

# Sri Ramakrishna Institute of Technology

(An Autonomous Institution)
(Accredited by NAAC with "A" Grade & All UG Programmes are Accredited by NBA)
Pachapalayam, Perur Chettipalayam, Coimbatore – 641 010
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# **Faculty Profile**

## R.GAYATHRI B.E., M.E.,

Assistant Professor (Sr. Gr)

# **Electronics and Communication Engineering**



Date of birth	:	04.04.1990	Gender	:	Female
Nationality	:	Indian	Marital status	:	Married
Address for correspondence	:	1/5 Oor Gounder Street, Maruthapuram, Navavoor, Bharathiar University (PO), Coimbatore - 641046	Permanent address	:	1/5 Oor Gounder Street, Maruthapuram, Navavoor, Bharathiar University (PO), Coimbatore - 641046
Mobile no	:	9677660783	e-mail (official)	:	gayathri.ece@srit.org
Landline	:	-	e-mail (personal)	:	visitgayathri@gmail.com
Date of joining this institution	:	03.06.2013	Post of joining	:	Assistant Professor
No of promotions since present D.O.J	:	01	Present post	:	Assistant Professor (Senior Grade)
Present pay scale	:	Rs.15,600 – Rs.39,100	Gross pay	:	42,364.00
Employer ID	:	TE167	Bank account No. (Salary credited)	:	500101010584083
P.F. No	:	TN/CBE/56764/592	Group Insurance No	:	-
PAN Number	:	BEBPG7845F	Aadhar Number	:	984048003825
AICTE ID	:	1-7383471499	AICTE Institution ID	:	1-7841521

# **Educational Qualification**

Degree	Specialization	Year of	Name of the	Name of the	Class
		Passing	College	University	Obtained
Ph.D	Faculty of	-	Anna University,	Anna	Pursuing
	Information and		Chennai	University,	
	Communication			Chennai	
	Engineering				
M.E.	Communication	2013	SNS College of	Anna	8.02 (CGPA) /
	Systems		Technology,	University,	First Class
			Coimbatore.	Chennai	
B.E.	ECE	2011	SNS College of	Anna	8.47(CGPA) /
			Technology,	University,	First Class
			Coimbatore.	Coimbatore	
Higher	Biology/Maths	2007	Chavara Vidya	State board	83% / First
Secondary			Bhavan Matric		Class
			Higher Secondary		
			School,		
			Coimbatore.		
S. S. L.C	-	2005	Chavara Vidya	State board	82% / First
			Bhavan Matric		Class
			Higher Secondary		
			School,		
			Coimbatore		

Title of Ph.D. Thesis: Nil

# Academic Experience

Name of the College	Designation	Joining	Relieving	Experience		
Tume of the donege	Date		Date	Years	Months	Days
Sri Ramakrishna Institute of Technology, Coimbatore	Assistant Professor (Senior Grade)	03.06.2013	-	9	10	7
Total					10	7

# **Industrial Experience**

Name of the	Designation	Nature Joining 1	Nature Nature	Relieving	I	Experience	
Organisation	Designation	of Work	Date	Date	Years	Months	Days
Nil							

## Courses Handled

Academic Year	Semester	Course Name	Type of Course (T / L)	Pass Percentage
2013-2014	III	Principles of	Т	82
		Communication		
	IV	Microprocessor and	Т	56
		Microcontroller		
	IV	Microprocessor and	L	100
		Microcontroller		
		Laboratory		
2014-2015	III	Analog and Digital	T	97
		Communication		
		Techniques		
	III	Digital Communication	L	100
		Laboratory		
	II	Electronic Devices and	Т	87
		Circuits		
	II	Electronic Devices and	L	100
		Circuits		
		Laboratory		
2015-2016	I	Advanced Digital	T	67
		Communication		
		Techniques		
	III	Digital Communication	L	100
		Laboratory		
	II	Digital Principles and	Т	96
		System Design		
	II	Digital Laboratory	L	100
2016-2017	III	Electronics Laboratory	L	100
	II	Engineering Practices	L	100
		Laboratory		
	VIII	Professional Ethics in	T	98
		Engineering		
	II	Digital Laboratory	L	100
2017-2018	II	Advanced Fiber Optic	T	100
		Technologies		
2018-2019	III	Analog and Digital	T	85
		Communication		
	I	Advanced Digital	T	100
		Communication		
	I	Engineering Workshop	L	100

	II	Basic Electrical and	Т	79
		Electronics Engineering		
	II	Advanced Fiber Optic	T	100
		Technologies		
2019-2020	II	Digital System	T	93
	I	Electronics Engineers	Т	100
		and Society		
	VI	Principles of Satellite	T	100
		Communication		
	IV	Project Phase - II	L	100
2020-2021	III	Digital System	T	88.9
	III	Principles of	Т	82.6
		Communication		
	I	Statistical Digital Signal	Т	100
		Processing		
	VI	Principles of Satellite	Т	100
		Communication		
	I	Advanced Fiber Optic	Т	100
		Technologies		
2021-2022	III	Digital Principles and	T	100
		System Design		
	III	Digital Logic Circuits	Т	100
	IV	Introduction to	Т	80.76
		Embedded Systems		
	VIII	Introduction to	Т	100
		Embedded Systems		
2022-23	III	Digital Principles and	Т	85.48
		System Design		
	III	Digital Electronics	L	100
		Laboratory		
	IV	Microcontrollers and its	T	-
		Applications		
		1 ipplications		

# Projects Guided

Academic	Semester	Project Title	UG / PG
Year			
2013-2014	VIII	Vehicle Monitoring and Controlling using Multi-	UG
		Sensors.	
2014-2015	VIII	Analysis of Various Parameters in Agricultural Field	UG
		using Sensors.	
2015-2016	VIII	Protection of Green House Environment using Solar	UG
		System.	

2016-2017	VIII	An Automated System for Elephant Identification and	UG
		to Reduce Human-Elephant Conflict.	
2017-2018	VIII	A Smart hand gesture recognition system for silent	UG
		speakers.	
2018-2019	VIII	An Efficient Lossless ECG Signal Transmission for	UG
		Telemedicine Application	
2019-2020	VIII	An Automized System for Accident Prevention While	UG
		Driving.	
2020-2021	VIII	1. Wireless Communication using 433 MHz Trans-	UG
		receiver	
		2. Compact Egg Incubator	
2021-2022	VIII	1. A Smart Chair for Office Employees	UG
		2. Speech Emotion Recognition using CNN	PG
2022-2023	VIII	1. Speech Emotion Recognition using CNN-LSTM	UG
		2. IoT based Exhaust Gas Emission Monitoring	
		System	

#### **Publications**

Publications	SCI / Scopus / Web of Sciences	Others
Journal	2	20
Conferences	Nil	3

#### Journal Publications (IEEE format)

- Gayathri.R, Saranya.B, Binu,D, Lavanya.R, Devi.P, "An Optimized Equipment for Measurement of Soil Parameters and Conservation of Water in Agricultural Fields" International Journal of Innovative Research in Computer and Communication Engineering, Vol. 4, Issue 6, PP. 12450-12455, June 2016.
- 2. B.Abinayaa, G.Kiruthikamani, B.Saranya, Gayathri.R, "An Intelligent Monitoring Device for Asthmatics using Arduino", International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering, Vol. 5, Issue 7, PP. 6269-6273, July 2016.
- 3. G.Kiruthikamani, B.Abinayaa, B.Saranya, P.Devi, Gayathri.R, "Smart Vehicle Safety System Using Arduino", International Journal of Trend in Research and Development, Vol. 3, Issue 6, PP. 804-807, November 2016.
- 4. Ms.D.Binu, Dr.P.Malathi, Ms.Gayathri.R, Mr.K.Vijay Anand, "Secured Palmprint Recognition Using Radon Transform for Biometric Authentication" Journal of Environmental Science, Computer Science and Engineering & Technology, Vol. 5, Issue 4, PP. 1-13, February 2017.

- 5. Lavanya.R, Dr.K.Sheela Shobana Rani, Gayathri.R, Binu.D, "A Smart Information System for Public Transportation Using IoT", International Journal of Recent Trends in Engineering and Research, Vol. 3, Issue 4, PP. 222-230, April 2017.
- 6. Ms.D.Binu, Ms.Gayathri.R, Mr.K.Vijay Anand, Ms.Lavanya.R, Ms.Kanmani.R, "Thermoelectric Power Generation Using Solar Energy", International Journal for Scientific Research & Development, Vol. 5, Issue 3, PP. 222-230, May 2017.
- 7. Ms.Gayathri.R, Dr.K.Sheela Shobana Rani, Ms.Lavanya.R, "An Automatic Repelling System to Reduce Human Elephants Conflicts Using Sensors", International Journal for Research in Applied Science & Engineering Technology (IJRASET), Vol. 5, Issue 5, PP. 528-532, May 2017.
- 8. D.Binu, Mr.K.Vijay Anand, Gayathri.R, "Mobile Phone Based Secured Electronic Payment System Using RFID Communication", International Journal of Scientific Research in Computer Science, Engineering and Information Technology, Vol. 2, Issue 6, PP. 224-229, December 2017.
- 9. Dr.K.Sheela Shobana Rani, Lavanya.R, Gayathri.R, "Energy Efficient Packet Transmission for Wireless Sensor Networks", International Journal for Science and Advance Research in Technology, Vol. 3, Issue 12, December 2017.
- 10. Dr.K.Sheela Shobana Rani, Lavanya.R, Gayathri.R, "A Secured Patient Health Record Using Encryption Algorithm", International Journal of Engineering Development and Research, Vol. 6, Issue 1, January 2018.
- 11. Gayathri.R, Dr.K.Sheela Shobana Rani, "Different Encoding and Decoding Techniques of ECG Signal for Efficient Transmission A Survey" International Research Journal of Engineering and Technology, Vol. 5, Issue 12, December 2018.
- 12. M.Nivetha, R.Priyanka, V.Sangavi, R.Gayathri, "Efficient ECG Signal Compression using Various Coding Techniques", International Journal of Research in Engineering, Science and Management Vol. 2, Issue 3, March 2019.
- 13. Ms.Gayathri.R, Dr.K.Sheela Shobana Rani, Ms.Lavanya.R, "Smart Finger Gesture Recognition System for Silent Speakers", International Journal of Scientific Research in Computer Science, Engineering and Information Technology, Vol. 5, Issue 4, August 2019.
- 14. Ms.Gayathri.R., Ms.Lavanya.R Dr.R.Jaikumar, "Vehicle Monitoring and Controlling Using Multi-Sensors in Ad-Hoc Networks", International Journal of Creative Research Thoughts, Vol. 8, Issue 6, June 2020.
- 15. K.Sheela Sobana Rani, M.Yuvaraju, V.Sathya, R.Lavanya, R.Gayathri, "A Modified Image Steganographic Method Based on Chaotic Text Encryption using Lifting Wavelet Transform", Electronic Government, International Journal, Inderscience. (Scopus)
- 16. R.Gayathri, N Riyaz, S Suriya Karthik, P Udhaya Kumar, "Compact Egg Incubator", International Research Journal of Modernization in Engineering Technology and Science, Volume:03, Issue:03, March 2021.

- 17. Guna T, Manojkumar S, Hamsa Krishna R, Nitesh S, Ms.R.Gayathri, "Wireless Communication using 433 MHz Trans-Receiver", International Research Journal of Modernization in Engineering Technology and Science, Volume:03, Issue:03, March-2021.
- 18. Ms.R.Gayathri, B. Pavithra, S.Prabhavathi, G.Sakthi, "Classification Of Environmental Sounds using Deep Learning", International Research Journal of Modernization in Engineering Technology and Science, Volume: 03, Issue:12, December 2021.
- 19. Chisnah C.J, Gayathri R, "Review on Classification of Speech Signal Using Traditional and Deep Learning Techniques", International Journal of Research and Analytical Reviews, Volume: 09, Issue: 02, April 2022.
- 20. R. Gayathri and K. Sheela Sobana Rani, "Implementation of Hybrid Deep Reinforcement Learning Technique for Speech Signal Classification", Computer Systems Science & Engineering, Volume: 46, Issue: 01, January 2023.
- 21. Gayathri R, Arun Kumar B, Inbanathan S, Karthick S, "Speech Emotion Recognition using CNN-LSTM", International Journal of Scientific Research in Engineering and Management (IJSREM), Volume: 07, Issue: 03, March 2023.
- 22. Gayathri R, Surya Raj M, Sadeesh P, Selvakumar K, "IoT Based Automatic Exhaust Gas Emission Monitoring System For Commercial Vehicles", International Journal of Scientific Research in Engineering and Management (IJSREM), Volume: 07, Issue: 03, March 2023.

#### Conference Publications (IEEE format)

- 1. Presented a Paper titled "Analysis of Various Parameters in Agricultural Field Using Sensors" in Fourth National Conference on Communication, Computation, Control and Automation (CCCA 2014) at Sri Ramakrishna Institute of Technology, Coimbatore during 28 and 29 March 2014.
- 2. Presented a Paper titled "Optimal Resource Allocation in Duplex Wireless-Powered Communication Networks" in National Conference on Organic Electronics, Green Communication and its Security Issues at Erode Segunthar Engineering College, Erode on 9th May 2014.
- 3. Participated in 3rd National Level Conference on "Intelligent Information and Computing Technologies (IICT 2017)" and presented the tiled "An Automated System for Elephant Identification and to Reduce Human Elephant Conflicts" held at RVS College of Engineering and Technology, Coimbatore on 3rd March 2017.

# Books / Book Chapters (IEEE format)

1. K.Sheela Sobana Rani, R. Gayathri, R.Lavanya, and K.Uthayasuriyan, "Design of Reliable Dense Wavelength Division Multiplexing System for Metropolitan Area Network", Springer Lecture Notes in Networks and Systems- Inventive Computation Technologies, Vol. 98, 2019. PP 782-793.

#### Research Guidance

Sl.No.	Scholar Name	University	Area of the Research	Research Status			
	Nil						

#### Sponsored Research

Project Title	Funding Agency	Amount Rs.	Duration
	Nil		

## Consultancy

S. No.	Organization/ Agency	Nature of Work	Amount in Rs.	Year

#### Workshops / Seminars attended

- 1. One day National workshop on "Advanced Trends in Communication Techniques" at Sri Ramakrishna Institute of Technology on 8th October 2013.
- 2. National Level Workshop on "Recent Trends in Nano Technology and Its Application to Energy Sector" at Nandha Engineering College, Erode on 18th & 19th October 2013.
- 3. Two-week ISTE Workshop on "Signals and Systems" conducted by IIT Kharagpur under National Mission on Education through ICT (MHRD) at Sri Ramakrishna Institute of Technology from 2<sup>nd</sup> to 12<sup>th</sup> January 2014.
- Two-week ISTE Workshop on "Control Systems" conducted by IIT Kharagpur under National Mission on Education through ICT (MHRD) at Sri Ramakrishna Institute of Technology from 2<sup>nd</sup> to 12<sup>th</sup> December 2014.
- 5. Two day workshop on "e-Yantra Robotics" at Dr. G. R. Damodaran College of Science, Coimbatore during 24<sup>th</sup> and 25<sup>th</sup> February 2016.
- 6. Two days hands-on "TI MSP430 Embedded System Workshop" at Sri Ramakrishna Institute of Technology, Coimbatore during 21st and 22nd November 2016.
- 7. Two day workshop on "Advances in Artificial Intelligence" at Sri Ramakrishna Institute of Technology, Coimbatore during 22<sup>nd</sup> and 23<sup>rd</sup> December 2016.
- 8. One day workshop on "Research Methodology and Writing Funding Proposals" at Sri Ramakrishna Institute of Technology, Coimbatore on 22<sup>nd</sup> December 2017.
- 9. Attended LATEX training provided by Spoken Tutorial Project, IIT Bombay at St.Joseph's Institute of Technology, Chennai from 15th to 17th May 2020.

10. Attended a Workshop on "Intellectual Property Rights" organized by TNSCST and Mohamed Sathak College of Engineering, Chennai during 02nd and 3rd June 2020.

### Faculty Development Program attended

- 1. Anna University, Chennai approved FDTP on "Antenna and Wave Propagation" from 7th to 13th December 2015 at Hindustan Institute of Technology, Coimbatore.
- 2. Three day FDP on "My Profession, My Commitment, My Life" from 16th to 18th November 2016 at Sri Ramakrishna Institute of Technology, Coimbatore.
- 3. Two-Week ISTE STTP on "CMOS, Mixed Signal and Radio Frequency VLSI Design" from 30th January 2017 to 4th February 2017 at Sri Ramakrishna Institute of Technology, Coimbatore.
- 4. AICTE recognized short term course on "Artificial Neural Network & Fuzzy Logic" from 24th to 28th April 2017 at Sri Ramakrishna Institute of Technology, Coimbatore.
- 5. FDP on "Signals and Systems" from 20th to 22nd January 2018 at Sri Ramakrishna Institute of Technology, Coimbatore.
- 6. National Institute of Technical Teachers Training & Research-ICT based Short Term Course titled "Optimization Techniques with Engineering Applications" from 10th to 14th December 2018 at Sri Ramakrishna Institute of Technology, Coimbatore.
- 7. Attended a FDP on "Recent Trends in Bio-Medical Engineering Research Perspective" at Dr.N.G.P. Institute of Technology, Coimbatore in association with MHRD-IIC & IQAC from 26th to 30th April 2020.
- 8. Participated in FDP on "Antenna and Microwave Engineering" hosted by the Department of Electronics and Communication Engineering in association with IETE Chapter and Society of EMC Engineers of K. Ramakrishnan College of Technology, Trichy from 08th to 13th June 2020.
- 9. Attended an International FDP on "Future Advancements and Applications of Internet of Things" organized by Electronics & Telecommunication Department of Sandip Institute of Engineering & Management Nashik from 12th to 14th June 2020.
- 10. Attended an International FDP on "Cyber Physical systems and Future Robotics of Industry: Cobotics" organized by Electronics & Telecommunication Department, R.C Patel Institute of Technology, Shirpur during 11th and 12th July 2020.
- 11. Attended a FDP on "Research Aspects of Signal and Image Processing" hosted by the Department of Electronics and Communication Engineering at Mohamed Sathak A J College of Engineering, Chennai from 27th to 31st July 2020.
- 12. Attended a AICTE STTP on "Green Internet of Things" organized by Electronics & Telecommunication Department at Vivekanand Education Society's Institute of Technology, Mumbai from 10th to 15th August 2020.
- 13. Attended a FDP on "Data Science: Hands on with Python, Keras and Tensorflow" at Vellore Institute of Technology, Chennai from 14th to 18th September 2020.

- 14. Attended a FDP on "Machine Learning and its Applications" hosted by the Department of Electronics and Communication Engineering at Sri Venkateswara College of Engineering, Sriperumbudur from 21st to 25th September 2020.
- 15. Participated in FDP on "Advances in Wireless Communication" hosted by the Department of Electronics and Communication Engineering from 12th to 16th October 2020 at NIT Andhra Pradesh, Tadepalligudem, Andhra Pradesh.
- 16. Participated in AICTE-AQIS sponsored STTP on "Integrative Internet of Things and Deep Learning for Smart Health Care" hosted by the Department of Electronics and Communication Engineering from 19th to 24th October 2020 at KPR Institute of Engineering and Technology, Coimbatore.
- 17. Participated in AICTE Training and Learning (ATAL) Academy Online FDP on "Neural Network and Deep Learning" from 2020-11-23 to 2020-11-27 at Guru Gobind Singh Indraprastha University.
- 18. Attended an FDP on "Optimization Techniques using ML for Engineering Discipline" organized by Electronics & ICT Academy, National Institute of Technology, Warrangal and Gokaraju Rangaraju Institute of Engineering and Technology, Hyderabad during 18th and 27th July 2022.

### **Events Organized**

- Acted as one of the co-ordinator for organizing a Two Day workshop titled "Introduction to MATLAB" conducted by SRIT Engineering Division on 25<sup>th</sup> & 26<sup>th</sup> October 2018 at Sri Ramakrishna Institute of Technology, Coimbatore.
- Acted as one of the co-ordinator for organizing an ICMR Seminar titled "Awareness for rural students about balancing academic, personal and societal life to lead a stressless career" on 06<sup>th</sup> July 2018 at Government Higher Secondary School, Aalandurai.
- Acted as one of the co-ordinator for organizing a Project Expo titled "IEEE YESIST 12 –
  AGE OF INNOVATION" on 16<sup>th</sup> March 2019 at Sri Ramakrishna Institute of Technology,
  Coimbatore.
- Organized a Webinar on "Robotic Processs Automation The Future Workforce" on 29th May 2020.
- Organized a Webinar on "Recent Trends in Semiconductor and ASIC Verification" on 6th June 2020.
- Organized an FDP on "Research Challenges and Issues in Wireless Communication Networks" during 08.02.2021 to 21.02.2021.
- Organized a Webinar on "Direct Broadcasting Services" on 29th April 2021.

#### Online Courses attended

Sl. No.	Title	Platform
1	Basic Electronics	
2	Digital Circuits	
3	Internet of Things	NPTEL
4	Joy of computing using Python	
5	Accreditation and Outcome based Learning	

6	Qualitative Research Methods and Research writing	
7	Learning to Teach Online (5 Weeks)	
8	Computer Vision - Object Tracking with Open CV and Python (1 Week)	Coursera
9	Introduction to Internet of Things and Embedded Systems (4 Weeks)	
10	Programming for Everybody - Getting Started with Python (7 Weeks)	
11	Image Denoising using Autoencoders in Keras and Python (1 Week)	
12	Automatic Machine Learning with H2O AutoML and Python (1 Week)	
13	Convolutions for Text Classification with Keras (1 Week)	
14	Fundamentals of Network Communication	

### Awards and Recognitions Secured

- 1. Won Gold Award in the International Invention and Innovation Exhibition (I-ENVEX) 2018 for the project, "Elephant Intrusion and Detection System" at University Malaysia Perlis held on 13.04.2018 and 14.04.2018.
- 2. Participated and presented the project titled "Automatic Intrusion Detection and Repellant System to avoid Human Elephant Conflict" in International Project Competition "IEEE SS12 Project Contest, Prelims 2018 held at Kongu Engineering College on 11.08.2018.
- 3. Completed the module titled "How to prepare Manuscript" in Researcher Academy.
- 4. Completed the module titled "Career Planning" in Researcher Academy.
- 5. Acted as one of the reviewer in INDERSCIENCE Submissions to review the article titled "Security Ontology for e-Government Data Centre".
- 6. Acted as one of the reviewer in INDERSCIENCE Submissions to review the article titled "Study of Various Authentication Methods in Cloud with Biometrics as a Blooming Technology".
- 7. Filed for Patent titled "Equipment for Measurement of Soil Parameters and Conservation of Water Using Sensors in Agricultural Fields" on 31.12.2015.
- 8. Filed for Patent titled "Automatic Elephant Intrusion Detection and Repellant System" on April 2018.
- 9. Successfully completed the "BEC course" and scored A2 level during September 2019.
- 10. Won Bronze Award in the International Invention Innovation Creativity and Technology Exhibition (i2CreaTE) 2021 for the project, "A Low Cost M2M Communication Transceiver at 433MHz Band" at University Malaysia Perlis held on 16.09.2021.