

## CURRICULAM VITAE

**Dr.R.NANDAKUMAR,**  
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### ACADEMIC CHRONICLE

- ❖ **Ph.D. in Information & Communication Engineering** from Anna University, Chennai, March 2017
- ❖ **M.E. in Applied Electronics** from K.S.Rangasamy College of Technology, Tiruchengode, **Anna University, 2006** with an aggregate of **80% ( Distinction).**
- ❖ **Bachelor of Electronics and Communication Engineering** from K.S.Rangasamy College of Technology, Tiruchengode, **University of Madras, 2000** with an aggregate of **68%**

### TEACHING EXPERIENCE – 23Years

Institution	Designation	Experience	Duration
K.S.R. Institute for Engineering & Technology	Professor & Director	2 years 4 months	November 2020 to till date
K.S.R. Institute for Engineering & Technology	Professor & Head / ECE	3 years & 8 months	March 2017 to October 2020
K.S.R. Institute for Engineering & Technology	Associate Professor & Head / ECE	2 Years & 8 months	July 2014 to February 2017
K.S.R. Institute for Engineering & Technology	Assistant Professor & Head / ECE	3 years	July 2011 to June 2014
K.S.Rangasamy College of Technology, Tiruchengode.	Assistant Professor	3 years	July 2008 to June 2011
K.S.Rangasamy College of Technology, Tiruchengode.	Senior Lecturer	2 years	July 2006 to June 2008
K.S.Rangasamy College of Technology, Tiruchengode.	Lecturer	5 years & 1 month	June 2001 to June 2006
HEA Polytechnic, Bangalore	Lecturer	1 year	June 2000 to May 2001

### International Journals: 21

- (1) Detection of Diabetic Retinopathy from Retinal Images Using DenseNet Models. **COMPUTER SYSTEMS SCIENCE AND ENGINEERING**. 2023 Jan 1;45(1):279-92.
- (2) LSTM Based Spectrum Prediction for Real-Time Spectrum Access for IoT Applications. **Intelligent Automation & Soft Computing**. 2023 Mar 1;35(3).
- (3) An IoT- Enabled Augmented Reality Framework for Plant Disease Detection. **Revue d' Intelligence Artificielle**, vol.35, No. 3, June 2021, pp. 185 – 192.
- (4) "A Survey on Mathematical, Machine Learning and Deep Learning Models for COVID-19 Transmission and Diagnosis." **IEEE reviews in biomedical engineering** (2021).
- (5) "Smart bi-facial solar inverter with effective charging system." **Materials Today: Proceedings** (2021).
- (6) "An improved two-way secure key supervision (tsks) scheme for secure scada." **Materials Today: Proceedings** (2021).
- (7) "SMART SHOE USING PIEZOELECTRIC EFFECT " **Suraj Punj Journal For Multidisciplinary Research**. Volume 11, Issue 4, 2021, pp. 290 - 293, ISSN NO: 2394-2886.
- (8) "INTELLIGENT LUMINOUS CONTROL" **Suraj Punj Journal For Multidisciplinary Research**. Volume 11, Issue 4, 2021, pp. 294 - 298, ISSN NO: 2394-2886.
- (9) " Feature Extraction for the Classification of Human Chromosomes from G-Band Images using Wavelets " **International Journal of Engineering Research & Technology**. Volume 8, Issue 17, 2020, pp. 67 - 72, ISSN: 2278-0181
- (10) "Health Management Of Crop Precision With Smart Farming Technologies Using Iot." **Solid State Technology** 63.5 (2020): 5686-5692.
- (11) 'Detection of Abnormalities in Kidneys Using Image Processing', **International Journal of Emerging Trends in Engineering Research**, 8(10), October 2020, 6750 – 6756.

- (12) 'Deep learning based modulation classification for 5G and beyond wireless systems', **Peer-to-Peer Networking and Applications** (2020), <https://doi.org/10.1007/s12083-020-01003-3> (**Springer**)
- (13) 'Data-Driven Methods for Next Generation of Wireless Communication Networks', **International Journal of Advanced Trends in Computer Science and Engineering**, 9(4), July – August 2020, 4696 – 4700.
- (14) 'Speed-bump Detection using Otsu's Algorithm and Morphological Operation', **International Journal on Emerging Technologies** 11(3): 989-994(2020), ISSN No. (Print): 0975-8364, ISSN No. (Online): 2249-3255.
- (15) 'An Implementation of GFDM Transmitter for 5G Waveform Generation', **Journal of Xi'an University of Architecture & Technology** Volume XII, Issue VI, 2020, pp.1877-1882, ISSN No : 1006-7930.
- (16) 'A Review on Block Chain Technology Applications with an Emphasis on Health Care', **International Journal of Advanced Science and Technology** Vol. 29, No. 7s, (2020), pp. 4835 – 4839.
- (17) 'Analysis of Abnormalities In Common Carotid Artery Images Using Multiwavelets', **ICTACT Journal on Image and Video Processing**, vol. 7, no. 2, pp.345-1350, ISSN: 0976-9102.
- (18) 'Mathematical modeling of common carotid artery using polynomial interpolation by automated lumen segmentation and estimation of numerical attributes', **International Journal of Applied Engineering Research**, vol. 10, no. 20, pp. 18836-18842, ISSN: 0973-4562.
- (19) 'Automated boundary detection and measurement of common carotid artery attributes using transversal B –mode ultrasound images', **Australian Journal of Basic and Applied Sciences**, vol. 9, no. 27, pp. 181-186, ISSN: 1991-8178.
- (20) 'Feature Extraction and Pairing of G-band Chromosome Images using K-Nearest Neighbour Classifier' **International Journal of 'Computer Science and Technology** vol. 3, no. 2, pp. 137-140, ISSN: 0976-8491.
- (21) 'A CAD System for Lung Nodule Detection using Neural Network' **International Journal of 'Biomedical Engineering and Consumer Health Informatics**, vol. 1, no. 1, pp. 35-38, ISSN: 0973-6727

## International Conferences: 11

- (1) “A Neural Network based Classifier for Lung Nodule detection” in International Conference on Global Trends in Bio medical Informatics: Research, Education and Commercialization organized by Sai’s Biosciences Research Institute Private Ltd, Chennai, January 2008.
- (2) “Prenatal detection of fetal abnormalities: A Review” in ‘Fifth International Conference on Medical Informatics & Telemedicine(MEDITEL 2008)’ organized by Medical Computer Society of India, December 2008.
- (3) “BIST pattern generation with LT-RTPG and 3-Weight Weighted random BIST” in ‘3<sup>rd</sup> International Conference on Intelligent systems and control’ organized by Karpagam College of Engineering, February 2009.
- (4) “Power optimized leading zero-counting and anticipation logic for high speed floating point units” in International Conference on ‘Future Engineering Trends – ICFET 2010’ organized by Saveetha School of Engineering, Chennai, April, 2010.
- (5) ‘Automatic Classification of Human chromosomes using G-band chromosome image’ at International Conference on ‘Science, Engineering and Technology’, December 2011.
- (6) ‘VLSI Implementation for efficient noise removal of Impulse noise using Image Denoising Techniques’ in the International Conference on ‘Advances in Electrical & Electronics, Information, Communication & Bio-Informatics sponsored by IEEE, IETE & CSIR., January 2012.
- (7) ‘Automatic pairing of Human chromosomes using G- band chromosome image’ at ‘International Conference on Molecular Medicine: MOLMED-2012 at VIT University.
- (8) ‘Automated Lumen segmentation and Estimation of Numerical attributes of Common Carotid Artery using Longitudinal B-mode Ultrasound Images’, in **IEEE-EMBS special topic conference on Point-of-Care(POC) Healthcare Technologies**, 16-18 January 2013, Bangalore. ( **Scopus & h- index 1**)
- (9) “Mathematical Modeling of Common Carotid Artery Using Polynomial Interpolation by Automated Lumen Segmentation and Estimation of Numerical Attributes” in IEEE Sponsored 2<sup>nd</sup> International Conference on Innovations in Information, Embedded and Communication systems (ICIIECS) March, 2015.
- (10) Transform Domain Analysis of Common Carotid Artery Images using Multiwavelets for the Diagnosis of Cardiovascular Diseases in International Conference on Applications of Fractals and Wavelets, January 2015.

- (11) “Internet of Things: A survey and challenges on security and threats”, International conference on Advances in Computing, Communication, Automation and Biomedical Technology, December 2020.

#### **National Conferences: 10**

- (1) “Safety automation of cars using Embedded Microcontrollers” in ‘National Conference on Computational Intelligence and Network Security’ (NCCINS’07) at Vivekananda College of Engineering for Women, March 2007.
- (2) “FPGA Implementation of Nonzero clock skew circuits” in the fifth national conference on ‘ Application of Emerging Technologies’ at Adhiyaman College of Engineering, March 2008.
- (3) “A BIST TPG for high fault coverage and switching activity reduction” in ‘National Conference on Advances in communication systems’ organized by St.Joseph’s College of Engineering and Technology, Palai, March 2009.
- (4) ‘Integration of Generic Skills in Engineering Education: Paradigm Shift’ in 13<sup>th</sup> ISTE Annual Convention at K.S.Rangasamy College of Technology, October 2010
- (5) ‘Development of A Chromosome Recognition System Using Neural Network’ in the Second National Conference on System Design and Information Processing, February 2011 at Excel College of Engineering for Women.
- (6) ‘Feature Extraction and Classification of Chromosome Images by using Wavelet Transform’ in National Conference on Electronics System Informatics and Cybernetics’, March 2011 at PSNA College of Engineering and Technology.
- (7) ‘Development of an Automated Chromosome Classification System’ in the National Conference on ‘Telecommunication & Control Engineering’, January 2012 at PGP Institute of Technology.
- (8) ‘Automized Safe AC system in Cars’ in National Conference on “ Futuristic Automotive Technologies” March 2018 at Hindustan Institute of Technology.
- (9) ‘Design of Child Rescue Robot for Borewell accidents Using Raspberry-Pi in 2<sup>nd</sup> National Conference on “Cutting Edge Innovations in Engineering and Technology”, March 2019 at Cheran College of Engineering.
- (10) ‘Real Time Monitoring System for Aquaculture using IOT” in “Second National Conference on Emerging Engineering and Technology”, May 2020 at Vignana Bharathi Institute of Technology, Hyderabad.

**SPONSORED RESEARCH**

S.No	Title of the Project	Funding Agency	Amount	Role and period
1	An Image Processing System for Early Detection of Cardiovascular Diseases	AICTE - RPS	Rs 10,00,000	Co Investigator 2012-2015

**PATENTS APPLIED**

S.No	Title of the Invention	Application Number	Publication Date
1	A SYSTEM AND METHOD OF PESTICIDE DETECTION IN FRUITS AND VEGETABLES	202041032225	21.08.20
2	AN IMPROVED BELBIC CONTROLLER FOR PMBLDC MOTOR DRIVES USING EMOTIONAL LEARNING TECHNIQUES	202041030788A	07.08.20
3	DOOR HANDLE SANITIZER DISPENSER	20204102744A	10.07.20
4	A NOVEL METHOD FOR DETECTION OF QUALITY OF APPLES USING EDGE DETECTION APPROACH	202041025188A	19.06.20
5	A METHOD FOR RAINFALL PREDICTION USING ARTIFICIAL NEURAL NETWORKS	202011056465A	01.01.21
6	AN ARTIFICIAL INTELLIGENCE BASED SYSTEM TO ASSIST THE COMMUTE FOR VISUALLY CHALLENGED	202241052116A	23.09.22

**SPONSORED PROGRAMMES ORGANISED**

S.No	Title of the Programme	Funding Agency	Amount	Role and Academic year
1	Online Short Term Training Programme (STTP) on “Long Range ( LoRa) Wireless Area Networks: A Futuristic Approach”	AICTE	Rs 3, 85,333	Coordinator 2020- 2021
2	FDTP on “EC6602 – Antenna and Wave Propagation”	Anna University	Rs 40,000	Co-coordinator 2017-2018

3	SDP on Pattern Recognition for Medicine: A Knowledge Engineering Approach	AICTE	Rs 6,00,000	Co-coordinator 2010-2011
4	Current and Future Trends in Medical Image processing and Analysis	AICTE	Rs 2,00,000	Organaising Secretary 2008-2009

### PROJECT CONTESTS GUIDED

S.No	Contest Name	Title of the project	Industry name	Year
1.	India Innovation Challenge Design Contest 2018	Robot Rescuer	TEXAS INSTRUMENTS – sponsored by Department of Science and Technology (DST), IIM Bangalore	2018
2.	Student Project Scheme	Robot Rescuer	Tamil Nadu State Council for Science and Technology	2018
3.	Student Project Scheme	ARDUINO Based Automatic Engine Locking System For Overload Vehicles	Tamil Nadu State Council for Science and Technology	2017
4.	India Innovation Challenge Design Contest 2017	Autonomous Fire Fighting Robot Using MSP 430Launchpad	TEXAS INSTRUMENTS – sponsored by Department of Science and Technology (DST), IIM Bangalore	2017
5.	India Innovation Challenge Design Contest 2016	Vehicle Driver Assistance System using MSP430 Controller	TEXAS INSTRUMENTS – sponsored by Department of Science and Technology (DST), IIM Bangalore	2016
6.	Student Project Scheme	Accident prevention in hill station using ultrasonic sensor	Tamil Nadu State Council for Science and Technology	2016

### AWARDS RECEIVED

**“BEST TEACHER AWARD” from Junior Chamber International (JCI- Erode) 2018.**

**“BEST SUPERVISOR AWARD” from IE chapter, India.**

**“DISTINGUISHED PROFESSOR AWARD” from NOVEL RESEARCH ACADEMY, Puducherry, India**

**“BEST ADMINISTRATOR AWARD” from The Institution of Engineers (India)**

**“BEST DIRECTOR AWARD” from Knowledge Research Academy, Coimbatore**

**FUNDING PROPOSALS SUBMITTED 17**

**UG & PG PROJECTS GUIDED 23**

**GUEST LECTURES DELIVERED 62**

**PROGRAMMES PARTICIPATED 42**

**PROGRAMMES ORGANIZED 61**

**BOOKS PUBLISHED**

S.No	Title of the Book	Author(s)	Name of the Publisher	Year of Publish
1.	VLSI Design	Dr.R.Nandakumar G.Gowtham Raj	Charulatha Publications	2017-2018

**PROFESSIONAL MEMBERSHIPS**

- ❖ LIFE MEMBER of ISTE & IETE
- ❖ MEMBER IEEE

**ADDITIONAL PROFESSIONAL RESPONSIBILITIES**

- ❖ **Training & Placement Coordinator**, KSRIET for 10 years and coordinating skill development, skill assessment, corporate relations and campus recruitment.
- ❖ **Coordinator and Treasurer**, Staff Club, KSRIET for the past nine years and conducting staff welfare programs.
- ❖ **President, JCI TIRUCHENGODE KSRIET**, for the year 2108 & 2019 and organizing individual and community development programs.
- ❖ **Staff Coordinator for SELACE** – Society of Electronics And Communication Engineers



Association, KSRCT for six years. Organized National level Students symposiums, seminars, guest lectures, soft skill trainings, competitions and Hardware Exhibitions.

- ❖ **Placement Coordinator**, Dept of ECE, KSRCT for five years. Guided and Motivated the students in the placement activities. Trained the students for company Interviews and produced a very good placement record.
- ❖ **Secretary, Alumni Association**, KSRCT for two years and worked as joint secretary for six years.
- ❖ **Training Coordinator**, Training Cell, KSRCT for five years. Coordinated all training programs for soft skills and career competency Development.
- ❖ **CCD Coordinator**, KSRCT for five years. Designed Career Competency Development Course in Autonomous Curriculum. Developed syllabus, execution methodologies and coordinated training activities related to the course.