: Advanced Techniques for Intrusion Detection"**Organized by Rajalakshmi Engineering College from 9th Dec to 14th Dec 2024.

- ATAL FDP on **"Cyber Security in AI"** Organized by CMR University from 2nd Dec to 7th Dec 2024.

- Workshop on **"Deep Learning Techniques for Seismic image Processing"** organized by B S Abdur Rahman Crescent Institute of Science and Technology 19th Nov and 20th Nov 2024.

- Workshop on **"Designing Effective Surveys"** organized by Centre for Data Analytics and Research (CEDAAR) 8th Nov and 9th Nov 2024.

- PDP on **"R Programming for Data Exploration"** organized by National Institute of Technical Teachers Training and Research (NITTTR) from 4th Nov to 8th Nov 2024.

- **"Security Trends in Artificial Intelligence"** Organized by St Peters Engineering College from 1st July to 6th July 2024.

- **"Intellectual Property Rights in the age of AI, ML, Cyber Security and Block Chain"** Organized by Mangalmay Institute of Management and Technology from 24th June to 28th June 2024.

- **"Medical Image Processing"** Organized by St Joseph College of Engineering from 24th June to 28th June 2024.

- **"Medical Image Processing"** Organized by Alpha College of Engineering from 27th December to 29th December 2023.

- **"Artificial Intelligence and Machine Learning for Medical Image Analysis using Python"** Organized by CMR Institute of Technology, Bangalore from 21st august to 25th august 2023.

- **"Cloud infrastructure(AWS)"** Organized by Kings Engineering College, Chennia, in Collaboration with Brainovision solution India pvt.Ltd and AICTE, from 21st august to 25th august 2023.

- **"ChatGPT for Research Writing Assistance"** Organized by Nuhianwali Education Society from 6th august to 8th august 2023.

- **"Generative AI and Cyber Security"** Organised by School of Computer Science and Engineering, Reva University, from 24th july to 28th july 2023.

- **"Current and Future Trends: A Digital Era"** Organised by Department of Artificial Intelligence & Data Science, Kings Engineering College, from 26th july to 28th july 2023.

- **"Emerging Technologies for Next Generation Networks"** Organised by Department of Computer Science and Engineering, Kings Engineering College, from 17th july to 22nd july 2023.

- **"Emerging Technologies"** Organised by Department of Computer Science and Engineering, Jeppiaar Institute of Technology, from 28th feb to 5th March 2022.

- Workshop **Designing & Modelling of IOT, AI & ML Systems**, Organized by AICTE, ATAL Academy, ARM Education, STMicroelectronics from 1st to 5th august 2022.

- **Train- the-Trainer Programme on "Python Skills"** as part of **RUSA 2.0** ,Organised by **Centre for University-Industry Collaboration(CUIC), Anna University** in Association with TCS & GUVI from 18th June 2020 to 19th June 2020.

- **"Machine Learning and Cloud Infrastructure"** Organised by Department of Computer Science and Engineering, Jeppiar Engineering College, Chennai in Association with INCEPTEZ Technologies Pvt. Ltd, Hyderabad from 6th July 2020 to 10th July 2020

- **"Effective Teaching Pedagogy"** Organised by Inderprastha Engineering College, Ghaziabad from 20th to 22th July 2020

- **"Recent Trends in Information Technology"** Organised by Department of Computer Science and Engineering, St. Joseph's Institute of Technology, OMR Chennai from 13th to 18h July 2020

- **"Big Data Engineering"** Organised by Department of Computer Science and Engineering, Kings Engineering College,Chennai from 1st to 5th June 2020

- Skill Development Programme on **"Developing Leadership and Interpersonal Skills"** Organised by Department of Information Technology, Panimalar Institute of Technology, Chennai held on June 2020

- **"Perl Scripting"** Organised by Department of Computer Science and Engineering, Lords Institute of Engineering and Technology, Hyderabad in Association with Spoken Tutorial, IIT Bombay from 10th to 14th June 2020.

- **"PHP and MYSQL"** by Department of Computer Science and Engineering, BMS College for Women, in Association with Spoken Tutorial, IIT Bombay (NMEICT,MHRD,Government of India) from 17th to 21th June 2020.

- **"Python for Data Science"** Organised by Department of Computer Science and Engineering, (MITS) Madanapalle Institute of Technology & Science ,Andrapradesh from 24th to 28th June 2020.

- **"Image Processing and Data Science"** Organised by Department of Computer Science and Engineering, Canara Engineering College, Mangaluru held on 29th June 2020 ·

- **"Trends in Artificial Intelligence & Data Science"** Organised by Department of Information Technology, Easwari Engineering College,Chennai held on June 2020.

- **"Recent Trends in Science: Context of AI, Cognitive Computing and Block Chain"** Organised by Department of Computer Science and Engineering, School of Arts & Science & Vinayaga Mission's Research Foundation, AUIT Campus,Paiyanoor,Chennai held on June 2020·

- **"Municipal Solid Waste Management during COVID-19 Pandemic"** Organised by Anurag Group of Institutions, Ghatkesar, Telangana held during 28th May to 30th May 2020 ·

- **"Biomedical Application and Communication Networks"** Organised by GMR Institute of Technology, Andhra Pradesh held on July 2020·

- **"Insights into Quality Research and Innovation"** Organised by Research and Development Cell and Institutions Innovation Council of Vivekananda College for Women from 13th May to 20th May 2020·

- "**Graph Theory And Its Applications**" From 13th to 15th June 2016.
- Workshop on "**Finite State Automata, Regular Languages & Their Applications**" on 3rd march 2010.
- "**Industrial Robotics-Technology, Programming And Applications**" from 13th to 27th Dec 2010.

Courses Certified:

- Completed "**Introduction to Machine Learning"** at NPTEL during July-Sep 2026.
- Completed "**Python for Data Science"** at NPTEL during Jan-Mar 2026.
- Completed "**Accreditation and Outcome Based Learning"** at NPTEL during Jul-Dec 2025.
- Completed "**Programming with Generative AI"** at NPTEL during Jul-Dec 2025.
- Completed "**Block chain and its application"** at NPTEL during Jan-Apr 2025.
- Completed **"Theory of Computation"** at NPTEL during jul-Sept 2024.
- Completed **"Joy of Computing Python"** at NPTEL during jul-Oct 2024.

Awards/Achievements:

- Delivered a Guest Lecture on "**From Data to Discovery: Emerging Trends and Applications of Data Science"** at Sri Sastha Institute of Engineering and Technology, Chennai.

- Published Book "**Java Programming for problem solving and Competitive Codings"** B.E/B.Tech Course (R-2021), Anna University, Chennai. Sruthi Publishers-ISBN-13:978-81-958745-9-0

- Presented a seminar on topic "**Artificial Intelligence and Machine Learning Fundamentals**" at Sri Sastha Institute of Engineering and Technology ,Chennai

- Published Book "**Problem Solving and Python Programming"** for 1st Semester B.E/B.Tech Course (R-2021), Anna University, Chennai. Sruthi Publishers-ISBN-13:978-81-958745-9-0

- Presented a seminar on topic " Arrays and Structures in Programming Languages" at Panimalar Engineering College, Chennai

- Published Book "**Cloud Computing"** for 7th Semester Computer Science and Engineering & Information Technology (R-2017), Anna University, Chennai. Charulatha Publications-ISBN-13:978-93-89970-84-5

- "Best Teacher of the Department" award for the Academic Year 2010 – 2011 at Gojan School of Business and Technology, Redhills.

- Received 2 times cash award for producing good results at Sri Venkateswara Institite of Science and Technology and Gojan School of Business and Technology.