

Sri Sai Ram Engineering College Department of
Instrumentation and Control Engineering

Name: B.UMAMAHESWARI	
Designation:	Assistant Professor
Qualification:	M.E. (PhD)
Area of Specialization:	Instrumentation Engineering
Experience:	Teaching- 15 years 6 months
	Industry/Polytechnic: Nil
Number of Workshops/ Conferences/ FDP Attended:	WORKSHOP: 9 FDP- CONFERENCE- 1
Publication:	JOURNAL: NATIONAL: NIL INTERNATIONAL: 19
	CONFERENCE: 10 NATIONAL: 01 INTERNATIONAL: 09
Research Guidance:	Guided more than 35 UG projects till date. Participated in Nan Mudalvan 2024 and received fund of Rs.10000.
General:	<ul style="list-style-type: none"> * Talent Enabler of the department *Student Achievement coordinator *NAAC-criteria-5 co-coordinator of the department * IIT Bombay Spoken Tutorial - Coordinator * Life Member in ISTE *IEEE Professional society member and member of Control systems society, Education and Instrumentation and Measurement Society.
Staff Achievement	<ul style="list-style-type: none"> * Received NPTEL Top Best Mentor performance award(Jan-Mar 2023,2024,2025) * Received NPTEL Domain Certification in Faculty –Advanced from NPTEL. * Received NPTEL Domain Certification in Data Science * Received one Time Top performing mentor award from NPTEL. * Received NPTEL EVANGELISTS award July 2023. * Received NPTEL Believer (Jan 2022,Jul 2023,Jan 2025) and Motivated learner(Jan 2022,Jan

	2024) award from NPTEL * Received NPTEL –Discipline Star in Computer Science
--	---

Experience:

S.no	Name of the institution	Designation	Department	Period of experience
1.	Bharath University	Lecturer	Bio Medical Engineering	06 months (02.2.2008 to 23.7.2008)
2.	Sri Sai Ram Engineering College	Assistant Professor	Instrumentation & Control Engineering	13 yrs 7months (15.7.2023 till date)

Workshops/Seminar/STTP/ FDP Attended

WORKSHOP ATTENDED:

1. Five-day workshop on **“Case Analysis and Development”** on 18th-23rd Dec 2020 at Sri Sairam Engineering College, Chennai.
2. Five – day workshop on **“Patent Searching, Drafting and Filing”** on 29th May- 2nd June 2020 in association with Turnip Innovations and Exilyze Intellectual Services at Panimalar Institute of Technology.
3. IIC online Session of MHRD Innovation Cell, IPR, **Entrepreneurship and Start up** from 28th April – 22nd May 2020.
4. Kalam Program for **IP Literacy and Awareness** from 15th to 23rd Oct 2020 by Ministry of education Innovation Cell AICTE (Online).
5. One day workshop on **“Intellectual Property Rights and Innovations”** on 20th July 2019 in association with Center of Intellectual Property Rights (CIPR) at Sri Sairam Engineering College.
6. Two-Day workshop on **“Advanced Industrial Robotics-YASKAWA MOTOMAN”** on 3rd to 4th March 2017 conducted by Department of Instrumentation and Control Engineering at Sri Sairam Engineering College.
7. Two-Day workshop on **“Power Plant Instruments”** on 29th to 30th Sep 2014 conducted by Department of Instrumentation and Control Engineering at Sri Sairam Engineering College.
8. Five-Day workshop on **“DCS and PLC Overview”** on 21st to 25th July 2014 associated with YOKOGAWA Technical School conducted by Department of Instrumentation and Control Engineering at Sri Sairam Engineering College.
9. One-day workshop on **“Modern Trends in Control and Instrumentation for Thermal Power Station”** on 8th Oct 2013 at BS Abdur Rahman University, Chennai.
10. One-day workshop on **“Trends in Process Control”** on 3rd March, 2012 at IIT Madras.
11. Two-Day workshop on **“Smart Sensor for Industrial Applications”** on 1st to 2nd Dec 2011 conducted by Department of Instrumentation and Control Engineering at Sri Sairam Engineering College.
12. Two-Day training programme on **“ISO Audit Training”** on 11th and 12th Oct 2011 at Sri Sairam Engineering College.
13. Two-Day workshop on **“PID CONTROLLER”** on Sep 16th -18th 2010 conducted by Department of Instrumentation Engineering at MIT Campus, Anna University, Chennai.

SEMINAR ATTENDED:

1. One day Webinar on **“R & D Proposal writing for Faculties”** on 12-06-2020 conducted by department of Mechanical Engineering at Sri Sairam Engineering College.
2. A National Webinar on **“Product Life Cycle Management-How Program Transformed the Engineering World”** organized by Jaya Engineering College on 29-05-2020.
3. A National Seminar on **“Advanced Process Control”** on Dec 2013 at IIT Madras, Chennai.
4. One Day National Seminar on **“Safety Integrity A Life Cycle Approach”** on Nov 27th 2010 organized by ISA South India Section at IIT Madras, Chennai.
5. A National Seminar on **“Advanced Automation”** conducted Department of Instrumentation Engineering at MIT Campus, Anna University, Chennai.
6. A National Seminar on **“Wireless Sensor Networks”** conducted by Department of Instrumentation Engineering at MIT Campus, Anna University, Chennai.

FDP Attended:

1. FDP on **“Data Science for Engineers”** 8 weeks online course conducted by NPTEL during Jan-Mar 2023.
2. FDP on **“Python Programming”** conducted by ICT Academy on 29th May-2nd June at Aarupadai Veedu Institute of Technology(AVIT Campus).
3. FDP on **“Introduction to Professional Scientific Communication”** 4 Weeks online course conducted by NPTEL during Jan-Feb 2023.
4. Completed **“Module 1: Orientation towards Technical Education and Curriculum Aspects”** of NITTTR during Oct-Nov 2022.
5. Completed **“Module 2: Professional Ethics and Sustainability”** of NITTTR during Apr- May 2022 organized by AICTE.
6. Completed **“Module 3: Communication Skills, Modes and Knowledge Dissemination”** Of NITTTR during Apr-May 2022 organized by AICTE.
7. Completed **“Module 4: Instructional Planning and Delivery”** of NITTTR during Apr-May 2022 organized by AICTE.
8. FDP on **“Python for Data Science”** 4 weeks online course conducted by NPTEL during Jul- Aug 2022.
9. FDP on **“Educational Leadership”** 8 weeks online course conducted by NPTEL during Jul- Sep 2022.
10. FDP on **“Introduction to Industry 4.0 and Industrial Internet of Things”** 12 weeks online course conducted by NPTEL during Jan – Apr 2022.
11. FDP on **“Patent Law for Engineers and Scientists”** 12 weeks online course conducted by NPTEL during Jan – Apr 2022.
12. FDP on **“Teaching and Learning in Engineering (TALE)”** 4 weeks online course conducted by NPTEL during Jan – Feb 2022.
13. FDP on **“Effective Engineering Teaching in Practice”** 4 weeks online course conducted by NPTEL during Jan – Feb 2022.
14. Completed **“Module 7: Creative Problem Solving, Innovation and Meaningful R&D”** Of NITTTR during Apr-May 2022 organized by AICTE.
15. FDP on **“Online UHV Refresher - Part I”** organized by AICTE during 7th Feb-11th Feb 2022.
16. FDP on **“Technical Writing with LaTeX for Beginners-Hands on Training”** conducted

by Department of Mechanical Engineering, Bangalore Institute of Technology, Bengaluru during 7th -11th March 2022.

17. Completed FDP on “**Data Analytics**” conducted by NITTTR, Chennai from 13th-17th Dec 2021.
18. FDP on “**Ethics in Engineering Practice**” 8 weeks online course conducted by NPTEL during Aug-Oct 2021.
19. FDP on “**Development Research Methods**” 8 weeks online course conducted by NPTEL during Aug-Oct 2021.
20. FDP on “**Inculcating Universal Human Values in Technical Education**” from 26th to 30th Jul 2021 organized by AICTE.
21. Completed “**Module 5: Technology Enabled Learning & Life Long**” of NITTTR during Apr-May 2021 organized by AICTE.
22. FDP on “**Emotional Intelligence**” 8 weeks online course conducted by NPTEL during Jan- March 2021.
23. FDP on “**Industrial Automation and Control**” 12 weeks online course conducted by NPTEL during Jan – Apr 2020.
24. FDP on “**Introduction to Research**” 8 weeks online course conducted by NPTEL during Sep-Nov 2020.
25. FDP-ATAL on “**Artificial Intelligence**” on 7th-11th Dec 2020 at Sri Sairam Engineering College.
26. FDP on “**Internet of Things (IoT) and its Applications**” an AICTE-ISTE sponsored organized by Annamalai University on 16th – 22nd Nov, 2020.
27. FDP-ATAL on “**Internet of Things**” on 14th – 18th Sep 2020 at Dr Mahalingam College of Engineering and Technology.
28. FDP on “**Accreditation and Outcome Based Learning**” 8weeks online course conducted By NPTEL during Aug-Oct 2019.
29. FDP on “**Sensors and Actuators**” 12 weeks online course conducted by NPTEL during Aug-Oct 2019.
30. FDP on “**Enhancing soft skills and personality**” 8 weeks online course conducted by NPTEL during Feb –Apr 2019.
31. GIAN Course on “**Practical PID Controller**” for five days at MIT Campus, Anna University on 8th-12th Oct 2018.
32. FDP on “**Dairy and Food Process and Products Technology**” 12 weeks online course conducted by NPTEL during Jul –Oct 2018.
33. FDP-ATAL on “**Teaching Pedagogy and Teaching Learning Process**” at Sri Sairam Engineering College, Chennai on 03rd -7th Dec 2018.
34. FDP on “**Goal Setting**” conducted by ICT Academy at Sri Sairam Engineering College on 20th-21st Dec 2018.
35. FDP on “**Process Control**” on conducted by Department of Instrumentation Engineering at MIT Campus, Anna University, and Chennai on 30th - 6th Dec 2017.
36. FDP on “**Process Control**” on 16th-23rd Dec 2016 conducted by Department of Instrumentation and Control Engineering at Sri Sairam Engineering College.
37. FDP on “**Process Control**” on 15th-19th Dec 2014 at IIT Madras, Chennai.
38. FDP on “**Digital Control System**” on 2nd - 8th Dec 2013 conducted by Department of Instrumentation Engineering at MIT Campus, Anna University, Chennai.
39. FDP on “**Instrumentation in Petrochemical Industries**” on 3rd - 9th June 2013 conducted by Department of Instrumentation Engineering at MIT Campus, Anna University, Chennai.
40. FDP on “**World Class Higher Learning Institutions and Faculties**” on 12th Dec 2012 at Sri Sairam Engineering College.

STTP Attended:

1. An AICTE Sponsored STTP on **“Data Science Applied to Measurement and Control”** on 31st Jan -5th Feb 2022 at MIT Campus, Anna University.
2. An AICTE Sponsored STTP on **“Sensor Interfacing and Control Implementation in Engineering Systems”** conducted as three phases from on 16th Nov- 5th Dec 2020 at Saveetha Engineering College.

Industrial Training attended:

1. Faculty Industrial Training Program attended at **GH Induction Pvt Ltd** located at 12th Main Road, SIDCO Industrial Estate Area, Thirumudivakkam, Chennai 600 132 on 21st-26th Feb 2022.
2. Industrial Training program attended at **RLT Instrumentation Pvt Ltd** located at Chengalpattu.

NPTEL Online Certification Course:

1. Online Certification Course on **Patent Search for Engineers and Lawyers**
2. Online Certification Course on **Cloud Computing**
3. Online Certification Course on **Innovation, Business Models and Entrepreneurship**
4. Online Certification Course on **Education for Sustainable Development**
5. Online Certification Course on **Data Analytics with Python**
6. Online Certification Course on **Innovation by Design**
7. Online Certification Course on **Roadmap for patent creation**
8. Online Certification Course on **Computer Vision**
9. Online Certification Course on **Deep Learning - IIT Ropar**
10. Online Certification Course on **Introduction To Machine Learning**
11. Online Certification Course on **Learning Analytics Tools**
12. Online Certification Course on **Design Thinking - A Primer**
13. Online Certification Course on **Soft Skill Development**
14. Online Certification Course on **Introduction to Professional Scientific Communication**
15. Online Certification Course on **Data Science for Engineers**
16. Online Certification Course on **Body language: Key to Professional Success**
17. Online Certification Course on **Educational Leadership**
18. Online Certification Course on **Python for Data Science**
19. Online Certification Course on **Introduction to Industry 4.0 and Internet of things**
20. Online Certification Course on **Patent Law for Engineers and Scientists**
21. Online Certification Course on **Teaching and Learning in Engineering (TALE)**
22. Online Certification Course on **Effective Engineering Teaching In Practice**
23. Online Certification Course on **Ethics in Engineering Practice**
24. Online Certification Course on **Development Research Methods**

25. Online Certification Course on **Emotional Intelligence**
26. Online Certification Course on **Introduction to research**
27. Online Certification Course on **Industrial Automation and Control**
28. Online Certification Course on **Accreditation and Outcome based Learning**
29. Online Certification Course on **Sensors and Actuators**
30. Online Certification Course on **Introduction to Internet of Things**
31. Online Certification Course on **Enhancing soft skills and personality**
32. Online Certification Course on **Dairy and Food Process and Products Technology**

Completed Online Courses:

1. Completed **Udemy 41.5 hours “Machine Learning A-Z: Hands-On Python and R in Data Science”** course titled **“Learn Python language fundamentals in simple way”**, on 25.03.2020.
2. Completed **Udemy 2 hours** course titled **“Introduction to IOT using Raspberry Pi”**, on 21.09.2019.
3. Completed **Udemy 7 hours** course titled **“Programming Internet of Things – Beginning to Advanced level”**, on 09.11.2019.
4. Completed **Udemy 6.5 hours** course titled **“Internet of Things Automation with ESP8266”**
5. Completed **Skillup Online- Future skills** course titled **“Foundational Artificial Intelligence”**, on 4.03.2020.
6. Completed **Simpli learn- Future skills** course titled **“Introduction to Artificial Intelligence”**, on 01.04.2020.
7. Completed **Coursera** course titled **“An Introduction to Programming the Internet of Things (6 Courses)”** on 24.5.2020.
8. Completed **Coursera** course titled **“AI for Everyone”**, on 20.05.2020.
9. Completed **Coursera** course titled **“Effective Problem Solving and Decision making”**, on 09.05.2020.
10. Completed **Coursera** course titled **“The Sustainable Development Goals-A Global Trans disciplinary vision for the future”** 20.06.2020.
11. Completed **Coursera** course titled **“Beyond the Sustainable Development Goals (SDGs): Addressing Sustainability and Development”**, on 23.06.2020.
12. Completed **Coursera** course titled **“Programming for Everybody”** on 10.05.2020
13. Completed **Coursera** course titled **“The Arduinio platform and C Programming”**, on 20.05.20.
14. Completed **Udemy 11 hours** course titled **“Internet of Things”**, on 14.11.2019.

Conferences Attended:

1. Presented a paper titled **“GSM-Based Gas Efflux Monitoring using MQ- 2 Sensors”**, in International Conference on Power, Energy, Control and Transmission Systems (ICPECTS), at Sri Sai Ram Engg. College Chennai, 8-9 Dec- 2022.
2. Presented a paper titled **“Smart Heart Health Monitoring System Using IoT”**, in the International Conference on Communication, Computing and IoT, at Sri Sairam Engineering College (online), 10-11th March 2022.

3. Presented a paper titled **“Wireless Powered Sensor Network Based COVID Dissemination Quantifier”**, in the International Conference on Communication, Computing And IoT, at Sri Sairam Engineering College (online), 10-11th March 2022.
4. Presented a paper titled **“Sneak-Sight Shoes for the Visually challenged ”** Virtual IEEE Conference on International Conference on Power , Energy, Control and Transmission Systems (ICPECTS2020) Dec 10-11 2020 conducted by Department of Electrical and Electronics Engineering at Sri Sairam engineering College.
5. Presented a paper titled **“Novel Methodology Facultative Object Details Mechanism Red Tacton Technology”** in International Conference IEEE International Conference on Computing and Communication Technologies (ICCCT '19) conducted by Department of Information Technology at Sri Sairam Engineering College.
6. Presented a paper titled **“Wireless Control of Leakage Detection in Gas Pipelines”**, manuscript in proceedings ICTPEA-2016 in the International Conference on Technologies for Practical Engineering Applications conducted by International Institute for Research and Development in Engineering and Management on 9th April,2016 at Hotel Pratap plaza, Chennai.

Workshops Organized:

1. Conducted a National level Techfest Nexuara 2K21 on 2.11.2021
2. Delivered lecture in FDP on Process Control at Sri Sairam Engineering College.
3. Organized an ISTE FDP on “PROCESS CONTROL”.
4. Organized EAC Camp during 3.1.2019-5.1.2019
5. Organized National Level Technical Symposium “CONTRIVANCE 2K14”.
6. Organized Mini Project Exhibition “SAI I&C PROYECTO CREATIVO” for the two times (2013 and 2020).
7. Organized PLC and SCADA workshop for Students in association with PROLIFIC INSTRUMENTS.

Publication

Journal: 19

International: - 19

1.	“Sil Based Fault Detection in Distillation Column”, 2024 International Conference on Power Energy Control and Transmission Systems Harnessing Power and Energy for an Affordable Electrification of India ICPECTS. DOI:10.1109/ICPECTS62210.2024.10779985.
2.	“Parallel Array of Super capacitors for Storing and Releasing Energy From Regenerative in Electric and Hybrid Vehicles””, 2024 International Conference on Power Energy Control and Transmission Systems Harnessing Power and Energy for an Affordable Electrification of India ICPECTS. DOI:10.1109/ICPECTS62210.2024.10780395.
3.	“Intelligent Agricultural Drones Utilizing Nano-Fertilizer Dispensation for Precision Farming”, 2024 International Conference on Power Energy Control and Transmission Harnessing Power and Energy for an Affordable Electrification of India.

4.	“Diabetic Retinopathy Detection Using Retinal Images” 2024 International Conference on Power Energy Control and Transmission Systems Harnessing Power and Energy for an Affordable Electrification of India ICPECTS. DOI:10.1109/IC3IoT60841.2024.10550273
5.	“Classification of Motor Imagery EEG Using Functional Connectivity”, 2023 Intelligent Computing and Control for Engineering and Business Systems ICCEBS. DOI:10.1109/ICCEBS58601.2023.10449001
6.	“Control and Monitoring of pH Process”, 2023 Intelligent Computing and Control for Engineering and Business Systems ICCEBS. DOI:10.1109/ICCEBS58601.2023.10449276.
7.	“VR Premised Micro UAV for Surveillance and Rescue Operations”, 2023 Intelligent Computing and Control for Engineering and Business Systems ICCEBS. DOI:10.1109/ICCEBS58601.2023.10449272
8.	"Smart Heart Health Monitoring System Using IoT," 2022 International Conference on Communication, Computing and Internet of Things (IC3IoT), 2022, pp. 1-6, doi: 10.1109/IC3IOT53935.2022.9767940.
9.	"Wireless Powered Sensor Network Based Covid Dissemination Quantifier," 2022 International Conference on Communication, Computing and Internet of Things (IC3IoT), 2022, pp. 1-4, doi: 10.1109/IC3IOT53935.2022.9768025.
10.	Presented a paper titled “GSM-Based Gas Efflux Monitoring using MQ- 2 Sensors”, in International Conference on Power, Energy, Control and Transmission Systems (ICPECTS), at Sri Sai Ram Engg. College Chennai, 8-9 Dec- 2022.
11.	“Sneak-Sight Shoes for the Visually challenged” published in IEEE Digital Xplorer which was published in Feb 2021. (Scopus Indexed).
12.	“Computer Based Power Theft Detection And Automated Isolation Scheme” published in Vol. 40 Issue 3,Page No: 303-310, Feb 2020 in The Place Name Society of India.(UGC Care)
13.	“Dual Detection of MASTIC Sealant” published in Vol 21 Issue 17,Page No:1892-1897, April 2019 in Journal of the Gujarat Research Society.(UGC Care).
14.	“Detection of Volatile Organic compound using Electrochemical Sensor” published in Volume 8,Issue 03,Page No:4633-4637, September 2019 in International Journal of Recent Technology and Engineering(IJRTE) ISSN: 2277-3878.(Scopus Indexed).

15.	“Implementation of GUI for class attendance using face detection and recognition system” published in Volume 9, Issue 01,Page No:2993- 2996,November 2019 in International Journal of Innovation Technology and Exploring Engineering ISSN No:2278-3075. (Scopus Indexed).
16.	“Process Automation of Demineralization plant using Delta PLC, Wonder ware InTouch and Delta HMI” published in Volume 8,Issue 03,Page No:4721-4727, September 2019 in International Journal of Recent Technology and Engineering (IJRTE) ISSN:2277-3878. (Scopus Indexed).
17.	“Novel Methodology Facultative Object Details Mechanism Red Tacton Technology” published in Volume 6,Issue :4,Page No:211-213, April 2019 in Journal of Emerging Technologies and Innovative Research, ISSN nO:2349-5162. (UGC Care).

18.	“S.M.A.R.T Generator” published in volume 4, issue XI, P No:510-513, November 2016 in International Journal for Research in Applied Science and Engineering Technology (IJRASET) ISSN No:2321-9653. (UGC Care).
19.	“Calibrating Cable Error” published in Volume.03, Issue 07, July 2017 Page no.1-5 in International Journal of Advanced Research in Engineering and Management (IJAREM). ISSN: 2456-2033. (UGC Care).

Patents Registered/ Awarded:

1) Title : FREQUENCY BASED INSECT REPELLENT SYSTEM FOR SAFETY AGRICULTURAL FIELD

Patent No: 202041036488A

Date of filing: 25/8/2020

Date of Published: 4/9/2020

2) Title : IOT BASED NOZZLE AND SHELL JUNCTION FOR FEED WATER HEATER

Application No: 202141059532 A

Date of Filing : 20/12/2021

Date of Publication: 28/01/2022

3) Title: IOT ENABLED SOLAR POWERED SMART WASTE MANAGEMENT DUSTBIN

Application No: 20241069671 A

Date of Filing : 17/02/2024

Date of Publication: 18/04/2024

4) Title: FAULT DETECTION IN DISTILLATION COLUMN USING SIL

Application No: 202441083971 Date

of Filing : 17/02/2024

Date of Publication: 18/04/2024

FUNDED PROJECT DETAIL

IEDC

Amount: 50000

Project title: Effective Regeneration of Power using Permanent Magnets.