

Bio-Data



Name of the Staff : **Dr. R. RAJAKUMARI**
Designation : **Associate Professor**
Date of joining in the College : **12.05.2008**
E-mail Id : **rajakumarinatarajan@gmail.com**
Mobile Number : **9487060063**
Personal Details
Age : **49 years**
Date of Birth : **30.07.1977**
Sex & Marital Status : **Female & Married**
Citizenship : **Indian**
No. of years of Experience : **18 years**

Educational Qualification

| Educational Qualification | Branch | Name of the Institution/University | Year of Passing |
|----------------------------------|---|--|------------------------|
| Ph.D | Information and Communication Engineering | Anna University, Chennai | July & 2022 |
| M.E | CSE | National Engineering College, Kovilpatti/ Anna University – Chennai | April & 2008 |
| MCA | Computer Applications | M.S. University, Tirunelveli | April & 2004 |
| B.Sc | Mathematics | Nesamony Memorial Christian College, Martandam/ M.S. University | April & 1997 |

Professional Experience (In chronological order)

| Designation | Institution/Organization | Period | Nature of Duties |
|----------------------------|---------------------------------|--------------------------|---|
| Associate Professor | National Engineering College | 01.04.2025 to Till Date | Teaching subjects , Guiding & Counseling students (personal, studies & Research activities) |
| Senior Assistant Professor | National Engineering College | 10-07-2013 to 31.03.2025 | Teaching subjects , Guiding & Counseling students (personal, studies & Research activities) |
| Assistant Professor | National Engineering College | 01-11-2011 to 09-07-2013 | Teaching subjects , Guiding & Counseling students (personal, studies & Research activities) |
| Lecturer | National Engineering College | 12-05-2008 to 31-10-2011 | Teaching subjects , Guiding & Counseling students (personal, studies & Research activities) |

List of International Journals

1. **R. Rajakumari** et al., "Image Recovery: Issues and Challenges," *A.M.S.E.*, vol. 51, pp. 16–33, Jul. 2008.
2. **R. Rajakumari** et al., "Image Reconstruction – A Survey," *UPA*, vol. II, pp. 38–50, Jun. 2009.
3. **R. Rajakumari** et al., "Image Recovery Using APOCS," *CIIT*, vol. I, pp. 113–117, Jun. 2009.
4. **R. Rajakumari** et al., "Design of Water Supply System," *Asian Journal of Applied Science and Technology (AJAST)*, vol. 2, no. 2, pp. 121–124, Apr.–Jun. 2018.
5. **R. Rajakumari** et al., "Automatic Ticket Issuing System for Conductorless Buses," *International Journal of Scientific & Technology Research (IJSTR)*, vol. 8, no. 12, Dec. 2019.
6. **R. Rajakumari** et al., "Load Detection and Monitoring System," *International Journal of Scientific & Technology Research (IJSTR)*, vol. 9, no. 2, Feb. 2020.
7. **R. Rajakumari** et al., "Abnormality Detection and Classification Using Artificial Neural Network," *International Journal of Scientific & Technology Research (IJSTR)*, vol. 9, no. 3, Mar. 2020.
8. **R. Rajakumari** et al., "Classification of Building Images Using Fractal Features," *International Journal of Recent Technology and Engineering (IJRTE)*, vol. 9, no. 5, pp. 183–185, Jan. 2021.
9. **R. Rajakumari** et al., "Fruit Quality Analysis Using Image Processing," *International Journal of Engineering and Advanced Technology (IJEAT)*, vol. 9, no. 5, pp. 88–91, Jun. 2020.
10. **R. Rajakumari** and L. Kalaivani, "Breast Cancer Detection and Classification Using Deep CNN Techniques," *Intelligent Automation & Soft Computing*, vol. 32, no. 2, pp. 1089–1107, Nov. 2021.
11. Mirra K, **Rajakumari**, "Fruit Quality Detection and Classification: A Survey," *AIP Conference Proceedings*, vol. 2444, no. 1, pp. 1–6, Mar. 2022.
12. S. Saro R, J. Suriya B, and **R. Rajakumari**, "Comprehensive Speech Emotion Recognition System Employing Multi-Layer Perceptron (MLP) Classifier and libRosa Feature Extraction," in *IEEE Xplore*, 2023, pp. 1204–1211.
13. Asha T, Soundaryaa S and **R. Rajakumari**, "Enhancing Patient Welfare Using Natural Language Processing (NLP): A Paradigm Shift in Prescription Technology," in *IEEE Xplore*, 2023, pp. 1255–1261.
14. Swetha K, Thaila Shree S and R. Rajakumari, "Vehicle Accident Prevention System Using Artificial Intelligence," in *IEEE Xplore*, 2023, pp. 1137–1143.
15. Asha T, Soundaryaa S and **R. Rajakumari**, "Clean Campus - AI-Based Trash Throwing Detection System," in *IEEE Xplore*, 2023.
16. M. Mahalakshmi and **R. Rajakumari**, "Delving into Heart Disease Prediction: A Comprehensive Review," in *IEEE Xplore*, 2023.
17. Maharani M., **R. Rajakumari**, "Optimizing Rainfall Prediction: A Machine Learning Model Comparison", in *IEEE Xplore*, 2026.

List of International Conference

| S.No | Name of the Faculty | Title of Paper | Name of the Conference | Year of publication |
|------|---------------------|---|------------------------|---------------------|
| 1. | R.Rajakumari, et.al | Adaptive system to assist physically challenged from their tilts | ICTICT'13 | 2013 |
| 2. | R.Rajakumari, et.al | Change detection in remote sensing images using combined difference image and fuzzy c means algorithm | ICCTIDE'16 | 2016 |
| 3 | R.Rajakumari, et.al | Design of Water Supply System | ICRACST'2018 | 2018 |

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| 4 | R.Rajakumari, et.al | Breast cancer Detection and classification on Digital Mammograms | ICASCT'18 | 2018 |
| 5 | R.Rajakumari, et.al | Automation of fruit quality analysis system | ICASCT'18 | 2018 |
| 6. | R.Rajakumari, et.al | Detection and Classification of Breast cancer from Mammograms using Artificial Neural Network | ICBSII 2019 | 2019 |
| 7. | R.Rajakumari, et.al | Abnormal Detection in Mammograms using Neural Network | | 2019 |
| 8. | M.Balaji, M.Naveen, S.Alwin Nizanth, R.Rajakumari | Voice Controlled Web Forms | (ICEmTASS'21) | Dec 2021 |
| 9. | Sushmitha Saro R; Jaya Suriya B; Rajakumari R | Comprehensive Speech Emotion Recognition System Employing Multi-Layer Perceptron (MLP) Classifier and libRosa Feature Extraction | International Conference on Sustainable Communication Networks and Application (ICSCNA) | 2023 |
| 10. | Asha T, Soundaryaa S, Rajakumari R | Enhancing Patient Welfare using Natural Language Processing (NLP): A Paradigm Shift in Prescription Technology | ICSCNA | 2023 |
| 11. | Swetha K, Thaila Shree S, Rajakumari R | Vehicle Accident Prevention System Using Artificial Intelligence | ICSCNA | 2023 |
| 12. | Asha T, Soundaryaa S, R.Rajakumari | Clean Campus - AI-Based Trash Throwing Detection System | 2 nd International Conference on Ambient Intelligence in Health Care (ICAIHC 2023) | 2023 |
| 13. | Mahalakshmi M, R.Rajakumari | Delving into Heart Disease Prediction: A Comprehensive Review | 2 nd International Conference on Ambient Intelligence in Health Care (ICAIHC 2023) | 2023 |
| 14. | Madhubaalakrishna M, Gavaskar K Vishwanathan K K R. Rajakumari | Advance Phishing Prediction on Website through Novel Machine Learning Techniques | 1 st International Conference on Power Energy and Secure SmartTechnologies, ICPEST 2024 | 2024 |
| 15. | Maharani M., R.Rajakumari | Optimizing Rainfall Prediction: A Machine Learning Model Comparison | ICEAMST 2025 | 2025 |

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| 16. | Kirthiga S, Jelinth Keziah A2, Madhumeena V, Rajakumari R. | GuardNet:AI-Driven Intrusion and Threat Detection for Military and Urban Areas | ICACCT'26 | 2026 |
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List of Book Chapters

| Sl.No. | Title of Book Chapter | Name of the author/s | Name of Book | Year of publication |
|--------|---|--|---|---------------------|
| 1. | Deep Learning Based Clinical Images and Electrocardiogram: A Survey | Dr.R.Rajakumari, Dr.J.Naskath, | Recent Trends in Multidisciplinary Subjects, | 2022 |
| 2. | Outcome Based Education through E-learning Pedagogy: A Case Study. | Dr.J.Naskath, Dr.R.Rajakumari, Dr.M.Syed Rabiya, Dr.A.Shali, Dr.Nithyanantham Sampathkumar | Hand book of Research on Innovative Frameworks and Inclusive Models for Online Learning | 2023 |
| 3. | Computational Intelligence and Deep Learning in Health Informatics: An Introductory Perspective. | J. Naskath, R. Rajakumari, Hamza Aldabbas and Zaid Mustafa | Computational Intelligence: Theory and Applications | 2024 |
| 4. | Advanced Phishing Prediction on Website Through Novel Machine Learning Techniques from author profile | Madhubaalakrishnam, Gavaskar K., Vishwanathan K.K, Rajakumari R., | Power Energy and Secure Smart Technologies [Taylor & Francis Group, CRC Press] | 2025 |

List of National Conferences

| S.No | Name of the Faculty | Title of Paper | Name of the Conference | Year of publication |
|------|------------------------------|--|------------------------|---------------------|
| 1. | R.Rajakumari | Super Resolution based on Fast Registration and Point Spread Function Reconstruction | CIIT'09 | March 2008 |
| 2. | Mirra K, Rajakumari R | Fruit Quality Detection and Classification:A Survey | AIP Conference | May 2021 |

Short term Courses/Seminar/Conference/Workshop Attended

| S.No | Institution | Topic | Date |
|------|--|---|---|
| 1. | NEC,Kovilpatti | Recent Trends in Real-Time Video Data Analysis and Processing | 14 &15 Nov.2008 |
| 2. | Amrita School of Engineering, Coimbatore | Image Processing Techniques | 5 th To 7 th Jan.2009 |
| 3. | MepcoSchlenk Engg.College, Sivakasi | Research issues in Digital Image Processing | 21 March, 2009 |
| 4. | PSG College of Technology, Coimbatore | Mathematical Methods in Image Processing | 23 &24 Oct,2009 |

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| 5. | NEC,Kovilpatti | Research issues and Challenges on Image Processing towards Remote Sensing | 4 th & 5 th Dec,2009 |
| 6. | MepcoSchlenk Engg.College, Sivakasi | Middleware Technologies | 20 th Feb.2010 |
| 7. | NEC,Kovilpatti | Prospective Issues and Methodologies in Human Machine Interaction | 17 th To 21 st May,2010 |
| 8. | NEC,Kovilpatti | Recent Trends and Research Issues in Cyber and Data Security | 20 & 21 Aug,2010 |
| 9. | NEC,Kovilpatti | New Fangled Network Architecture- Spawning Network | 18 & 19 Feb,2011 |
| 10. | NEC,Kovilpatti | TGMC Advanced Workshop | 19 March 2011 |
| 11. | NEC,Kovilpatti | IBM-DB2 Work Shop | 1 To 3 Aug, 2011 |
| 12. | Anna University, Coimbatore , Regional Centre | Image and Video Processing | 1 & 2 March, 2013. |
| 13. | NEC,Kovilpatti | Computational Complexity | 27 th & 28 th Sep.2013 |
| 14. | Anna University Regional Centre, Tirunelveli | Two Week ISTE STTP on Introduction to Design of Algorithms | 25 th – 30 th May. 2015 |
| 15. | NEC,Kovilpatti | NITTTR & MHRD sponsored QIP on Technology Enabled Teaching Learning Process | 27 th to 29 th May 2017 |
| 16. | GIAN Course, IIT Indore | Advanced Pattern Recognition Techniques for Biometrics | 5 th – 9 th March.2018 |
| 17. | SAVIC Technologies, Chennai | Industry Knowhow program | 16 -20 July2018 |
| 18. | GIAN Course, Anna University, Chennai | Biomedical Imaging: Advanced FLIM-FRET Microscopy Techniques for Cancer Cellular Imaging | Dec.17 th to 22 nd , 2018 |
| 19. | NEC,Kovilpatti | Implementation of Soft Computing Techniques | 24.01.2019 to 25.01.2019 |
| 20. | ICT, IIT Bombay | Scilab Workshop | 04.05.2019 |
| 21. | E& ICT Academy, NIT Warangal | Machine Learning in Image and Computer Vision Applications | 25.11.2019 to 30.11.2019 |
| 22. | SCSE - FET- JAIN (Deemed to-be University) | FDP on Are you IoT Ready? Join configuration of Smart Home using CISCO Packet Tracer | 23 May 2020 |
| 23 | Department of ECE,VISTAS in Association with Elektroniklab India Pvt.Ltd | FDP on Robotic Process Automation and its allied Machine Learning Techniques” | 23.05.2020 |
| 24 | MSME Technology Development Centre (Process & Product Development Centre) Agra | Industrial training on Internet of Things | 25 th May 2020 to 27 th May 2020 |
| 25 | Department of EIE, St.Joseph's | FDP on Understanding Data Analytics | May 28-30, 2020 |

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| | College of Engg., Chennai | with Real-Life Cases | |
| 26 | AICTE and Elsevier | Webinar on Research workflows, Research metrics & Excellence in Academic Institutes | 14.05.2020 |
| 27 | Vivekanandha College of Arts and Science for women | Webinar on How to Publish a Research Paper? | 22.05.2020 |
| 28 | FX Engineering College | Webinar on Identification of Internet Suspect Criminals using Forensic Field True Traveller Kit | 27.05.2020 |
| 29 | Department of ECE Sathyabama Institute of Science and Technology | Webinar on Covid-19 Financial Planning for Working Professionals Do's & Dont's | 28.05.2020 |
| 30 | FX Engineering College | Webinar on An insight into research and high impact publications | 30.05.2020 |
| 31 | Department of ECE, Vels Institute of Science Technology and Advanced Studies | Artificial Intelligence in Neurology | 05.06.2020 |
| 32 | Bless Oh Bliss | Webinar on Bounce Back: Strategies for Effective Stress and Time Management | 10.06.2020 |
| 33 | UiPath Academic Alliance | RPA Design and Development v2.0 - Educator Readiness program | 18 th Nov 2020 to 27 th Nov 2020 |
| 34 | Department of Computer Science and Engineering, Rajalakshmi Engineering College, sponsored by AICTE | STTP on Robotic Process Automation Tools & Techniques | 07.12.2020 to 12.12.2020 |
| 35 | Department of Computer Science and Engineering, NIT Warangal | FDP on, “ Python for Artificial Intelligence and Machine Learning” | 06.09.2021 to 10.09.2021 |
| 36 | Industry KnowHow | VVDN Technologies Pvt.Ltd., Pollachi, “Linux and C Programming” | 28.04.2022 & 29.04.2022 |
| 37. | School of CSE, VIT, Chennai | STTP on Fundamentals of Quantum Computing and Quantum Machine Learning | 4.12.2023 to 8.12.2023 |
| 38. | Department of Computer Science and Engineering, AURC, Tirunelveli | FDTP on Foundations of Data Science | 21.08.2023 to 26.08.2023 |
| 39. | Industry KnowHow- AICTE, ATAL, EduNet | Building Advanced Data Analytics Applications with Cloud | 11.12.2023 to 15.12.2023 |
| 40. | Department of Computer Science and Engineering, NIT, Coimbatore | ATAL FDP on Exploring the Impact of Artificial Intelligence on Healthcare | 02.09.2024 to 07.09.2024 |
| 41. | Sri Venkateswara College of Engineering, Chennai | ATAL FDP- Next-Generation Healthcare: Integrating IoT and AI for Predictive Diagnostics and Monitoring | 13.10.2025 to 18.10.2025 |
| 42. | Vardhaman College of Engineering, Hyderabad | ATAL Advanced FDP on Scope and Future Directions: Enhancing Scalability and Efficiency through the Evolving Integration of AI and High-Performance Computing (HPC) | 17/11/2025 to 29/11/2025 |

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| 43. | Amity University Rajasthan | ATAL FDP - Emerging Research Trends in Supercomputing, AI, and Data Science | 24.12.2025 to 30.12.2025 |
| 44. | National Engineering College, Kovilpatti | Instructional Course on Turing Machines and Undecidability | 27.02.2026-28.02.2026 |

Short term Courses/Conference/Workshops/Seminars Organized

| S.No | Title | Duration of the workshop | Number of Participants | Venue |
|------|---|--------------------------|------------------------|-----------------|
| 1. | Free Computer Training Programme for +2 Students | 23-05-2011 To 27-05-2011 | 23 | NEC, Kovilpatti |
| 2. | Industry – Institution Interaction for Curriculum Development | 15.02.2014 | 15 | NEC, Kovilpatti |
| 3. | Mobile and Pervasive Computing | 07.08.2014 | 56 | NEC, Kovilpatti |
| 4. | Software Testing Techniques | 22.12.2014 & 23.12.2014 | 120 | NEC, Kovilpatti |
| 5. | Value Added Course on C++ | 2014-15 (Even Sem) | 48 | NEC, Kovilpatti |
| 6. | DST Sponsored National Level Workshop on “Advancements in Visual Sensor Network and its impact on Public Safety and Security” | 08.01.2015 & 09.01.2015 | 40 | NEC, Kovilpatti |
| 7. | Workshop on Linux | 11.12.2015 to 13.12.2015 | 50 | NEC, Kovilpatti |
| 8. | Value Added course on “Programming with Microprocessors” | 2015-16 (Even Sem) | 12 | NEC, Kovilpatti |
| 9. | Anna University, Chennai Approved FDTP on “CS8451-Design and Analysis of Algorithms”. | 26.11.2018 to 08.12.2018 | 14 | NEC, Kovilpatti |
| 10. | Anna University, Chennai Approved FDTP on “CS8602-Compiler Design”. | 16.12.2019 to 21.12.2019 | 15 | NEC, Kovilpatti |
| 11. | Workshop on “Automation Anywhere” | 12.03.2022 | 30 | NEC, Kovilpatti |
| 12. | Value Added Course on, “Linux and C Programming” | 2021-22(Even sem) | 56 | NEC, Kovilpatti |
| 13. | Anna University, Chennai Sponsored FDTP on “CS3501-Compiler Design”. | 31.07.2023 to 05.08.2023 | 41 | NEC, Kovilpatti |
| 14. | VAC on “Assembly Language Programming with Microprocessors” | 2024-25 (Even Sem) | 129 | NEC, Kovilpatti |

Specific Achievement if any

| S.No | Title | Grade |
|------|--|-------------|
| 1. | NPTEL Course on ‘Theory of Computation’ | Elite |
| 2. | Coursera course on “Tools for Data Science”(IBM) | Badge (IBM) |

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| 3. | NPTEL Course on ‘Design Thinking’ | Elite |
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- Acted as Session Co Chair for the IEEE International Conference on “Emerging Technologies and Applications for a Smart and Sustainable World (ICEmTASS’21), organized by National Engineering College.
- Acted as Reviewer for International journals and conferences
- Developed a Web Application, “ Student Feedback System”
- Received Research incentive Rs.8000/- for 2021-22 from National Engineering College
- Received Research incentive Rs.16000/- for 2023-24 from National Engineering College
- Developed an application software, “ Course Registration System”.

Courses Completed

- Completed the coursera course on “Python Data Structures”
- Completed the coursera course “Introduction to Data Science in Python”
- Completed the coursera course on “C++ For C Programmers, Part A”
- Completed the coursera course on “Programming for Everybody (Getting Started with Python)”
- Certified “Step into Robotic Process Automation” during GUVI’s RPA Skill- A-Thon 2020 conducted by UIPATH.
- Certified “Fundamentals of 3D Visualization”, “Basic 3D Modeling using Blender”, “Basic 3D Animation using Blender” from IITBombayX
- Certified the UiPath Diploma of Completion, “Get Started with UiPath Robots”.
- Certified the UiPath Diploma of Completion, “RPA Testing”
- Certified the UiPath Diploma of Completion, “RPA Design and Development V2.0”
- Certified the UiPath Diploma of Completion, “AI Computer Vision”.
- Certified the UiPath Diploma of Completion, “UiPath Document Understanding Overview”
- Certified the coursera course on “ Tools for Data Science”.
- Completed the coursera course on “Data Science Methodology”

Expert Lecture Delivered

| S.No | Title | Venue | Date |
|------|---|--|-------------------------------|
| 1. | Delivered a lecture titled “ Human Machine Interaction ”, for the Anna University Sponsored Faculty Development programme on “Mobile and Pervasive Computing” | NEC, Kovilpatti | 17.06.2014 |
| 2. | Theory of Computation- Unsolvable Problems and Computable Functions | Government College of Engineering, Tirunelveli | 07.10.2016 |
| 3. | Delivered a lecture titled “Turing Machine”, for the AnnaUniversity Sponsored Faculty Development programme on “ Theory ofComputation ” | NEC, Kovilpatti | 05.06.2017 |
| 4. | Delivered lectures in the Anna University Approved Faculty Development programme on “ CS8451- Design and Analysis of Algorithms ”. The topics are 1. Floyd’s algorithm 2. Multi stage graph 3. Backtracking – n-Queen problem | NEC, Kovilpatti | 30.11.2018 & 05.12.2018 |
| 5. | Delivered Expert lectures in the faculty development programme on “ Introduction to Machine Learning Techniques ”. | Ponjesly College of Engineering, Nagercoil | 26.04.2019 |

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| 6. | Delivered lectures in the Anna University Sponsored Faculty Development Training programme on “ Theory of Computation ”. | Anna University Regional Centre, Tirunelveli | 30.04.2019 |
| 7. | Delivered lectures in the Anna University Sponsored Faculty Development Training programme on “ CS8602- Compiler Design ”. | NEC, Kovilpatti | Dec. 2019 |
| 8. | Delivered lectures in the workshop organized by IEEE Student Chapter on “ Introduction to Matlab ”. | NEC, Kovilpatti | Dec.2022 |
| 9. | Delivered lectures in the Anna University Sponsored Faculty Development Training programme on “ CS3501- Compiler Design ”. | NEC, Kovilpatti | 03.08.2023 |
| 10. | Delivered lecture in the FDP on Research Challenges Issues and Trends in Data Science and Machine Learning from 18-11-2024 to 22-11-2024, titled “ Exploring Data Science and Machine Learning: Foundations, Applications, and Research Challenges ”. | PSN COLLEGE OF ENGINEERING AND TECHNOLOGY, Melathediyoor, Tirunelveli | 18.11.2024 |

Courses Taught

| Sl.No. | Name of the course | UG/PG |
|--------|---|---------|
| 1. | Microprocessors and Microcontrollers | UG & PG |
| 2. | Advanced Computer Architecture | PG |
| 3. | Digital Image Processing | PG |
| 4. | Advanced System Software | PG |
| 5. | Data Structures and Algorithms | PG |
| 6. | Advanced Algorithms | PG |
| 7. | Advanced Datastructures | PG |
| 8. | Software Project Management | PG |
| 9. | Mathematical Foundations for Computer Professionals | PG |
| 10. | Computer Graphics and Visualization | UG |
| 11. | Theory of Computation | UG |
| 12. | Design and Analysis of Algorithms | UG |
| 13. | Principles of Compiler Design | UG |
| 14. | Problem Solving Techniques | UG |
| 15. | System Software | UG |
| 16. | Software Testing | UG |
| 17. | Microcontroller and Embedded Systems | UG |
| 18. | Object Oriented Analysis and Design | UG |
| 19. | Fundamentals of Machine Learning | UG |
| 20. | Professional Ethics for Human Values | UG |
| 21. | Machine Learning | UG |
| 22. | Data Science | UG |
| 23. | Digital Principles and System Design | UG |

Membership in Professional bodies

| Name of the Society | Grade of Membership |
|---------------------|---------------------|
| ISTE | LIFE MEMBER |