# ROBOTICS & INDUSTRIAL AUTOMATION RESEARCH GROUP

## Objectives:

The objective is to enable research group members to identify problems in robotics and automation systems and to design intelligent algorithms for real-time industrial applications. The objectives of the Robotics & Industrial Automation Research Group are:

* To provide an understanding of recent advancements in robotics, automation, embedded control, industrial communication, and intelligent manufacturing systems.

* To educate members in algorithm design, system modeling, simulation, and implementation using modern automation and robotic software platforms.

* To conduct internal colloquiums to enhance interdisciplinary knowledge sharing and research collaboration.

* To utilize research facilities for prototype development, experimentation, and generation of quality scholarly publications.

* To conduct Faculty Development Programs periodically in core and emerging areas of robotics and industrial automation.

**Members of Robotics & Industrial Automation Research Group**

| S.NO | Name of Faculty | Designation |
|---|---|---|
| 1. | **Dr. G. Nageswara Rao** | **Professor** |
| 2. | Mr. R. Anjaneyulu Naik | Associate Professor |
| 3. | Dr. Y. Raghuvamsi | Sr. Asst. Professor |
| 4. | Dr. P. Srihari | Sr. Asst. Professor |
| 5. | Mr. P. Rathnakar Kumar | Sr. Asst. Professor |
| 6. | Mrs. T. Himabindu | Asst. Professor |

**Outcome of Robotics & Industrial Automation Research Group**

| | | 2025-26 | 2024-25 |
|---|---|---|---|
| **Journals** | **SCI/ESCI** | **2** | **3** |
| | **SCOPUS** | **1** | **4** |
| | **Online** | | |
| **Conferences** | | **2** | **5** |
| **Book Chapters** | | **1** | **2** |

## JOURNALS

| S.No | Names of the Author and Co-Authors | Title of the Paper | Name of the Journal | ISSN No | Month and Year | Indexing |
|---|---|---|---|---|---|---|
| **A.Y.2025-26** | | | | | | |
| **1.** | A. Ananda Kumar, Dr. K. Srikumar, **Dr. G. Nageswara Rao** | A high-dimensional data-driven approach for enhancing cyber-physical attack detection in PV-connected distribution power grids using deep Q-networks | *Computers and Electrical Engineering* | 0045-7906 | Jan, 2026 | SCIE |
| **2.** | A. Rajamallaiah, S.V.K. Naresh, **Y Raghuvamsi**, S Manmadharao, Kishore Bingi, Anand R and Josep M. Guerrero | Deep Reinforcement Learning for Power Converter Control: A Comprehensive Review of Applications and Challenges | *IEEE Open Journal of Power Electronics* | 2644-1314 | Oct, 2025 | ESCI |
| **3.** | T Balaji, K Prasuna, Srinivas Padala, **Anjaneyulu Naik R**, Venkata Narayana T, G.N. Sowjanya | Differential Genetic Algorithm (DGA) Based Optimal Directed Random Testing for Reducing Interactive Faults | Journal of Theoretical and Applied Information Technology | 1992-8645 | Aug, 2025 | Scopus |
| **4.** | **Y. Raghuvamsi**, S. Parri, S. Batchu, I. Abdul and S. Parri | IoT based Substation Equipment Monitoring System with CNN Integration | *2025 IEEE 4th World Conference on Applied Intelligence and Computing (AIC)* | - | 2025 | IEEE Conf. |
| **5.** | **P. Srihari**, R. S. Narendra and I. S. Durga | Adaptive Weighted Fusion of EfficientNetV2 for Acute Lymphoblastic Leukemia Detection | *2025 International Conference on Advancements in Smart, Secure and Intelligent Computing (ASSIC)* | - | 2025 | IEEE Conf. |

| A.Y.2024-25 | | | | | | |
|---|---|---|---|---|---|---|
| **1.** | **Y.Raghuvamsi**, K. Teeparthi, Vinod Kumar D.M, Imran Abdul, P. Srihari | Distribution system state estimation using physics-guided deep learning approach | Electric Power Systems Research | 0378-7796 | July, 2024 | SCIE |
| **2.** | **Y. Raghuvamsi**, Sreenadh Batchu, Kiran Teeparthi | Topology and FDIA Identification in Distribution System State Estimation using a Data-Driven Approach | Measurement | 0263-2241 | May, 2025 | SCIE |
| **3.** | **Srihari Parri,** Kiran Teeparthi, D. M. Vinod Kumar | A novel hybrid framework based on decomposition and Y-former model for accurate wind speed forecasting | Modeling Earth Systems and Environment | 2363-6211 | April, 2025 | ESCI |
| **4.** | Shaymaa Hussein Nowfal, Vijaya Bhaskar Sadu, Sudhakar Sengan, Rajeshkumar G, **Anjaneyulu Naik R** and Sreekanth K | Genetic Algorithms for Optimized Selection of Biodegradable Polymers in Sustainable Manufacturing Processes | Journal of Machine and Computing | 2788-7669 | July, 2024 | Scopus |
| **5.** | Dr. Suresh Babu Chandolu, Dr.P. Venu Madhav, Dr. Kanneboina Ashok, **Anjaneyulu Naik R**, Venkata Narayana T, G N.Sowjanya, Kurra Upendra Chowdary | Deep CNN based Empirical Investigations to Skin Graze Uncovering and Cataloguing using Hybrid Features Selection | Journal of Theoretical and Applied Information Technology | 1992-8645 | Nov, 2024 | Scopus |
| **6.** | Narender M, Karrar S. Mohsin, Ragunthar T, | Machine Learning for Genomic Expression Classification- | Journal of Machine and Computing | 2788-7669 | Oct, 2024 | Scopus |

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|---|---|---|---|---|---|---|
| | Anusha Papasani, Firas Tayseer Ayasrah and **Anjaneyulu Naik R** | Based Phenotype Prediction in Topological Data Analysis | | | | |
| **7.** | K. Phani Rama Krishna, Dr. G.V. Prasanna Anjaneyulu, **Anjaneyulu Naik. R**, Dr. B. Keerthi Samhitha, Dr. J. Ravindranadh, Sreedhar Bhukya, T. Balaji | Dissolved Oxygen Level Measurement in Water Using IoT and Machine Learning | Journal of Theoretical and Applied Information Technology | 1992-8645 | Feb, 2025 | Scopus |
| **8.** | Karthik, Vivek Veeraiah, **G. Nageswara Rao**, Priyanka Torne, Aradhana Sahu, Arpit Namdev | Developing Advanced Security Frameworks for IoT Devices in Connected Healthcare Ecosystems | 4th International Conference on Technological Advancements in Computational Sciences (ICTACS) | - | Nov, 2024 | IEEE Conf. |
| **9.** | D. Ganesh, P. Sudarsanam, **T. HimaBindu**, J. Suresh Babu, B.V. Sai Thrinath, S. Reddy Sai | Application of Deep Learning Mathematical Approaches for Image Correctness | Second International Conference on Intelligent Cyber Physical Systems and Internet of Things (ICoICI) | - | Aug, 2024 | IEEE Conf. |
| **10.** | T. Nagaraju, A. Srinivasarao, M. Saritha, **P. R. Kumar**, S. Reshma Begum and M. R. Nayak, | Aluminium Air Fuel Cells: Harnessing Metal Power for Electric Vehicles | 2025 Seventh International Conference on Computational Intelligence and Communication Technologies (CCICT) | - | 2025 | IEEE Conf. |
| **11.** | **Pandala Rathnakar Kumar**, Vamsi Krishna Kasimalla, M. Raja Nayak and | Solar PV Charging Station for Electric Vehicles with EV Technologies | 2025 IOP Conference Series: Earth and Environmental Science | - | 2025 | Conf. |

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| | M. Malleswararao | | | | | |
| **12.** | Ch.Naha Sai Kalyan, P.Gopi, P.Joshi, T.**Himabindu**, M.Bajaj | Fruit Fly Algorithm Optimised Degree of Freedom Controller for the Dynamical Stability of the Renewable Energy Penetrated Multi Area Power System | E3S Web of Conferences, International Conference on Power Generation and Renewable Energy Sources (ICPGRES-2024) | - | Sep, 2024 | Conf. |

## Books/ Chapters Published

| **Academic Year** | **Name Of the Authors** | **Title Of the Book / Chapter** | **Name Of the Publisher with Address** | **ISBN Number** |
|---|---|---|---|---|
| 2025-26 | Dr. Angesh Chandra, Dr. Rahul K. Bhoyar, **Dr. G. Nageswara Rao**, Dr. I. D. Soubache | **Book:** Modern Electric Vehicle Technology | RK Publication | 9789349701359 |
| 2024-25 | Srikumar Kotni, **Nageswara Rao Gudipudi**, Ananda Kumar Annavarapu, Mosherani | Review of Effects on the Power Grid from Plugging in Electric Vehicles and Renewable Energy Sources | Elsevier | 9780443289552 Book |
| | Y.N. Vijaya Kumar, M. Manohara, N. Narasimhulu, D. Leela Rani, B.V. Sai Thrinath**, Parri Srihari** | Optimizing DC-DC converter models for electric drive systems | CRC Press, 2024, Taylor & Francis Group | 9781003559092 Book Chapter |

**B.Tech Projects**

**A.Y. 2024-25:**

| **S.NO** | **Project title** | **Name of supervisor** |
|---|---|---|
| **1.** | IOT BASED SUBSTATION EQUIPMENT MONITORING SYSTEM WITH CNN INTEGRATION | Dr.Y.Raghu Vamsi |
| **2.** | INTEGRATED SOLAR WIRELESS INDUCTIVE CHARGING FOR ELECTRIC VEHICLE AND BATTERY MANAGEMENT SYSTEM USING IOT | Dr.G.Nageswara Rao |

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| **3.** | SMART IOT CONNECTED MOBILE OPERATED GRASS CUTTING VEHICLE WITH ADVANCED GPS AND VOICE CONTROL SYSTEM | Mrs T.Hima Bindu |
| **4.** | SMART TRANSFORMER COOLING SYSTEM WITH ARDUINO INTEGRATION | Mr.R.Anjaneyulu Nayak |
| **5.** | IOT-ENABLED ENVIRONMENTAL AND WORKER SAFETY MONITORING SYSTEM IN COAL MINES | Mr.P.Rathnakar Kumar |
| **6.** | DESIGNING A SOLAR POWERED OFFGRID CHARGING STATION FOR ELECTRIC VEHICLES | Dr. G. Nageswara Rao |
| **7.** | SOLAR POWERED IOT BASED SECURE MULTI FUNCTIONAL CHARGING SYSTEM | Mr P.Srihari |