# RESUME

**Dr. A. Sundar Raj – M.E., Ph.D.,**          E-mail: drasr1982@gmail.com

3/147-5, Prakash Illam,                          contact no: (0) 98651 73406

Puthur Main Raod,                                              75986 90233

Manjakollai,

Nagapattinam – 611 106

================================================================

**Career Objective:**

To implement my skills and knowledge for development of my society and nation and also improve the technology in a peace way for the benefit of humanity.

**Academic Qualification:**

- Ph.D (Information and Communication Engineering) in Anna University, Chennai in the year 2018.

- M.E (Applied Electronics) in Sathyabama University, Chennai in the year 2010 with  88% (First class with distinction )

- B.E (ECE) in Mohamed Institute Engineering and Technology, Trichy of  under Anna University in the year 2005 with 69 % (First class)

- +2 in Government Boys Higher Secondary School Under State Board Completed in 2001 with 80% (First class)

- S.S.L.C in Government Boys Higher Secondary School Under State Board Completed in1997 with 53% (First class)

**Skill Set:**

- Operating System : MS-DOS and Windows
- Software Language : C
- Simulation Based Languages : MATLAB, NS-2,ORCAD, PSPICE, RF SIM, MODEL SIM, MULTI SIM, LABVIEW, VIRTUAL NANO LAB, TCAD, NGSPICE
- MS -Office

**Ph.D Title:**

NOVEL SENSING MODELS AND CLUSTERING METHODOLOGIES IN WIRELESS SENSOR NETWORK FOR MANAGING ENERGY UTILIZATION

**M.E Project Details:**

Title : Coverage Analysis of WSN Using Various Sensing Nodes

Algorithm Used : Multidimensional scaling Algorithm

Description **:** Network coverage of wireless sensor network (WSN) Mean show well an area of interest is being monitored by the deployed network. It depends mainly on sensing model of nodes. We present three types of sensing models viz. Boolean sensing model, shadow-fading sensing model and Elfes sensing model. We investigate the impact of sensing models on network coverage.

Normally used for individual detection model and cooperative detection model. The tradeoff between number of nodes and node deployment strategy has been addressed. The regular placement results less number of nodes than the random placement to over an area of interest. We provided to show the impact of sensing on the network coverage. A comparative study between regular and random node placement. Presently using this project for coverage analysis of WSN.

**Field of Interest:**

- Lectureship
- Circuit designing
- Installation of Electronic devices
- Troubleshooting

**Strengthens:**

- Leadership quality
- Motivating colloquies
- Hard work
- Strong mind

**Work Experience:**

    **Industry Experience: 02 Years**

    **Teaching Experience: 11 Years & 03 Months**

- Associate Professor in E.G.S. Pillay Engineering College, Nagapattinam from September **03-10-2016 to Till Date**
- Assistant Professor in E.G.S. Pillay Engineering College, Nagapattinam for the period of **One Year and Four Months** (15-06-2015 to 02-10-2016)
- Head of the Department of ECE in Haji Sheik Ismail Engineering College, Esanoor for the period of **Two Years** (01-06-2013 to 13-06-2015)
- Assistant Professor in E.G.S. Pillay Engineering College, Nagapattinam for the period of **Three Years** (28-06-2010 to 11-05-2013)
- Lecturer in Bharathiyar College of Engineering & Technology, Karaikal for the period of **Two years and 9 Months** (02-08-2007 to 11-05-2010)
- Deputy warden in Bharathiyar College of Engineering & Technology, Karaikal for the period of **2 Years And 9 Months** (02-08-2007 to 11-05-2010)
- Image processor in E – Softtek Pvt Ltd, Chennai for the period of **Five Months** (28-06-2006 to 11-11-2006 – Part Time)
- Production Technician in Sai Balaji & Co, Chennai for the period of **Two years** (25-05-2005 to 26-05-2007)

**Project guided:**

- Design of RFID based students monitoring in Transportation using GSM Technology
- Design and Implementation of GSM based energy Meter Billing System with Load Control
- Embedded based SCADA for telephone exchange.
- Fingerprint based secure data transmission.
- Design implementation of ZIGBEE based patient monitoring system for hospitals.

- Secured wireless data communication using cryptography implementation of RSA algorithm using ZIGBEE.
- Speech synthesis Number plate recognition system using ADSP – BF535 Processor.
- CAN bus Application Automotive Network Control
- ADSL configuration using IPTV6.
- Wireless Name board using Embedded Systems.
- Development of Coalmine safety system using Wireless Sensor Network.
- Detection and Prevention of Poison Gases an Smoke Emission in AC Car

**Roles and Responsibilities**:
- Admission In-charge for the period of 7 Years
- Scholarship In – charge for the period of 2 Years.
- COE In – charge for the period of 2 Years.
- Administrative officer for the period of 2 Years.
- ISTE Student Chapters In Charge for the period of Two years which conducted various Seminar, Workshop & awareness program.
- Department Placement coordinator.
- Head of the Canvassing Committee of the College (Admission Work)
- NBA coordinator for the period of 5 years which contributed for getting the accreditation of college.
- ISO Assistant coordinator for the period of 3 years which contributed for getting the accreditation of college.
- Electronics Association In charge for ECE Department for the period of Two years which conducted various Technical and Non – technical awareness program & Technical paper presentation.
- ISO Certified Trainee for internal auditing.
- Deputy Warden in Bharathiyar College of Engineering & Technology for the period of Two years and Seven Months from 2007 OCT to 2010 MAY.

**Achievements:**
- Awarded for 100% Result producer in 2 years.
- Handled 15 Theories and 6 Laboratories.
- Motivating students for carrier Development.

**Participation in Training Program:**

WORKSHOP: 44 NOS

SEMINAR: 04 NOS

FACULTY DEVELOPMENT PROGRAM: 03 NOS

WORKSHOP

**JUNE 2016 TO MAY 2017 – 03**

- ❖ 1 Day Training Program in WIRELESS SENSOR NETWORKS USING CONTIKI COOJA SIMULATOR (7$^{th}$ April – 2017 - CFE)

- ❖ 1 Day Training Program in AUTONOMOUS PROCESS (3$^{rd}$ June – 2017 - EGSPEC)

- ❖ 1 Day Training Program in RESEARCH METHODOLOGY AND FUNDING OPPORTUNITIES (24$^{th}$ June – 2017 - EGSPEC)

**JUNE 2015 TO MAY 2016 - 06**

- ❖ 3 Days Training Program in VLSI DESIGN USING OPEN SOURCE EDA TOOL - AARON (14$^{th}$ DECEMBER to 16$^{th}$ DECEMBER 2016 – VCET)

- ❖ 2 Days Training Program in REALIZATION OF INTERNET OF THINGS USING RASPBERRY PI (09$^{th}$ DECEMBER to 10$^{th}$ DECEMBER 2016 – NIT)

- ❖ 3 Days Training Program in DATA SCIENCE – HANDS ON SESSION WITH OPEN SOURCE TOOLS (24$^{th}$ NOVEMBER to 26$^{th}$ NOVEMBER 2016 – AVCCE)

- ❖ 2 Days Training Program in DATA MINING TOOL (27$^{th}$ JULY to 28$^{th}$ JULY 2016 – HCET)

- ❖ 2 Days Training Program in APPLICATION OF MATHEMATICS IN IMAGE ANALYSIS AND COMPUTER VISION (27$^{th}$ MAY to 28$^{th}$ MAY 2016 – JIT)

- ❖ 1 Day Training Program in MASTER CHOA KOK SUI BASIC PRANIC HEALING COURSE (13$^{th}$ DECEMBER – 2015 - MCKS / BESC)

**JUNE 2014 TO MAY 2015 - 02**

- ❖ 1 Day Training Program in WAVELET TRANSFORM AND ITS APPLICATIONS (09$^{th}$ MARCH – 2015 - VIT )

- ❖ 6 Days Training Program in MASTER CHOA KOK SUI BASIC PRANIC HEALING COURSE   (15$^{th}$ DECEMBER to 20$^{th}$ DECEMBER - 2014 )

**JUNE 2013 TO MAY 2014 - 02**

- ❖ 6 Days Training Program in EMBEDDED SOFTWARE DEVELOPMENT WITH 8051 AND KEIL (03rd  JUNE to 08th JUNE 2013 – EGSPEC)

- ❖ 2 Days Training Program in SCOPE OF RESEARCH FOR POWER ENGINEERS (21$^{st}$ NOV to 22$^{nd}$ NOV 2013 – AVCCE)

**JUNE 2012 TO MAY 2013 -10**

- ❖ 1 Day Training Program in EMBEDDED SYSTEM USING GRAPHICAL SYSTEM DESIGN PLATFORM (28$^{th}$ MAR 2013 – EGSPEC)

- ❖ 1 Day Training Program in ANDROID APPLICATION DEVELOPMENT & JOB OPPORTUNITIES (16$^{th}$ MAR 2013 – BCET)

- ❖ 2 Days Training Program in SIMULATION AND MODELING OF NANO ELECTRONIC DEVICES (7$^{th}$ MAR to 8$^{th}$ MAR 2013 - SRM)

- ❖ 2 Days Training Program in NETWORK SIMULATOR – 2 (6$^{th}$ MAR to 7$^{th}$ MAR 2013 – Annamalai University)

- ❖ 2 Days Training Program in ANNUAL PHOTONICS WORKSHOP ON NANO PHOTONICS    (27$^{th}$ FEB to 28$^{th}$ FEB 2013 – UGC)

- ❖ 2 Days Training Program in AUTOMOTIVE EMBEDDED SYSTEM    (24$^{th}$ JAN to 25$^{th}$ JAN 2013 – CIT)

- ❖ 1 Day Training Program in NPTEL (15$^{th}$ DEC 2012 – BCET)

- ❖ 2 Days Training Program in FUNDAMENTAL OF SIGNAL & IMAGE PROCESSING USING MATLAB (13$^{th}$ DEC to 14$^{th}$ DEC 2012 – EGSPEC)

- ❖ 2 Days Training Program in DRDO SPONSORED WORKSHOP ON WAVELET & SPONSORED SIGNAL REPRESENTATION (28$^{th}$ SEP to 29$^{th}$ SEP 2012 – VEC)

- ❖ 5 Days Training Program in LABVIEW ( 11$^{th}$ JUNE to 15$^{th}$ JUNE 2012 – National Instruments)

**JUNE 2011 TO MAY 2012 - 13**

- ❖ 2 Days Training Program in SALIENT ASPECTS OF NEW ACCREDITATION SYSTEM (03$^{rd}$ FEB to 04$^{th}$ FEB 2012 – EGSPEC)

- ❖ 5 Days Training Program in EMBEDDED PROGRAMMING (17$^{th}$ DEC to 21$^{th}$ DEC 2011 – EGSPEC)

- ❖ 5 Days Training Program in INDUSTRIAL AUTOMATION (13$^{th}$ DEC to 17$^{th}$ DEC 2011 – EGSPEC)

- ❖ 5 Days Training Program in DESIGNING AND IMPLEMENTATION OF PRINTED CIRCUIT BOARD (12$^{th}$ DEC to 16$^{th}$ DEC 2011 – EGSPEC)

- ❖ 5 Days Training Program in EMBEDDED SYSTEMS (12$^{th}$ DEC to 16$^{th}$ DEC 2011 – EGSPEC)

- ❖ 5 Days Training Program in MATLAB (12$^{th}$ DEC to 16$^{th}$ DEC 2011 – EGSPEC)

- ❖ 2 Days Training Program in WAVELET & SPARSE SIGNAL REPRESENTATION (30$^{th}$ SEP to 1$^{st}$ OCT 2011 – TCE)

- ❖ 2 Days Training Program in ROBO TRYST (22$^{nd}$ SEP to 23$^{rd}$ SEP 2011 – IRTT)

- ❖ 1 Day Training Program in CODE COMPOSER STUDIO (24$^{th}$AUG 2011 – AEC)

- ❖ 2 Days Training Program in RECENT TRENDS & ADVANCEMENTS IN COMMUNICATION (23$^{rd}$ AUG to 24$^{th}$ AUG 2011 – ACET)

- ❖ 1 Day Training Program in GRAPHICAL DESIGN FOR ENGINEERING APPLICATION USING LABVIEW (20$^{th}$AUG 2011 – EGSPEC)

- ❖ 2 Days Training Program in ROBOTICS (25$^{th}$ JUNE to 26$^{th}$ JUNE 2011 – SIMPLE LABS)

- ❖ 1 Day Training Program in VIRTUAL INSTRUMENTATION  (24$^{th}$ JUNE 2011 – JCET)

**JUNE 2010 TO MAY 2011 - 03**

- ❖ 4 Days Training Program in NETWORK SIMULATOR FOR WIRED AND WIRELESS NETWORKS (2$^{nd}$ DEC to 5$^{th}$ DEC 2010 – KEC)

- ❖ 2 Days Training Program in ADVANCED SIGNAL PROCESSING APPLICATIONS WITH LABVIEW (11$^{th}$NOV to 12$^{th}$ NOV 2010 - KCT)

- ❖ 2 Days Training Program in HIGH IMPACT TEACHING SKILLS – MISSION 10X (1st FEB to 2nd FEB 2010 – WIPRO)

## JUNE 2009 TO MAY 2010 - 02

- ❖ 2 Days Training Program in HOW TO DO RESEARCH (7thAUG to 8th AUG 2009 – Sathyabama University)
- ❖ 4 Days Training program in EMBEDDED SYSTEMS & VLSI DESIGN IN ROBOTICS (2nd APR to 05th APR 2009 – KDU)

## JUNE 2008 TO MAY 2009 - 02

- ❖ 2 Days Training Program in DATA COMPUTATION AND NETWORK OUTSOURCING (2ndMAY to 3rd MAY 2008 – BCET)
- ❖ 2 Days Training Program in MICROSOFT VIRTUAL TECH DAYS (9th APR to 10th APR 2008 – MICROSOFT)

## JUNE 2005 TO MAY 2006 - 01

- ❖ 1 Day Training Program in RENEWABLE ENERGY – ENERGY OF THE FUTURE (20th AUG 2005 – EGSPEC)

## SEMINAR
## JUNE 2011 TO MAY 2012 - 01

- ❖ 2 Days Training Program in NBA (3rd FEB to 4th FEB 2012 – SIT)

## JUNE 2010 TO MAY 2011 - 02

- ❖ 1 Day Training Program in NATIONAL LEVEL SEMINAR ON NETWORK SIMULATOR (28th MARCH 2011 – AEC)
- ❖ 1 Day Training Program in NETWORK ON CHIP (5thMAR 2011 – JCET)

## JUNE 2009 TO MAY 2010 - 01

- ❖ 1 Day Training program in ADVANCED TECHNOLOGY IN WIRELESS COMMUNICATION (19th SEP 2009 – ANNA UNIVERSITY)

## FACULTY DEVELOPMENT PROGRAM

### JUNE 2011 TO MAY 2012 - 02

- ❖ 12 Days Training Program in ADVANCES IN RESEARCH & DEVELOPMENT OF AUTONOMOUS ROBOTS (7th MAY to 18th MAY 2012 – EGSPEC)

- ❖ 15 Days Training Program in RECENT ADVANCES IN NANO TECHNOLOGY AND ITS APPLICATIONS (19th OCT to 2nd NOV 2011 – PEC)

### JUNE 2009 TO MAY 2010 - 01

- ❖ 14 Days Training Program in ENVIRONMENTAL FRIENDLY ENERGY CONSERVATION STRATEGIES (21st JULY to 3rd AUG 2009 – BCET)

## CONFERENCE

### NATIONAL CONFERENCE: 04 NOS
### INTERNATIONAL CONFERENCE: 07 NOS

## NATIONAL CONFERENCE

### JUNE 2011 TO MAY 2012 - 04

- ❖ *1 Day National Conference in AUTOMATIC BRAIN TUMOR (20th AUG 2011 – VEL TECH)*

- ❖ *1 Day National Conference in SECURED RAILWAY SYSTEM (20th AUG 2011 – VEL TECH)*

- ❖ *1 Day National Conference in COVERAGE ANALYSIS OF WSN USING VARIOUS SENSING NODES (6th APR 2011 – AEC)*

- ❖ *1 Day National Conference in WIMAX USING MESH TOPOLOGY (6th APR 2011 – AEC)*

## INTERNATIONAL CONFERENCE

### JUNE 2015 TO MAY 2016 - 04

- ❖ *2 Day International Conference in CHANNEL ESTIMATION AND CHANNEL CAPACITY MAXIMIZATION IN MIMO – OFDM SYSTEMS USING LPDMCR ALGORITHM (20th JUNE to 21st JUNE 2016 - EGSPEC)*

- ❖ *1 Day International Conference in INTEGRATED ENERGY EFFICIENT MIMO – AF SYSTEM (22nd MARCH 2016 – MAMCE)*

- ❖ *1 Day International Conference in HIGH PERFORMANCE AND ENERGY EFFICIENT SRAM BASED ARCHITECTURE FOR TCAM (22nd MARCH 2016 – MAMCE)*

- ❖ *1 Day International Conference in AUTOMATED SYSTEM DESIGN FOR METRO TRAIN USING WIRELESS SENSOR NETWORK (22nd MARCH 2016 – MAMCE)*

## JUNE 2012 TO MAY 2013 - 01

- ❖ *2 Days International Conference in INVESTIGATION OF InAs QUANTUM DOTS GROWN ON GaAs SUBSTARTS BY MOLECULAR BEAM EPITAXY FOR OPTOELECTRONICS APPLICATION (29th MAR to 30th MAR 2013 - EGSPEC)*

## JUNE 2010 TO MAY 2011 - 02

- ❖ *2 Days International Conference in RFID BASED PUBLIC TRANSPORTATION SYSTEM USING THE EMBEDDED SYSTEM (27th MAY to 28th MAY 2011 - EGSPEC)*

- ❖ *2 Days International Conference in A LOW POWER HIGH SPEED ERROR TOLERANT ADDER AND ITS APPLICATION IN DSP (27th MAY to 28th MAY 2011 - EGSPEC)*

## NATIONAL JOURNALS: NIL

## INTERNATIONAL JOURNALS: - 13 NOS

- ❖ **Sundar Raj. A** & S. Titus, "*Heterogeneous Multi-Hop Energy Routing Protocol with Ant Bee Fuzzy Clustering Process in Wireless Network*", Journal of Computational and Theoretical Nanoscience, vol. 14, no. 9, September 2017, pp. 4320-4325(6)

- ❖ **Sundar Raj. A** & Chinnadurai. M, "*Lifetime Maximizing Dynamic Energy Efficient Routing Protocol with MIMO for Energy Efficient Information Transmission in the Sensor Networks*", Journal of Engineering and Applied Sciences, Acceptance, November 2017, – Scopus.

- ❖ **Sundar Raj. A** & Chinnadurai. M, "*Multiple Input and Multiple Output and Energy Aware Peering Routing Protocol for Energy Consumption in Sensor Networks*", Cognition, Elsevier - Process Going on – Annexure – I.

- ❖ **Sundar Raj. A**, Muthumani. V and Anusuya. V *"Tri-Rotor UAV Stabilisation and Control"*, International Research Journal of Engineering and Technology (IRJET) Vol.04, Issue No.2, February - 2017. P.No: 958, e - ISSN: 2395 – 0056, p – ISSN: 2395 – 0072. Impact Factor: 4.45

- ❖ **Sundar Raj. A**, Deepa. C and Jagathiya. M *"Cryptography and Error Correction Code for Iris Biometric Recognition System"*, International Research Journal of Engineering and Technology (IRJET) Vol.04, Issue No.2, February - 2017. P.No: 946, e - ISSN: 2395 – 0056, p – ISSN: 2395 – 0072. Impact Factor: 4.45

- ❖ **Sundar Raj. A**, Jayasree. R and Dhanya. K *"Building a Metro Ethernet Network to Deliver High Band Width Internet Protocol Television and Internet Access"*, International Research Journal of Engineering and Technology (IRJET) Vol.04, Issue No.2, February - 2017. P.No: 211, e - ISSN: 2395 – 0056, p – ISSN: 2395 – 0072. Impact Factor: 4.45

- ❖ **Sundar Raj. A**, Kavya. S and Devi Priyanka. K.G *"Analyzing The Interaction Of Ascent with IEEE802.11e MAC in Wireless Sensor Network"*, International Research Journal of Engineering and Technology (IRJET)       Vol.04, Issue No.2, February - 2017. P.No: 206, e - ISSN: 2395 – 0056, p – ISSN: 2395 – 0072. Impact Factor: 4.45

- ❖ Vijayakumar. M and **Sundar Raj. A**. *"Design And Implementation of a Novel Irrigation Water Pump Control System for Delta Formers"*, International Journal of Advanced Research in Basic Engineering Sciences and Technology (IJARBEST) Vol.03, Special Issue No.20, December - 2016. P.No: 78, e - ISSN: 2395-695X, p – ISSN: 2395-695X. Impact Factor: 5.023

- ❖ **Sundar Raj. A** and Titus. S. " *High Performance and Energy Efficient SRAM Based Architecture for TCAM "*, International Journals of Printing, Packing & Allied Sciences (IJPPAS) Vol.04, Issue No.2, PP.1090 - 1100, December - 2016. [**Anna University Annexure – I Journal**, P.Id: IJPPAS – 104463, ISSN: 2320 - 4387]. Impact Factor:

- ❖ **Sundar Raj. A** and Titus. S. " *Integrated Energy Efficient MIMO – AF System*", International Journals of Printing, Packing & Allied Sciences (IJPPAS) Vol.04, Issue No.2, PP.1101 - 1108, December - 2016. [**Anna University Annexure – I Journal**, P.Id: IJPPAS – 104464, ISSN: 2320 - 4387]. Impact Factor:

- ❖ Irshad Ahamed. M and **Sundar Raj. A**. *"Quantum Dots - Smart Semicondutor Nano materials lightening the Opto electronis Fields "*, International Research Journal of Engineering and Technology (IRJET) Vol.03, Issue No.2, February - 2016. P.No: 1256, e - ISSN: 2395 – 0056, p – ISSN: 2395 – 0072. Impact Factor: 4.45

- ❖ **Sundar Raj. A**, Neinar Shareef. M. *"Automated System Design for Metro Train Using Wireless Sensor Network"*, International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering (IJAREEIE)      Vol.05, Issue No.07, April - 2016. P.No:219, ISSN (Print):2320–3765 ISSN (Online): 2278 – 8875. Impact Factor: 5.621

- ❖ Abinaya. M, **Sundar Raj. A**, *"Sparse Vector Allocation Based Energy Efficient Multihop MIMO-AF Systems"*, International Journal of Modern Trends in Engineering and Research (IJMTER) Vol.03, Issue No.05, May - 2016. P.No: 147, ISSN (Online):2349–9745; ISSN (Print):2393-8161. Impact Factor: 3.518

## Reviewer / Editor:

- International Journal of Research Publications

**Membership:**

- ISTE          (Life Member - 53988)
- ACEEE        (Life Member - 7000389)
- IETE          (Associate Member - 224780)
- IAENG
- UACEE        (Fellow Member - SM10100060393)
- IAOIP         (Associate Member – 56683926)

**Personal Details:**

| | | |
|---|---|---|
| Name | : | Dr. A. SUNDAR RAJ |
| Date of Birth | : | 18.05.1982 |
| Caste | : | BC (Hindu - Kammalar) |
| Permanent Address | : | 169/A4, Backiyam Nagar, |
| | | Alla Kovil Street, |
| | | Pattukkottai – 614 601 |
| Marital Status | : | Married |
| Language Known | : | Tamil and English |

### **Declaration:**

I hereby declare that the above particulars are true to my knowledge and belief.

Date: 27-12-2018                                                                      Signature

Place: Nagapattinam.                                                        (Dr. A. Sundar Raj)