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| Name: | S.USHA | | | |
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| Designation: | Associate Professor | | | |
| Qualification: | M.E. (Ph.D.) | | | |
| Area of specialization: | EMBEDDED SYSTEM TECHNOLOGIES | | | |
| Experience : (As On Dec. 2022) | Industrial Experience | | Teaching Experience | |
| | 4 YEARS | | 23 YEARS | |
| Number of workshop / FDP attended: | Number of Workshops | | Number of FDPs | |
| | 15 | | 27 | |
| Publications: | Conference | | Journal | |
| | National | International | National | International |
| | 12 | 6 | 4 | 9 |
| Professional Body Membership: | Senior Member of IEEE, Fellow of IETE , Life Member of ISTE , Member of IEI and IAENG | | | |
| Trainings and Courses Attended regarding Accreditation | Completed 1. Accreditation and Outcome based Learning course 2. NBA Accreditation and Teaching Learning in Engineering 3. Outcome based Pedagogic principles for Effective Teaching 4. Internal Auditor Training Course on Educational Organizations Management Systems(Based on ISO 21001:2018 Standard) 5. Attended Technical Workshop on Management System Auditing ISO 19011:2018 6. Acted as a resource person for Accreditation criteria 1 preparation. | | | |

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| | 7. Audited the departments for Accreditation related activities. |
| Staff Achievements: | <p>Achieved 100% result many times Ranked one among top 2% in NPTEL Digital Circuits, 5 % in NPTEL Embedded system design CMOS digital VLSI , Design and Analysis of VLSI Subsystems and many VLSI courses Completed more than 20 courses in Coursera, 5 courses in Futureskills, Guvi, ICT Academy Co-ordinated FDP's, Workshops, Conferences, Symposium etc. Acted as a Reviewer, Resource person and Session Chair Onboard member of two private companies Department NBA and NAAC coordinator Course Coordinator, Course Moderator, Embedded -SIG Head. Received National Educator Award from I2OR Completed NITTTR MENTORSHIP CERTIFICATION – July 2021 Completed all 8 modules in NITTTR. Received NITTT Achiever Award Fund of \$1000 is approved under IEEE CASS Educational Initiatives.</p> |

| Workshop Details: | Sl. No. | Title | Venue | Month/Year |
|--------------------------|----------------|---|---|---|
| | 1 | Industry Institute Interaction | Anna University | 5 th Sep'2006 |
| | 2 | Matlab and its applications- Raguram Associates | Sri Sai Ram Engg. College | 26th July2007 to 27 th July2007 |
| | 3 | Emerging trends on high-end FPGA's | Anna University | 10th Dec'2010 to 12 th Dec'2010 |
| | 4 | Seminar on VLSI Design | Hotel Rain tree, Anna Salai, Chennai -2. | 7 th Sep'2012 |
| | 5 | Recent trends in Antennas for Multifield Applications | Sri Sai Ram Engg. College | 27 th Dec'2012 & 28 th Dec'2012 |
| | 6 | Entrepreneurship Summit 2013 | Sri Sai Ram Institute of Management Studies | 8.1.13 – 10.1.13 |
| | 7 | R&D Proposal writing for Faculties | Sri Sai Ram Engg. College | 12.06.20 |

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| | 8 | Workshop on National Initiative for Technical Teachers Training (NITTT) | NITTT | 20.02.20 |
| | 9 | Advancements in Embedded System and Software Design” | SSN College of Engg. | 31.7.20 & 1.8.20 |
| | 10 | Webinar on CAD tools for VLSI Design | Kamaraj College of Engineering and Technology | 13.06.20 |
| | 11 | Webinar on Article Writing and Journal Publications | Kings Engineering College | 17.07.20 |
| | 12 | Workshop on PCB Design | Kings Engineering College | 19.06.20 |
| | 13 | Hands on workshop on Routing and Switching concepts in Data communication and Networking using Cisco Packet Tracer | Sri Sairam Enginnering College | 1.12.22 to 2.12.22 |
| | 14 | Latest Trends in VLSI Devices, Circuits and Tools | NATIONAL INSTITUTE OF TECHNOLOGY DELHI | 19th to 24th September, 2022 |
| | 15 | Certificate course on Digital Teaching Techniques | R systems Women Educators Program | 02.02.23 to 17.02.23 |

| FDP Details: | Sl. No. | Title | Venue | Month/Year |
|---------------------|----------------|------------------------------|------------------------|--|
| | 1 | FDP on Digital Communication | SSN College of Engg. | 24th Nov'2003 to 29 th Nov'2003 |
| | 2 | FDP on Mechatronics | Crescent Engg. College | 24th May-2004 to 29 th May-2004 |

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| | 3 | Work life balance for Engineering and Management Faculty | Sri Sai Ram Engg. College | 16th Feb'12 to 22 nd Feb'12 |
| | 4 | Role of Academic Excellence in Developing World Class Higher Learning Institutions and Faculties | Sri Sai Ram Engg. College | 12 th Dec'12 |
| | 5 | FDP on Embedded Systems with ARM 7 Microcontroller | Sri Sai Ram Engg. College | 25th June'15 & 26th June'15 |
| | 6 | FDP on Embedded and Real time systems | Sri Sai Ram Engg. College | 06th June'16 to 13th June'16 |
| | 7 | FDP on Outcome Based Pedagogy | IIT, Chennai | 13th Nov'18 to 15th Nov'18 |
| | 8 | FDP on Outcome based Pedagogic principles for effective teaching | IIT, Kanpur | Aug – Sep'18 |
| | 9 | FDP on Entrepreneurship career development program | SIMS | 08/04/19 TO 12/04/19 |
| | 10 | FDP on Outcome based Education | Sri Sai Ram Engg. College | 5th Apr'19 |
| | 11 | FDP on CMOS Digital VLSI Design | IIT, Karagpur | Feb-Apr'19 |
| | 12 | Organized FDP on CMOS Analog IC Design | Sponsored by Anna University | 25.11.19 to 30.11.19 |
| | 13 | Online spoken FDP on Advanced Communication Laboratory | PSNA College of Engg. & Technology, Dindugal | 20.07.20 to 25.07.20 |
| | 14 | FDP on Virtual Labs | IIT PALS | 24.8.20 to 28.8.20 |
| | 15 | “FPGA for Low Power IoT” | SRM VALLIAMMAI | 06.12.2021 to 11.12.2021. |

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| | | | ENGINEERING COLLEGE | |
| | 16 | FDP on "Design Thinking" | University College of Engineering(A), JNTUK. | 2020-10-12 to 2020-10-16 |
| | 17 | FDP on "Artificial Intelligence" | Sri Sairam Engineering College. | 2020-12-7 to 2020-12-11 |
| | 18 | FDP on "Artificial Intelligence" | at Indian Institute of Technology Patna. | 2020-10-19 to 2020-10-23 |
| | 19 | Online FDP on "Internet of Things (IoT)" | Sri Sairam Engineering College. | 2020-11-30 to 2020-12-4 |
| | 20 | FDP on "Computer System Design" | at IIT Tirupati. | 03/01/2022 to 07/01/2022 |
| | 21 | FDP on "Research Issues in VLSI Design and Testing" | Government College of Engineering Srirangam. | 2021-08-02 to 2021-08-06 |
| | 22 | SciLab Programming | Information Management and Emerging Engineering Department | 25/04/2022 to 29/04/2022 |
| | 23 | 5-day Face-to-Face UHV-II FDP | at Sri Sairam Engineering College Autonomous, Chennai | 26th July to 30th July 2022 |
| | 24 | FDP on SOC Design Methodologies using INTEL FPGA | St. Joseph's college of Engineering | 20.07.22 to 22.07.22 |
| | 25 | Innovation in Mentoring pedagogy and incorporation of ICT Techniques in Education | Paavai Engineering College | 30.01.23 to 04.02.23 |
| | 26 | Recent trends in 5G Communication Networks | Sri Sairam Engineering College | 26.12.22 to 30.12.22 |

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| | 27 | Quantum Computing and its future scope | ATAL FDP | 18.12.23 to 26.12.23 |
| Conference Details: | Sl. No. | Title | Venue | Month/Year |
| | 1 | National Conference on Emerging Trends in Communication “ Performance Comparison of Packet scheduling algorithms in Mobile Adhoc Networks | Dhanalakshmi Srinivasan Engineering College | 28th Feb 2007 |
| | 2 | AICTE Sponsored International Conference on Innovative computing, Information and Communication Technology (ICICT'09) | Sri Sairam Engineering College | 16 to 18 Dec 2009 |
| | 3 | National Conference on Advances in Electrical and Electronics Engineering-2013 Adaptive runtime reconfigurable wireless sensor nodes based on dynamic data aggregation | Sri Venkateshwara college of Engg. | 15.3.13 Page 6 |
| | 4 | National Conference on Advanced Communication & Computing Techniques NCACCT'13 “ Reconfigurable wireless sensor Networks | Sri Sairam Engineering College | 18-19 th March 2013 |

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| | 5 | First National Conference on Recent Trend in Information Technology NCRIT 2012 “ A cost Effective Automatic Antifreeze fluid sprinkler for Railway Coal Conveyors “ G. Sudhakar, Ms. S.Usha, Page No. 155-158 | RMK College of Engg and Tech. | 20th Feb 2012 |
| | 6 | Research Trends in Electronics and Communication, “ Implementation of speed control of Brushless DC motors using IOPT Petri Net models | St.Joseph’s College of Engineering | 21 st Mar’2014 |
| | 7 | 5 th National Conference on VLSI, Embedded, Communication and Networks(VECaN-2014) Speed Control of Motors using IOPT tools | , Easwari Engineering College | 17.4.14 |
| | 8 | Advanced Communication & Computing Techniques | Sri Sairam Engineering College | 18th Mar'2013 & 19 th Mar'2013 |
| | 9 | Emerging Research & Advances in Mechanical Sciences” Vehicle Collision Avoidance with adaptive cruise control | Velammal Engineering College | 22 nd Mar'2013 |

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| | 10 | Future Proof your code with the latest co-processor | Taj Connemara, Binny Road, Chennai -2. | 18 th Sep' 2013 |
| | 11 | National Instruments symposium 2014 | Hotel Radisson Blu, Chennai | 9 th Sep' 2014 |
| | 12 | Advanced Communication & Computing Techniques | Sri Sairam Engineering College | 11 th April 2014 |
| | 13 | Construction, Computing, Control, Communication and Manufacturing, “ Alert System for forest animals to avoid from Train Accidents, R. | SRS College of Engineering and Technology | 23rd Feb'2015 to 28th Feb'2015 |
| | 14 | 5 th International Conference on Science and Innovative Engineering 2015 Alert system for Forest Animals to avoid from train accidents, | Jawahar Engineering College | 5.4.15 ISBN 978-81-904760-7-2 |
| | 15 | First International Conference on Recent Trends in Engineering and Technology (ICRTET-16) Paper titled Prediction of Insulation Failure in Transformer winding using Signature analysis” | St.Joseph’s Institute of Technology | 28-29 th April 2016 |
| | 16 | International Conference on Communication, Computing & Internet of Things (IC3IOT 18) | Sri Sairam Engineering College | 15-17th Feb 2018 |

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| | 17 | 3rd International Conference on Computational Intelligence & IoT “Performance Analysis of Three Operand Binary Adders Using Parallel Prefix Adders for High Speed and Area Efficient Implementation” | North Eastern Regional Institute of Science and Technology, Nirjuli, Arunachal Pradesh | 24th February to 25rd February 2023. |
| | 18 | ICNGWN2023 Design and comparison of 24 bit three operand adders using parallel prefix methods for efficient computation | Sri Venkateswara college of Engineering | October 19th-20th, 2023 |

| Journal Details: | Sl. No. | Title | Journal Name | Volume/Date |
|-------------------------|----------------|--|--|--|
| | 1 | Cloud Based Reconfigurable DC Motor Controller Code Design Using IOPT models | International Journal of Research in Engg. And Advanced Technology | Volume 1, Issue 5, Oct - Nov 2013 ISSN: 2320-8791 |
| | 2 | Real time System for Monitoring and Improving the flow of sewer system, M.K. Elango and S.Usha | International Journal of Emerging Technology & Advanced Engineering | Volume 4, Issue 2, February 2014 ISSN:2250-2459 |
| | 3 | Alert System for forest animals to avoid from train accidents R.Vinoth and S.Usha | International Journal of science and innovative engineering and technology | Volume 2 May2015 issue ISBN 978-81-904760-7-2 |
| | 4 | “Prediction of insulation failure in transformer winding using signature analysis.” | SS International Journal of Multidisciplinary Research [SSIJMR]. | Volume 2 Issue 6, 2016 E-ISSN: 2395-7964 Page No. 68 |

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| | 5 | Optimized BPSK and QAM Techniques for OFDM systems | IJCTA, International Science Press | 2016 ISSN: 0974-5572; pp:2759-2766 |
| | 6 | Mechanism of 3 DOF robotic needle steering model using Labview | International Journal of Recent Engineering Research and Development | Vol. 02, Issue 06, June 2017 ISSN: 2455-8761 PP. 01-08 |
| | 7 | IOT Based Anti-Theft Protection And Continuous Monitoring System For ATM | THINK INDIA Journal | April -June 2019 ISSN:0971-1260 |
| | 8 | Waiter robot with billing system | THINK INDIA journal | April -June 2019 ISSN:0971-1260 |
| | 9 | Process Automation in RTO offices for issuing Driving Licences | Studies in Indian Place Names (UGC Care Journal) | ISSN: 2394-3114 Vol 40 issue 1 (s1) January 2020 Page No. 54-59 |
| | 10 | DOMOTICS BASED ON SEARCH ASSISTANT | Studies in Indian Place Names (UGC Care Journal) | ISSN: 2394-3114 Vol 40 issue 1 (s1) January 2020 Page No. 29-38 |
| | 11 | Search Assistant Based Home Automation | INTERNATIONAL JOURNAL OF ELECTRONICS, COMMUNICATIO N & INSTRUMENTATI ON ENGINEERING RESEARCH AND DEVELOPMENT (IJEIERD); " | ISSN (ONLINE): 2249-7951; ISSN (PRINT): 2249-684X; IMPACT FACTOR(JCC) (2020): 8.2083; INDEX COPERNICUS VALUE (ICV) - (2016): 61.75; NAAS RATING: 2.92; VOL - 10, ISSUE - 2; EDITION: DEC2020 Page No. 21-28 |

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| | 12 | A novel algorithm with complexity reduction for Multimedia Applications using 8 point DCT | International conference on Communication, computing and Internet of Things | DOI:10.1109/IC3IOT539 35.2022.9767964 |
| | 13 | Energy efficient Spatial Modulation in Wireless Sensor Networks | International conference on Communication, computing and Internet of Things | DOI:10.1109/IC3IOT539 35.2022.9768000 |

BOOK CHAPTER:

Societal and Ethical Implications of Robotics “ ESN Publications.DOI/ISBN Number: 978-93-90781-09-6 Volume/Issue:1/1, Year published: February 2021

Patent Details:

1. A Method And Device For The Deformation Of The Waste Containers Through The Pneumatic Operated
Application No.202041052263 A Publication Date : 11/12/2020
2. Security Tracking Big Data Processing System with Cloud Computing
Application No.202241010451 A Publication Date : 18/03/2022
3. Computational Iot Framework Based On Smart And Low-Cost Devices For Medical Image Segmentation
Application No.202341062364 A Publication Date : 06/10/2023

I hereby declare that the information provided above is true and correct.



S.USHA