Sri Sai Ram Engineering College

Department of Electronics and Instrumentation Engineering

Name: **Mrs. N. NITHYA RANI**	
Designation:	Assistant Professor
Qualification:	M.E , (PhD)
Area of Specialization:	Fault Diagnosis and Prognosis for Industrial Processes, LabVIEW, Biomedical Instrumentation, Virtual Instrumentation
Experience:	Teaching- 9
	Industry/Polytechnic: NA
Number of Workshops/ Conferences/ FDP Attended:	WORSHOPS-11, CONFERENCES-14, SEMINAR-06 FDP-18

Publication:	Journal:
	    National: 0
	    International: 21
	    IEEE: 1
	    SCOPUS: 3

	Conference:
	    National: -05
	    International: 09

Research Guidance:	Guided 15 UG projects till date
General:	Class Coordinator, Class Chair Person, Cultural Coordinator, Video Class Coordinator, Guest Lecture Coordinator, Webinar Coordinator, Project Coordinator, R&D dept coordinator, NIRF dept coordinator, Consultancy dept Coordinator, Digital ambassador

Staff Achievement	• Successfully completion of all requirements of one week online certificate course on "Digital Teaching Techniques" organized by ICT Academy from 29.6.2020 to 4.7.2020 • Successfully completed all requirements and granted the title of "National Instruments – Certified LabVIEW Associate Developer (CLAD)" • Successfully completed and got Elite in NPTEL Online Certification for the course "Introduction to Research" with a consolidated score of 68% • Successfully completed NPTEL Online Certification for the course "Effective Engineering Teaching in Practice" with a consolidated score of 56%

Patent Title:

1. SMART DRIVER GUIDANCE SYSTEM FOR INDIAN ROADS - TEMP/E-1/31261/2020- CHE Published in 10.7.2020.

Research Interests:

Fault Diagnosis and Pronosis for Industrial Processes, Controller Designing, LabVIEW, Biomedical Instrumentation, Advanced Instrumentation Systems.

Experience:

S. No	Name of the Institution	Designation	Department	Period of Experience
1.	Sri Sairam Engineering College, West Tambaram, Chennai	Assistant Professor III	Electronics and Instrumentation Engg	(June 2016-till date)
2.	Saranathan College of Engineering, Trichy	Assistant Professor	Instrumentation and Control Engg	17-07-2013 to 20-11-2014

Theory Subjects Handled:

- Bio-Medical Instrumentation
- Electrical Measurements
- Industrial instrumentation II
- Process Control
- Principles of Mangament
- Circuit Theory
- Industrial Instrumentation I
- Power Plant Instrumentation
- Principles of Engineering Management
- Computer Control of Processes
- Industrial Data Network
- Basic Electrical, Electronics and Measurement Engineering
- Advanced Instrumentation Systems
- Analytical Instruments
- Embedded Systems
- Virtual Instrumentation
- Thermal Power Plant Instrumentation
- Electronic Circuit Analysis
- Electrical Technology with Lab

Laboratory Handled:

1. Industrial instrumentation Laboratory
2. Process Control Laboratory
3. Electronics Circuits Laboratory
4. Microprocessor and Microcontroller Laboratory
5. Engineering Practice Laboratory

6. Transducer and Measurement Laboratory
7. Instrumentation System Design

UG projects Guided:

S. No	Title of the Project work	Period of Guidance
1.	Gas Leakage Monitoring LabVIEW	Jan to March 2013
2.	Analysis of Flow Process Using LabVIEW	Jan to March 2013
3.	Project guided for NI YANTRA Competition	Jan to March 2013
4.	Controller Designing for Non linear Spherical Tank	Jan to March 2014
5.	Gas leakage controlling using labVIEW	Jan to March 2014
6.	Smart Steam Generator Using LabVIEW for CISCON–2014	Jan to March 2014
7.	INFERNO RESCUER	Jan to March 2017
8.	VOETZWEER Dection using LabVIEW	Dec 2017 to April 2018
9.	HUMAN DETECTION USING ROBOTIC SURVEILLANCE WITH PASSIVE INFRARED SENSOR (DISASTER MANAGEMENT)	Jan to March 2019
10.	METROPOLITAN BGS USING LORA	Jan to March 2019
11.	PID Based Enabled Drone	Jan to March 2020
12.	CRITICAL ENVIRONMENTAL FACTOR ANALYSIS USING DRONE	Jan to March 2021

Workshops Attended:

1. Participated in the AutoCAD hands on training organised by sairam robotics club in association with Dept of Mech Engg on 22.2.21 - 26.2.21.
2. Participated in 3 days workshop on "How teacher can make a difference" held during January 19-21, 2021 conducted by Teaching learning Center(TLC) and IITM Chennai.
3. Successfully completed a 2 days National level Workshop on "Introduction to IoT with machine learning" under the aegis of ExpertsHub Industry Skil Development Centre on October 3rd and 4th, 2019 held at St. Peter's Institute of higher Education and Research, Chennai organized by Department of Electrical and Electronics Engineering.
4. Attended three days Workshop on "Process Automation using MATLAB" conducted by Intellectz Tech from 23rd July, 2018 to 25th July 2018 in the Department of Electronics and Instrumentation Engineering, Sri Sairam Engineering College.
5. Attended two days Workshop on " Internet of Things (IoT) for Industrial Automation" at Velammal Engineering College, Department of Electronics and Instrumentation, on 19th & 20th January 2018.

6. Attended one day Workshop on "National Level Program on contemporary approaches of Industrial IoT in Real time Environment" organized by KCG College of Technology , Chennai, Tamilnadu during 4th December 2017.

7. Attended workshop on 'Instrumentation Detail Engineering' conducted by Trend Instrumentation and Automation Pvt Ltd on June 30,2016 in the Dept of EIE, Sri Sairam Engineering College.

8. Attended workshop on 'Genetic Algorithm & Particle Swarm Optimization: Hands on Training Using Matlab' held in Anna University, Regional Office, Coimbatore.

9. Attended workshop on 'PID Controller' held in Madras Institute of Technology Campus, Anna University Chennai.

10. Attended National workshop on 'Process Automation Using LabVIEW' held in Bannari Amman Institute of Technology, Sathyamangalam.

11. Attended workshop on '3D Animation & Web Technology' held in Anna University Tiruchirapalli.

FDPs Attended:

1. Participated in 3 days FDP organized by the Innovation & Entrepreneurship Development Programme, EDII-TN from 19.10.22 to 21.10.22 at MIT Chennai.
2. Participated in the AICTE Recognized Faculty Development Programme on "SciLab Programming" conducted by NITTTR Chandigarh from 25/4/22 to 29/4/22.
3. Successfully completed AICTE training and learning (ATAL) academy online FDP on "sensor technology" at Maharaja Ranjit Singh Punjab Technical University Bathinda on 22.2.21 - 26.2.21.
4. Completed successfully AICTE Training And Learning (ATAL) Academy Online FDP on "Design Thinking" by University College of Engineering(A), JNTUK on 12.10.2020 to 16.10.2020.

5. Completed successfully AICTE Training And Learning (ATAL) Academy Online FDP on "Artificial Intelligence" by RAJKIYA ENGINEERING COLLEGE KANNAUJ on 5.10.2020 to 9.10.2020.
6. Attended one week online AICTE recognized FDP on "Outcome Based Curriculum" from 25.5.2020 to 29.5.2020, organized by Curriculum Development Centre Department NITTTR, Chandigarh.
7. Attended two weeks online refresher course / FDP on "Recent Innovation in Electrical, Electronics, Instrumentation, Automation & Teaching Pedagogy" organized by the department of EEE, EIE & ICE from 18th to 30th May 2020 by IQAC, MHRD at Sri Sairam Engineering College
8. Participated in 5 days online FDP on "CS6701- Cryptography and Network Security" conducted by the department of Computer Science and Engineering at Panimalar Institute of Technology held from 11.5.2020 to 15.5.2020.
9. Participated in the Online AICTE Recognized Faculty Development Programme on Research Oriented Project Work from 11-05-20 to 15-05-20 (One Week) Organized by Curriculum Development Centre Department NITTTR, Chandigarh.
10. Participated in the AICTE Recognized Faculty Development Programme on "Neural Network and CNN" Conducted by Curriculum Development Centre Department from 20/04/2020 to 24/04/2020 (One Week) at NITTTR, Chandigarh.
11. Attended BRNS sponsored two days workshop on Internet of Things (IoT) for industrial application at Velammal Engineering College from 19.1.2018 to 20.1.2018.
12. Participated in Faculty Development Programme on EI6602 Process Control conducted by Centre for Faculty Development Anna University Chennai, from 16th to 23rd December 2016 at Sri Sairam Engineering College, Chennai.
13. Participated in National Level - Faculty Development Programme on Teaching Excellence in Engineering & Management Curriculum held on 20th & 21st June 2016 at Sri Sairam Engineering College, Chennai.
14. Participated in TEQIP-II Sponsored One Week Faculty Development Programme on 'Computer Control of Industrial Process and Automation' held on April 26th to May 2nd, 2014.
15. Participated in the Faculty Development Programme on 'Effective Teaching techniques' held on 10th & 11th October 2013, at National Institute of Technology Tiruchirappalli.

Seminar/Webinar Attended:

1. Successfully attended Leadership talk With Mr Mahesh Babu CEO Mahindra Electric Mobility Ltd. India's First Leadership Talk Series Session with Mr Mahesh Babu CEO Mahindra Electric Mobility Ltd. by MHRD's Innovation Cell Dr. Abhay Jere Chief Innovation Officer, MHRD's Innovation Cell on 23.5.2020.
2. Participated in the webinar on "Machine Learning – Biomedical & Telecom Applications", organized by department of Electronics and Instrumentation Engineering, held on 18.5.2020 by Velammal Engineering College.
3. Successfully attended the India First Leadership Talk webinar broadcasted On 2nd May, 2020 by MHRD's Innovation Cell Dr. Abhay Jere Chief Innovation Officer, MHRD's Innovation Cell
4. Attended National Seminar on 'Research Methodologies & Property Rights ' AICTE Sponsored on 28th & 29th November 2013 at Sethu Institute of Technology, Madurai.

Workshop and Guest Lecture Organized:

1. Conducted Guest Lecture on "Benefits & Aspects of Profile Building to Meet International Norms" in association with ISOI student chapter on 07.02.2020 in the Department of Electronics and Instrumentation Engineering, Sri Sairam Engineering College, Chennai.

2. Conducted Guest Lecture on "INSTRUMENTATION & CAREER OPPORTUNITIES TO THE DATA WORLD" in association with ISOI student chapter on 21.01.2020 in the Department of Electronics and Instrumentation Engineering, Sri Sairam Engineering College, Chennai.

3. Organized SCILAB Spoken Tutorial, Initiative by IIT Bombay, MHRD Gov of India, for II Year , III Year and IV Year ICE Students, respectively.

Professional Training:
1. Attended training on "PLC & DCS YOKOGAWA" conducted by YOKOGAWA Pvt, Ltd., Bangalore.
2. Attended five days training on "LabVIEW Core1 & Core2" conducted by National Instruments Bangalore.
3. Attended four days training on "LabVIEW multisim and ultiboard training" conducted by National Instruments Bangalore.

Professional Certification and Qualifications:

1. Successfully completed "Learning LabVIEW " on 7.6.2020, by Linkedin Learning.
2. Successfully completed "Google Analytics Individual Qualification" understood advanced Google Analytics Concepts, on April 26, 2020 provided by Google.
3. Has been awarded the certificate of achievement for the successful completion of "The Fundamentals of Digital Marketing" certification exam on April 18, 2020 provided by Google Digital Garage.

Certification Courses:
1. Completed R Level 1 – Data Analytics with R by Udemy on Dec 2022.
2. Completed Introduction to R by Great Learning Academy on November 2022.
3. Successfully completion of all requirements of one week online certificate course on "Digital Teaching Techniques" organized by ICT Academy on 29.6.2020 to 4.7.2020.
4. Successfully completed "Introduction to the Internet of Things and Embedded Systems" an online non-credit course authorized by University of California, Irvine and offered through Coursera by Sairam Institutions on 21.6.2020.
5. Successfully completed "Leadership and Emotional Intelligence" an online non-credit course authorized by Indian School of Business and offered through Coursera by Sairam Institutions on 18.6.2020.

6. Awarded the certificate for the successful completion of "Step into Robotic Process Automation" during GUVI's RPA SKILL – A- THON 2020 on 1.6.2020.
7. Successfully completed "Natural Gas" an online non-credit course authorized by University at Buffalo and The State University of New York and offered through Coursera by Sairam Institutions on 24.5.2020.
8. Successfully completed "The Sustainable Development Goals – A global, transdisciplinary vision for the future" an online non-credit course authorized by University of Copenhagen and offered through Coursera by Sairam Institutions on 22.5.2020.
9. Successfully completed "Essentials of Entrepreneurship: Thinking & Action" an online non-credit course authorized by University of California, Irvine and offered through Coursera by Sairam Institutions on 20.5.2020.
10. Successfully completed "Structuring Machine Learning Projects" an online non-credit course authorized by deeplearning.ai and offered through Coursera by Sairam Institutions on 20.5.2020.
11. Successfully completed "Healthy Practices: Nutrition, Physical Activity, and Community and Family Participation" an online non-credit course authorized by University of Colorado System and offered through Coursera by Sairam Institutions on 11.5.2020.
12. Successfully completed "AI For Everyone" an online non-credit course authorized by deeplearning.ai and offered through Coursera by Sairam Institutions on 9.5.2020.
13. Successfully completed "Materials Science: 10 Things Every Engineer Should Know" an online non-credit course authorized by University of California, Davis and offered through Coursera by Sairam Institutions on 5.5.2020.
14. Successfully completed the training program on "Introduction to Project Management" awarded 4 hours of PDU provided by Simplilearn on April 7, 2020.
15. Successfully completed the "Foundational Artificial Intelligence" an Industry recommended & validated course aligned to SSC NASSCOM Foundation AI Curriculum, issued by SkillUp Online and NASSCOM on April 2, 2020.
16. Successfully completed and received a passing grade in "Data Science Methodology" provided by cognitive class, a course on future skills cognitiveclass.ai. Powered by IBM Developer Skills Network. Issued by Future Skills Nasscom on April 1, 2020.
17. Successfully completed and received a passing grade in "Python 101 for Data Science" provided by cognitive class, a course on future skills cognitiveclass.ai. Powered by IBM Developer Skills Network. Issued by Future Skills Nasscom on April 1, 2020.
18. Successfully completed and received a passing grade in "Deep Learning with Tensor Flow" provided by Big Data University a course on future skills cognitiveclass.ai. Powered by IBM Developer Skills Network. Issued by Future Skills Nasscom on April 1, 2020.
19. Successfully completed and received a passing grade in "Data Science 101"provided by Big Data University a course on future skills cognitiveclass.ai. Powered by IBM Developer Skills Network. Issued by Future Skills Nasscom on March 31, 2020.
20. Successfully completed 20.5 total hours of "Tensor Flow 2.0: Deep Learning and Artificial Intelligence" course on March 29, 2020 provided by Udemy.
21. Successfully completed and received a passing grade in "How to Build Chatbots" provided by IBM Developer Skills Network, a course on future skills cognitiveclass.ai. Powered by IBM Developer Skills Network. Issued by Future Skills Nasscom on January 23, 2020.

22. Successfully completed 24 hours of the "Complete Cryptocurrency Course: More than 5 courses in 1" on November 11, 2020 provided by Udemy.

International Publications:

1. Performance Optimization of Stepper Motor Using MATLAB in International Conference on Power Electronics and Renewable Energy Systems. Lecture Notes in Electrical Engineering, vol 795. Springer, Singapore. 22 November 2021.

2. A research on electronic component wrecker using electro-magnetic pulse (EMP) in the year 2019

3. Adaptive pid control of an autonomous sailboat in the year 2019.

4. "Controlling the Level of Nonlinear Process Using Soft Computing Technique and Model Identification is done by Radial Basis Function" in Journal of the Gujarat Research Society, December 2019.

5. "Inferno Combative Robot with Blue Collar" in "International Journal of Recent Technology and Engineering (IJRTE)" November 2019.

6. "Controlling of Multivariable Process Station Using – Cascade and A Selector in LabVIEW" in "International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering" Volume 3, Issue 9, September 2014.

7. "Proposal of Conservative Controller and Model Identification of Temperature Process" in "International Journal for Scientific Research and Development (IJSRD)" Volume 2, Issue 6, in August 2014.

8. "Evaluation of Diverse Controller Strategic for a Level Process" in "International Journal Of Innovative Research In Electrical, Electronics, Instrumentation and Control Engineering" Vol. 2, Issue 8, August 2014.

9. "Comparison of PID Controller Tuning Techniques for TemperatureProcess" in "International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering" Vol. 2, Issue 8, August 2014.

10. "Gas Leakage Monitoring and Control using LabVIEW" in "International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering (IJIREEICE)" Volume 2, Issue 8, August 2014.

11. "Performance Scrutiny of Flow Process Using Diverse Controllers " in "International Journal of Emerging Engineering Research and Technology (IJEERT) Volume 2 Issue 4, Aug 2014.

12. "Comparison of PID Controller Tuning Techniques For A FOPDT (First Order Plus Delay) System " in the "International Journal of Emerging Engineering Research and Technology (IJEERT)" in Volume 2 Issue 4, Aug 2014.

13. "Controlling of Temperature Process using IMC-PID and PSO" in the "International Journal for Innovative Research in Science & Technology'' Volume 1, Issue 3, August 2014.

14. "Design of Controllers for Flow Process in LabVIEW" in the "International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering" Volume 2, Issue 3, March 2014.

15. "Particle Swarm Optimization Technique for Temperature Process" in the "International Journal for Scientific Research and Development (IJSRD)" Volume 1, Issue 12, in February 2014.

16. "Analysis of Flow Process Using LabVIEW" in the "International Journal of Innovative Research and Studies" Volume 3, Issue 2, in February 2014.
17. "Implementation of Model Identification of Temperature Process and Tuning with Advanced Control Techniques" in the "International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering" Volume 1, Issue 9, December 2013.
18. "Modeling and Control of Temperature Process Using Genetic Algorithm" in the "International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering" Vol. 2, Issue 11, November 2013.
19. "Advanced Process Analysis on LabVIEW" in the "International Journal of Advanced Research in Electrical and Electronics Engineering (IJAREEE)" Vol.1, No.1 November 2013.
20. "Implementation of OPC-Based Communication Between Temperature Process and DCS on LabVIEW Platform" in the "BEST: International Journal of Management, Information Technology and Engineering (BEST: IJMITE)" Vol. 1, Issue 1, Oct 2013.
21. "Advances in Control Techniques and Process Analysis with LabVIEW and DCS" in the "International Journal of Electronics, Communication & Instrumentation Engineering Research and Development (IJECIERD)" June 2013; Volume : 3; Issue : 2; June 2013.

Conference Attended:

1. Presented a paper titled on "Performance Optimization of Stepper Motor using MATLAB" in the International Conference on power Electronics and Renewable Energy Systems (ICPERES 2021) organized by the Department of EEE, SRM Institute of Science and Technology in association with Springer and IIC during 21-23 April 2021.
2. Presented a paper titled on "PID Based Internet Enabled Drone" in the 9th National Conference on "Emerging Trends in Electronics, Instrumentation, Automation and Control(ETEIAC 2020)" organized by department of Electronics and Instrumentation Engineering on March 13, 2020 at Karpagam College of Engineering.
3. Presented a paper titled "Human Detection Using Robotic Surveillance with PIR Sensor" in the 5th International Conference on Science technology Engineering & Mathematics, PATRIOT, ICONSTEM'19 on 14th & 15th March 2019 at Jeppiaar Engineering College.
4. Presented a paper titled "Conservative Controller and Model Identification of Temperature Process" in National Conference on Recent Innovations in Advanced Material Science – RIAMS'19 organised by Dept of Mechanical Engineering in association with Society of Automative Engineering(SAE) on 13th March 2019 at Rajalakshmi Institute of Technology, Chennai.
5. Presented a paper titled VOETZWEER DECTION USING LabVIEW in the 7th International Conference on Informatics & Computing in Engineering Systems (ICICES 2018) Organized by the Department of CSE on 21st and 22nd march 2018.
6. Presented a paper on Smart Assistive Sensor Controlled Wheelchair using IoT in the Ihird International Conference on Innovative & Emerging Trends in Engineering & Technology organized by Panimalar Institute of Technology, in association with CSI, IETE, IEEE, ISTE, ICTACT, IET and SAEINDIA held during 9.3.18 and 10.3.18.
7. Presented a paper Advanced Controller Designing for Temperature Process in LabVIEW National Level Program on contemporary approaches of Industrial IoT in Real

time Environment" organized by KCG College of Technology , Chennai, Tamilnadu during 5th December 2017.

8. Presented a paper Adaptive PID Controller for Magnetic Levitation System National Level Program on contemporary approaches of Industrial IoT in Real time Environment" organized by KCG College of Technology , Chennai, Tamilnadu during 5th December 2017.

9. Presented a paper "Inferno Rescuer" " in the International Conference on "Recent Trends In Electrical, Electronics & Communication Engineering (REECE-17)" held during 16th – 18th March 2017 at P.S.R Engineering College Sivakasi.

10. Attended International Conference, "XI Control Instrumentation System Conference, CISCON - 2014" at Manipal University.

11. Presented a paper "Advanced Process Analysis on LabVIEW" in the International Conference on "Innovations in Intelligent Instrumentation, Optimization & Signal Processing" ICIIIOS'13 at Karunya University, Coimbatore.

12. Participated in the 'International Conference on Emerging Trends in Science, Engineering & Technology' INCOSET '12 at J. J College of Engineering and Technology, Trichy.

13. Presented a paper entitled "Advances in Control Techniques and Process Analysis with LabVIEW and DCS" in the National Conference on "Advances in Computational Intelligence and Instrumentation Technology" ACIIT'13 at Kongu Engineering College, Perundurai, Erode.