

## Dr. S. RAVI

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### SUMMARY

Engineering Post Graduate cum Doctorate in VLSI Design including fair exposure to **ASIC** and **FPGA** Technologies.

Having good programming skills in **HDLs**.

### EXPERIENCE (Total : 16 years)

Worked as an Assistant Professor in Sai Spurthi Institute of Technology, Khammam, Andhra Pradesh, from 11th December 2007 to 8th May 2010 (2 Years, 5 Months).

Worked as an Assistant Professor in Sudharsan Engineering College, Pudukottai, TamilNadu, from 10th May 2010 to 30th April 2014 (4 Years).

Worked as an Assistant Professor in Global Institute of Engineering and Technology, Melvisharam, Vellore, Tamilnadu, from 16th June 2014 to 30th April 2016 (1 Year, 10 Months).

Worked as an Assistant Professor and Head of the Department at The Kavery Engineering College, Mecheri, Salem, Tamilnadu, from 20th May 2016 to 17th May 2018 (2 Years).

Worked as an Assistant Professor at Anil Neerukonda Institute of Technology and Sciences, (Autonomous) Visakhapatnam, Andhrapradesh, from 1st June 2018 to 15<sup>th</sup> May 2019 (1 Year)

Working as an Associate Professor at Seshadri Rao Gudlavalleru Engineering College (Autonomous), Krishna District, Andhrapradesh, from 14th June 2019 to till date (5 Years, 8 Months).

### TECHNICAL SKILL SET

HDL's	:	Verilog HDL, System Verilog, and VHDL
Synthesizers	:	Xilinx Synthesis Technology (XST), Vivado, Mentor Graphics, Altera Quartus II, Icarus Verilog, Cadence (Virtuoso, Spectre, Quantus, Genus, Innovus)
Simulators	:	Questa Sim, ModelSim 7.1g, Keil uVision MASM for Microprocessors, OrCAD, Tinker CAD.
Programming Languages	:	C, C++, Embedded C
Parallel Programming	:	OpenMP, MPI, CUDA
Assembly Languages	:	8085, 8086, 8051
Operating System	:	Windows XP/2000, 7, 10, Fedora 22.
Target Devices	:	Xilinx FPGA Spartan – 2, 3, 3E, 6, and Altera DE0

### EDUCATIONAL PROFILE

Doctor of Philosophy (Ph.D) in VLSI Design from Anna University, Chennai, Tamilnadu, India, December 2018.

Master of Engineering in VLSI Design during 2005-2007 at Vel Tech Engineering College, Avadi, Affiliated with Anna University, Tamilnadu, India. Percentage obtained 78 % (First class with distinction).

Bachelor of Engineering in Electronics and Communication Engineering during 2000-2004 at Karunya Institute Of Technology, Coimbatore, Bharathiyar University, Tamilnadu, India. CGPA obtained 6.95.

HSC during 1998-2000 at Aruna Sugars Hr Sec School, Eraiyur, Cuddalore, Tamil Nadu. Percentage obtained 87.40%

SSLC during 1997-98 at Aruna Sugars Hr Sec School, Eraiyur, Cuddalore, Tamil Nadu. Percentage obtained 84.00%

## **PUBLICATIONS: (Total : 37)**

### **A. BOOK PUBLICATIONS (Total : 2)**

1. **S. Ravi**, M. Kumar and N. Suresh, “Microcontroller based system design”, Sri Krishna Hi-Tech publishers, Chennai, January 2021, ISBN: 978-93-86590-14-5.
2. M. Kumar and **S. Ravi**, “Ad-hoc and Sensor Networks”, Sri Maruthi publishers, Chennai, November 2017.

### **B. BOOK CHAPTERS (Total : 4)**

1. T. Ananda Babu, D. Krishna, G. Sridevi, Y. Mamillu, **S. Ravi**, and P. Rajesh Kumar, “Analysis of Mental stress during public speaking Using Feature optimization Techniques on EEG signals” **CRC Press**, Accepted For Publication, August 2023.
2. P. Murugapandiyar, N. Ramkumar, and **S. Ravi**, “Ultrawide Bandgap AlGaIn-Channel-Based HEMTs for Next-Generation Electronics”, Springer Tracts in Electrical and Electronics Engineering, HEMT Technology and Applications, 27.06.2022, ISBN 978-981-19-2164-3, DOI: 10.1007/978-981-19-2165-0\_1
3. A. Albert Raj, **S. Ravi**, and M. Joseph, “AI Technologies and Firefly Algorithms”, presented for Springer International Conference on Artificial Intelligence and Sustainable Engineering (AISE-2020), From Jan. 18 – 21, 2021, organized by NIT Goa, India, published in LNEE, Springer, on 30.04.2022, Pages – 425 – 435, DOI: 10.1007/978-981-16-8542-2\_34
4. **S. Ravi**, V. Sathiyasuntharam, and Ch. Ravikumar, “Wavelet based feature extraction and T-set evaluation for automatic brain tumor detection and classification”, In proceedings of Lecture Notes in Electrical Engineering, Vol. 836, Springer, pp. 275-285, ICCCE – 2020, ISBN: 978-981-15-7961-5, DOI: 10.1007/978-981-15-7961-5\_27, **Impact factor** : 0.14

### **C. INTERNATIONAL JOURNALS (Total : 20)**

1. K. Nirmala Devi, S. Hariprasad, N. Ramkumar, Sivamani Chinnaswamy, and **S. Ravi**, “Investigate the impact of Fe-doped GaN and  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> buffer layers on laterally scaled AlN/GaN HEMT using silicon carbide substrate for next-generation RF electronics”, Journal of Electronic Materials, Springer, 30, Dec, 2024, (**SCI Indexed**), DOI : 10.1007/s11664-024-11672-y.

2. N. Ramkumar, Murugapandian P, Vigneshwari N, Mohanbabu A, Karthikeyan S, **Ravi S**, “Investigation of different buffer layer impact on AlN / GaN / AlGaIn HEMT using Silicon Carbide substrate for High-speed RF applications”, *Micro and Nano Structures*, Available online from 07.03.2024, DOI: 10.1016/j.micna.2024.207815 (**SCI Indexed**).
3. S Phani Praveen, V Sathiya Suntharam, **S. Ravi**, U. Harita, Venkata Nagaraju Thatha, and D Swapna “A Novel Dual Confusion and Diffusion Approach for Grey Image Encryption using Multiple Chaotic Maps”, *International Journal of Advanced Computer Science and Applications (IJACSA)*, Volume 14 Issue 8, 2023. DOI: 10.14569/IJACSA.2023.01408106 (**Scopus Indexed**).
4. A. Albert Raj, M. Joseph, and **S. Ravi**, “Survey on Quantum Noise Stream Cipher Implemented Optical Communication Systems”, *Journal of Optical Communications (JOC)*, Published online on 16th February 2023. DOI: 10.1515/joc-2022-0057 (**Scopus Indexed**).
5. S. Ravi, Seeram Jahnvi, Veerla Nageswara Rao, Tammana Tarak Ram, and Shaik Suhail Ahmed, “Verification of Serial Peripheral Interface (SPI) and Inter-Integrated Circuit (I2C) Protocols”, *IOSR Journal of VLSI and Signal Processing (IOSR-JVSP)*, Volume 13, Issue 2 (Mar. - Apr. 2023), pp.13-20, DOI: 10.9790/4200-1302011320.
6. S. Ravi, D.V.Prathyusha, Ch.Chaitu, Ch.Bhaskar Sai Kiran and B.Pravallika “Battery Monitoring And Load Management System For Electric Vehicles”, *Journal of Emerging Technologies And Innovative Research (JETIR)*, Vol. 10, Issue 4, April 2023. DOI: 10.6084/m9.jetir.JETIR2304387
7. B. Vamsi Krishna, G. Anith Chowdary, G.A., **S. Ravi**, D. Mohan, et al, “A Highly Sensitive Graphene-based Field Effect Transistor for the Detection of Myoglobin”, *Silicon*, ISSN - 1876-9918, Springer Inc., Available online from 27.04.2022. DOI: 10.1007/s12633-022-01790-9 (**SCI Indexed**)
8. S. Baskaran, M. Shunmugathammal, C. Sivamani, **S. Ravi**, et al, “UWBG AlN /  $\beta$  – Ga<sub>2</sub>O<sub>3</sub> HEMT on Silicon Carbide substrate for Low loss portable power converters and RF applications”, *Silicon*, Springer Inc., Available online from 31.03.2022. DOI: 10.1007/s12633-022-01846-w (**SCI Indexed**)
9. B. Vamsi Krishna, G. Anith Chowdary, G.A., **S. Ravi**, et al, “Tunnel Field Effect Transistor Design and Analysis for Biosensing Applications”, *Silicon*, Springer Inc., Published online on 23.03.2022, DOI: 10.1007/s12633-022-01815-3, (**SCI Indexed**)
10. **S. Ravi**, G.L. Chandini, G. Pradeep, J. Alekhya, and G. Divya Lakshmi, “Greenhouse monitoring and control using Arduino based on IoT”, *Journal of Green Engineering*, Vol. 10, Issue 9, pp. 5779-5787, Sept. 2020, (**Scopus Indexed**), **Impact factor** : 0.19, **URL**: <http://www.jgenng.com/volume10-issue9-2.php>
11. **S. Ravi**, et al, “FPGA implementation of low power 16x16 bit Vedic Multiplier”, *International Journal of Future Generation Communication and Networking*, Vol. 13, No. 3, 01.08.2020, pp. 3982–3989. (**Web of Science Indexed**) **Impact factor**: 0.15, **URL**: <http://sersc.org/journals/index.php/IJFGCN/issue/view/285>
12. B. Vamsi Krishna, **S. Ravi**, and M. Durga Prakash, “Recent developments in Graphene based Field Effect Transistors”, *Materials today - proceedings from Elsevier*, (Published online), September 2020, pp. 1524 - 1528 (**Scopus Indexed**), DOI: 10.1016/j.matpr.2020.07.678, **Impact factor**: 0.3; link: [tiny.cc/srmaterialstoday](http://tiny.cc/srmaterialstoday)

13. **S. Ravi** et al, “FPGA Implementation of filters for the removal of various noises in digital images”, Journal of Applied Science and Computations (JASC), Vol. 5 Issue -12, pp. 707 - 712, December 2018, DOI: 16.10089.JASC.2018.V5I12.453459.1500187 (**UGC Approved Journal No: 41238**)

14. **S. Ravi** and M. Joseph, “TTHLS: An HLS Tool for testable hardware generation”, Design Automation for Embedded Systems (DAEM), Vol. 21, Issue 3-4, pp. 231- 246, December 2017, ISSN : 0929 – 5585, DOI: 10.1007/s10617-017-9192-x. (Impact Factor: 0.52) (**Indexed in SCI Expanded**)

15. **S. Ravi** and M. Joseph, “FPGA Implementation of Low Power Self Testable MIPS Processor”, American-Eurasian Journal of Scientific Research, Vol. 12, No. 3, July 2017, pp. 135 – 144, ISSN: 1818-6785, DOI: 10.5829/idosi.aejsr.2017.135.144

16. **S. Ravi** and M. Joseph, “High-Level Test Synthesis: A survey from synthesis process flow perspective”, ACM Transactions on Design Automation of Electronic Systems (TODAES), Article No. 38, Vol. 19, Issue 4, August 2014, ISSN : 1084 – 4309, DOI:10.1145/2627754. (Impact Factor: 0.82) (**Indexed in SCI Expanded**).

17. Nithya. R, Paviya. M, Poornimadevi. A, and **S. Ravi**, “A performance Comparison of Low Power LFSR structures”, International Journal of Recent Research in Science, Engineering and Technology (IJRRSET), Vol.1, Issue 1, April 2015, pp. 23 – 28, ISSN : 2395– 7638. **URL:** <http://www.ijrrset.com/volume-1-issue-1.html>

18. **S. Ravi**, R. Ganga, K. Gayathri, K. Suganya and A. Hema, “Smart Home Control System Using PLCC and ZigBee”, International Journal of Research in Science & Technology (IJRST), Vol. 7, Issue 1, Jan-Mar, 2017, pp. 89 – 99, ISSN : 2454-180X. **URL:** [https://ijrst.com/past\\_paper.php?id=25](https://ijrst.com/past_paper.php?id=25)

19. **S. Ravi**, P. Ajithkumar, S. Dineshkumar, S. Muralidharan, and S. Sivanandhan, “Smart Railway System in Real time Emergency condition”, International Journal for Research & Development in Technology (IJRDT), Vol. 7, Issue 4, April 2017, pp. 169 - 172. ISSN:- 2349-3585, **URL:** [https://www.ijrdt.org/see\\_album\\_all\\_paper/1054/Issue-4-Apr-2017](https://www.ijrdt.org/see_album_all_paper/1054/Issue-4-Apr-2017)

20. **S. Ravi**, G. Balu, M. Kannan, S. Ashik Ahamed, and K. Kavim Kumar, “Testability of Combinational and Sequential Circuits by Fault Injection Technique”, International Journal of Recent Advancement in Engineering & Research (IJRAER), Vol. 3, Issue 3, March 2017, pp. 7 – 14, ISSN : 2456-401X, DOI: 10.24128/IJRAER.2017.HI89uv

#### **D. INTERNATIONAL CONFERENCES (Total : 9)**

1. N. Ramkumar, S. Ramalinagm, M. A. Amarnath, P. Tamilselvi, Boopathy. S, and **S. Ravi**, “An Efficient Sparrow Search Algorithm based Clustering and Energy Efficient Opportunistic Routing Protocol (EEOR) for Wireless Sensor Network” in the First **IEEE International Conference** on the Innovations in Communications, Electrical and Computer Engineering (ICICEC 2024) held at Bapuji Institute of Engineering and Technology (BIET), Davangere, Karnataka, India during 24 – 25, **October 2024**. DOI : 10.1109/ICICEC62498.2024.10808501

2. V. Sathiya Suntharam, M. Joseph, and **S. Ravi**, “ Vehicle Theft detection using Machine Learning”, Second International Conference on Computational and Intelligent Techniques for Automation of Engineering Systems (CITAES'22), Organized by Seshadri Rao Gudlavalleru Engineering College, from 29-30 July, 2022.

3. N. Ramkumar, K. Nirmala Devi, **S. Ravi**, Ch Rambabu, “Impact of III-Nitride based semiconductor materials in next generation RF Electronics”, Second International Conference on Computational and Intelligent Techniques for Automation of Engineering Systems (CITAES’22), Organized by Seshadri Rao Gudlavalleru Engineering College, from 29-30 July, 2022.

4. **S. Ravi**, Chirakala Sai Malavika, Adusumilli Jyothirmai, Deekulla Vennela, Sammeta Manikanta, “Emergency health care monitoring system using PSoC board and mobile application”, Second International Conference on Computational and Intelligent Techniques for Automation of Engineering Systems (CITAES’22), Organized by Seshadri Rao Gudlavalleru Engineering College, from 29-30 July, 2022.

5. T. Ananda Babu, Sridevi Gadde, **S. Ravi**, K. V. Venkateswara Rao, Y. Mamillu, and D. Krishna, “ Analysis of Mental Task Ability in Students based on Electroencephalography Signals” **IEEE Spices**, 10 – 12 March 2022, organized by Mar Baselios College of Engineering and Technology, Trivandrum, Kerala. **DOI:** 10.1109/SPICES52834.2022.9774092

6. A Albert Raj, **S. Ravi**, and M. Joseph, “AI Technologies and Firefly Algorithms”, presented for Springer International Conference on Artificial Intelligence and Sustainable Engineering (AISE-2020), From Jan. 18 – 21, 2021, organized by NIT Goa, India, published in **LNEE, Springer**, on 30.04.2022, Pages – 437 – 447, **DOI:** 10.1007/978-981-16-8542-2\_34

7. **S. Ravi**, V. Sathiyasuntharam, and Ch. Ravikumar, “Wavelet based feature extraction and T-set evaluation for automatic brain tumor detection and classification”, In proceedings of Lecture Notes in Electrical Engineering, **Springer**, pp. 275-285, International Conference on Communications and Cyber-Physical Engineering (ICCCE – 2020), dated 1-2 February, 2020. CMR Engineering College, Hyderabad, India, **DOI:** 10.1007/978-981-15-7961-5\_27

8. **S. Ravi** and M. Joseph (2016) “Open Source HLS Tools: A stepping stone for modern Electronic CAD”, In proc. of **IEEE** International conference on Computational Intelligence and Computing Research (IEEE ICCIC’16), Dec. 15<sup>th</sup> - 17<sup>th</sup>, organized by Agni College of Technology, Chennai, Tamilnadu, India, Vol. 836, Springer, pp. 457 – 464, ISBN – 978 -1-5090-0611-3, **DOI:** 10.1109/ICCIC.2016.7919615

9. G. Sathishkumar, Dr. V. Saminathan, and **S. Ravi**, “VLSI Implementation of low power 8-bit DSP Processor”, In proc. of International Conference on Science, Engineering, and Management (ICSEM’13), 17th - 18th May 2013, Organized by Srinivasan Engineering College, Perambalur, Vol. 1, Issue -6, pp. 48 – 55. ISSN (Online) : 2278-0181, **Published (First Online):** 30-07-2018. **DOI :** 10.17577/IJERTCONV1IS06078, **URL :** <https://www.ijert.org/vlsi-implementation-of-low-power-8-bit-dsp-processor>

#### **E. NATIONAL CONFERENCES (Total : 3)**

1. **S. Ravi**, S. Dinesh Kumar, P. Ajith Kumar, S. Sivanandhan and S. Muralidharan, “FPGA Implementation of Low power Test pattern generators”, In. Proc. of National Conference on Advanced Technologies in Computing, Communication and Electrical Engineering (NCATCCEE’16), 30th Sep. 2016, organized by The Kavery Engineering College, Salem, Tamilnadu, India.

2. **S. Ravi**, K. Gayathri, A. Hema, K. Suganya and R. Ganga, “Robot Design using Arduino and Raspberry pi”, In. Proc. of National Conference on Advanced Technologies in Computing, Communication and Electrical Engineering (NCATCCEE’16), 30th Sep. 2016, organized by The Kavery Engineering College, Salem, Tamilnadu, India.

3. **S. Ravi**, “VLSI Implementation of High-Resolution Time-To-Digital Converter”, in the proceedings of AICTE Sponsored National Conference on Soft computing Techniques in Process control and Instrumentation (SCTPCI-07), St. Peter’s University, Chennai, India, Feb. 15 – 17, 2007.

#### **F. PATENTTS GRANTED / FILED: (Total : 2)**

1. Dr. A. Devasena, Dr. H. Vennila, Mr. H. Riasudheen, **Dr. S. Ravi**, Dr. A. Lakshmi Priya, Sandeep Dnyandeo, and Ms. S. Sharanya, “IoT Based Cellular Network Repeater”, Design No 415883 - 001, Date of grant : 04/07/2024, Date of filing : 12/06/2024.

2. Dr. A. Rajalingam, Ms. Kunjumol, S. Ravi, B. Galleebathullah, Dr. R. Renuga Devi, Dr. Anni Princy, and Dr. S. Dinesh, “Robotic hand for Sorting of VLSI Devices”, Design No 419780-001 Date of grant : 27/12/2024, Date of filing : 12/06/2024.

#### **PROFESSIONAL BODY MEMBERSHIP**

- ✓ Life member of Indian Society for Technical Education (ISTE) (No. LM 53904)
- ✓ Member of The Institution of Engineers (IE) – (No: M-1573985)
- ✓ Life Member of International Association of Engineers (IAENG) (No. 180485)
- ✓ Life Member of Society for Learning Technologies (No. LM481)

#### **SUBJECTS HANDLED:**

##### **UG Level:**

Network analysis and synthesis, Electronic Devices, Electronic Circuits I, Electronic Circuits II, Pulse and Digital Circuits, Linear Integrated Circuits, Digital Electronics, CMOS Digital IC Design, VLSI Design, Low power VLSI Circuits, CAD for VLSI, Electronics and Microprocessors, Microprocessors and Microcontrollers, Microcontrollers and Embedded Systems, Embedded Systems Design, Computer Architecture, Advanced Computer Architecture, Computer Networks, Cellular mobile Communication.

##### **PG Level:**

Advanced digital system design, VLSI architecture and design methodologies, ASIC Design, Parallel Processing.

#### **AREA OF INTEREST:**

CMOS VLSI Design, Testing of VLSI Circuits, Low power VLSI Design, CAD for VLSI, Embedded Systems, Computer Architecture, Digital IC Applications.

#### **ACHIEVEMENTS:**

- ✓ Produced 100 % Result in the Subject “CT3527 – Computer Networks”, handled for III B.Tech., CSE (72/72) students of Seshadri Rao Gudlavalleru Engineering College (Autonomous), Krishna District, Andhrapradesh, during Nov. 2024 Examinations.
- ✓ Ratified by JNT University, Kakinada, as an Associate professor, during the interview conducted by the Selection committee on 22.03.2022.

- ✓ Recognized supervisor of JNTU Kakinada for the academic years 2021 – 22, 22-23, and 2023-24.
- ✓ Received Best paper Award for the research paper titled “Impact of III-Nitride based semiconductor materials in next generation RF Electronics”, in the Second International Conference on Computational and Intelligent Techniques for Automation of Engineering Systems (CITAES’22), Organized by Seshadri Rao, Gudlavalleru Engineering College, from 29-30 July, 2022.
- ✓ Secured Elite + Silver Medal + Top 1% (scored 88%) in NPTEL exam for the MOOCs course on “Demystifying Networks”, organized by IIT Bombay, during July-October 2023.
- ✓ Secured Elite + Silver Medal (scored 80%) in NPTEL exam for the MOOCs course on “Analog Electronic Circuits”, organized by IIT Delhi, during July-October 2022.
- ✓ Secured Elite + Gold Medal (Topper within top 5%, and scored 97%) in NPTEL exam for the MOOCs course on “System design through Verilog”, organized by IIT Guwahati, during September 2021.
- ✓ Produced 100 % Result in the Subject “CMOS Digital IC Design”, handled for IV B.Tech., ECE students of Seshadri Rao Gudlavalleru Engineering College (Autonomous), Krishna District, Andhrapradesh, during Dec. 2022 and Dec. 2021 Examinations.
- ✓ Produced 100 % Result in the Subject “EC2512 – Embedded System Design”, handled for III B.Tech., EEE students of Gudlavalleru Engineering College (Autonomous), Krishna District, Andhrapradesh, during Nov. 2020 Examinations.
- ✓ Produced 100 % Result in the Subject “EC6009 – Advanced Computer Architecture”, at The Kavery Engineering College, Salem, during April / May 2017 Examinations.
- ✓ Produced 100 % Result in the Subject “EC6464 - Electronics and Microprocessors”, at Global Institute of Engineering and Technology, Vellore, during April / May 2015 Examinations.
- ✓ Received Gold Medal from Vel Tech Engineering College, Chennai for M.E., (VLSI Design) Class topper in Anna University Examinations.
- ✓ Ratified by JNT University, Hyderabad, as an Assistant professor, during the interview conducted by the Selection committee on 14.11.2009.
- ✓ Being a Journal reviewer for SCI indexed Journals (Wireless personal Communications, Multimedia Tools and Applications)
- ✓ Journal reviewer for Scopus indexed Journal (International Journal of Advanced Intelligence Paradigms (IJAIP), from Inderscience online).
- ✓ Secured Elite + Silver Medal in NPTEL exam for the MOOCs course on “Effective Engineering Teaching in Practice”, organized by IIT Madras, during March 2019.
- ✓ Secured Elite + Silver Medal in NPTEL exam for the MOOCs course on “Microelectronics: Devices to Circuits”, organized by IIT Kharagpur, during November 2019.
- ✓ Secured Elite in NPTEL exam for the MOOCs course on “CMOS Digital IC Design”, organized by IIT Kharagpur, during March 2021.

#### **GUEST LECTURES DELIEVERED (Total : 34)**

1. Delivered an expert lecture (offline) on “The impact of Supercomputers on Modern Day Society” to the II & III Year Students of Department of BCA, JP College of Arts and Science, Tenkasi, Tamilnadu, on 19.09.2024.
2. Delivered a guest lecture (offline) on “Electromagnetic Fields” to the II Year Students of Department of ECE, Er. Perumal Manimekalai College of Engineering and Technology, Hosur, Tamilnadu, on 29.04.2024.

3. Delivered a guest lecture through online mode on “Preparedness for VLSI Industries” organized by the Mother Teresa College of Engineering and Technology, Pudukkottai, Tamilnadu, on 02.04.2024.
4. Delivered a guest lecture (offline) on “Computer Organization and Architecture” to the II Year Students of Department of Cyber Security, CMR Engineering College, Hyderabad, Telangana, on 08.01.2024.
5. Delivered an expert lecture (offline) on “Startup: A daring step for Successful Entrepreneurs” to the II Year Students of Department of Cyber Security, CMR Engineering College, Hyderabad, Telangana, on 09.12.2023.
6. Delivered a guest lecture through online mode on “Roadmap for VLSI Industry from Academia” organized by Saveetha Engineering College, Chennai, Tamilnadu, on 16.10.2023.
7. Delivered a lecture (offline) on “Transmission Lines and RF Systems” to the III Year Students of Department of ECE, Er. Perumal Manimekalai College of Engineering and Technology, Hosur, Tamilnadu, on 30.09.2023.
8. Delivered a talk (offline) on “Design and Implementation of image processing application using System Verilog”, for the **SERB sponsored** Two Days National Level Seminar on Artificial Intelligence based Image Processing Implementation using VLSI Design” at K. Ramakrishnan College of Technology, Tiruchirappalli, Tamilnadu, on 22.05.2023.
9. Delivered a lecture (offline) on “Radiation pressure and Momentum” to the II Year Students of Department of ECE, Er. Perumal Manimekalai College of Engineering and Technology, Hosur, Tamilnadu, on 08.05.2023
10. Delivered a guest lecture through online mode on “Recent Trends in VLSI” organized by the Fatima Michael College of Engineering and Technology, Madurai, Tamilnadu, on 23.03.2023.
11. Delivered a lecture (offline) on “Integrated Circuits” to the II Year Students of Department of ECE, Er. Perumal Manimekalai College of Engineering and Technology, Hosur, Tamilnadu, on 16.05.2022.
12. Delivered a guest lecture through online mode on “Computer architecture and Organization – From competitive exams perspective” organized by the JP College of Arts and Science, Tenkasi, Tamilnadu, on 08.02.2022.
13. Acted as a resource person for the Workshop on “Design Thinking, Critical thinking, and Innovation design” organized by the CMR Engineering College, Hyderabad, on 26.11.2021.
14. Acted as a resource person for **AICTE sponsored STTP** on FPGA based System Design using HDL – Phase - V, conducted by Vel Tech Multi-Tech Dr. Rangarajan Dr. Sakunthala Engineering College, Chennai, during June 28- July 03, 2021, and delivered lecture on “Layout design rules and delay estimation”, on 01.7.2021.
15. Acted as a resource person for **AICTE sponsored STTP** on FPGA based System Design using HDL – Phase - IV, conducted by Vel Tech Multi-Tech Dr. Rangarajan



Dr. Sakunthala Engineering College, Chennai, during May 03 - 08, 2021, and delivered lecture on “Test pattern generators and Test Response Analyzers”, on 06.5.2021.

16. Acted as a resource person for the Two days Virtual national webinar on Emerging trends in Technology of Physical Sciences, organized by Bon Secours Arts and Science College for Women, Mannargudi, Tamilnadu and delivered a lecture on “Digital system design using FPGA”, on 19.04.2021.
17. Acted as a resource person for **AICTE sponsored STTP** on FPGA based System Design using HDL – Phase - III, conducted by Vel Tech Multi-Tech Dr. Rangarajan Dr. Sakunthala Engineering College, Chennai, during February 22-27, 2021, and delivered lecture on “Basic Language elements of VHDL”, on 22.2.2021.
18. Acted as a resource person for **AICTE sponsored STTP** on FPGA based System Design using HDL – Phase I, conducted by Vel Tech Multi-Tech Dr. Rangarajan Dr. Sakunthala Engineering College, Chennai, during January 25-30, 2021, and delivered lecture on “Dataflow, Gate level and Switch level Modelling in Verilog HDL”, on 27.01.2021 & 28.01.2021.
19. Acted as a resource person for the **IETE sponsored** technical Seminar and delivered a lecture on “Digital Circuits”, to the students of ECE Dept., PMC Tech, Hosur, on 01.10.2020.
20. Delivered a lecture on “Embedded System Design - Design Technology”, for the faculties of ECE Department Gudlavalleru Engineering College, on 31.07.2020 for the One Week Refresher course on Embedded System design, from 27<sup>th</sup> July 2020 to 1<sup>st</sup> August 2020.
21. Delivered a lecture on “Digital VLSI design using Verilog HDL” to the Students of Department of ECE, PMC Tech, Hosur, on 05.05.2020.
22. Delivered a talk on “Effective Teaching - learning Practices in Electronics and Communication Engineering”, for Faculties and students of Department of ECE, PMC Tech, Hosur, on the occasion of Electrovision’19, Fest Inaugural on 20.09.2019.
23. Delivered a guest lecture for the subject “VLSI Design” for III ECE Students of Mother Teresa College of Engineering and Technology, Pudukkottai, Tamilnadu on 03.04.2018.
24. Delivered a lecture at Podhigai College of Engineering and Technology, Tiruppattur, Vellore District, on 09.03.2017, for One day workshop on “VLSI Design & Simulation”.
25. “EC6601 – VLSI Design”, III ECE, Mahath Amma Institute of Engineering and Technology, Pudukkottai, Tamilnadu on 14.04.2016.
26. “Verilog HDL”, One day workshop on “Digital system design using FPGA”, organized by Sudharsan Engineering college, Pudukkottai, on 08.03.2014.
27. Delivered lectures for M.E., Embedded systems students (**MBCBS Course**) of Anna University, Regional office Tiruchirappalli, on VLSI Design, and Operating systems, during the academic year 2012-2013.
28. “Advanced Digital System design”, I ME, Embedded systems, Mahath Amma Institute of Engineering and Technology, Pudukkottai, Tamilnadu on 25.11.2013.
29. “Recent Trends in VLSI Technology”, Final Year ECE, Sudharsan Polytechnic College, Pudukkottai, Tamilnadu on 19.11.2012.

30. “Synchronous sequential circuits”, II ECE students of MAM college of Engineering, Trichy, Tamilnadu, October 2012.
31. “Social skills” for Ist Year students of Sudharsan Engineering College, Pudukkottai, Tamilnadu, September 2011.
32. “IC Fabrication process and Fundamentals of VLSI” for IIIrd Year ECE Students of Oxford Engineering College, Trichy, December 2010.
33. “VLSI Design” and “Digital IC Applications” for IIIrd Year ECE students of Sarathi Institute of Technology, Nuziveed, Andhra Pradesh, February 2010.
34. Delievered a series of Lectures on “Adapting to Corporate life”, as a part of **Wipro students training program**, for Ist Year students of Sai Spurthi Institute of Technology, Khammam, Andhra Pradesh, during January 2010.

#### **ATTENDED AS CHIEF GUEST FOR SYMPOSIUM / CONFERENCES (7) :**

1. Played the role of **Chief Guest** and adjudged the Paper Presentation Competition as a Jury member for the Symposium (Electro Spark - 2K24), organized by Department of Electronics and Communication, JP College of Arts and Science, Tenkasi, Tamilnadu, on 19.09.2024.
2. Played the role of **Session Chair** for 3rd International Conference on "Power Energy Environment and Intelligent Control, 19-23 Dec. 2023 (PEEIC2023), jointly organized by **IEEE** and GL Bajaj Institute of Technology and Management, Greater Noida, U.P. India, on 23.12.2023.
3. Played the role of **Session Chair** for 6th International Conference on Contemporary Computing and Informatics (IC3I), jointly organized by **IEEE** and Amity University, Uttar Pradesh, India, on 14.09.2023.
4. Played the role of **Jury member** for “Idea Presentation” contest organized by Industry Incubation Cell (IIC), SRGEC, on 12.01.2023.
5. Played the role of **Chief Guest** and adjudged the Paper Presentation Competition as a Jury member for the Symposium (Electrovision-2K20), organized by Department of ECE, PMC Tech, Hosur, on 07.10.2020.
6. Played the role of **Chief Guest** and adjudged the Paper Presentation Competition as a Jury member for the Symposium (Electrovision’19), organized by Department of ECE, PMC Tech, Hosur, on 20.09.2019.
7. Played the role of **Chief Guest** and adjudged the Paper Presentation Competition as a Jury member for the Symposium conducted at Mother Therasa College of Engineering and Technology, Pudukkottai, Tamilnadu, on 09.03.2018.

#### **WORKSHOPS / TRAINING PROGRAMS ORGANIZED:**

1. Played the role of Coordinator for the webinar on “Intellectual Property Rights (IPR) & IP Management”, at Seshadri Rao Gudlavalleru Engineering College, Gudlavalleru, in association with IP India, Mumbai, & NIPAM 2.0 mission, on 24.02.2023.
2. Played the role of Coordinator for the Guest lecture on “Futuristic Job Opportunities”, delivered by Prof. Dr. N. Siva Prasad, Former Professor IITM, Chennai, on 21.12.2022

3. Acted as a Coordinator for the “Technical Quiz” program, organized at the department level, as a part of the ISTE students chapter activity & Engineer’s day celebration, on 07.09.2022, 09.09.2022 & 13.09.2022.
4. Played the role of workshop Coordinator for Three Days workshop on “IoT using Arduino”, at Anil Neerukonda Institute of Technology & Sciences, Visakhapatnam, Jointly organized by APSSDC Vijayawada, from 07.02.2019 to 09.02.2019.
5. Organized an One day Intra college workshop on “Demystifying concepts using MATLAB” at The Kavery Engineering College, Salem on 14.09.2017.
6. Organized a Two day workshop on “Recent Trends in Raspberry Pi” at Global Institute of Engineering and Technology, Vellore from 19.02.2016 to 20.02.2016.
7. Organized and acted as a resource person for Hands on Training on “Digital system design using FPGA’, at Sudharsan Engineering College, Pudukkottai, on 08.03.2014.
8. Played the role of Workshop Coordinator for MHRD Sponsored Two Weeks Workshop on Analog Electronics, at Sudharsan Engineering College, Pudukkottai, from 4th to 14th June, 2013.

### **WORKSHOPS / INDUSTRIAL TRAINING PROGRAMS ATTENDED:**

1. Participated and successfully completed AICTE Training and Learning (**ATAL Academy Online FDP** on “VLSI Design for IoT and Edge Computing” from 20.01.2025 to 25.01.2025. organized by Paavai Engineering College, Namakkal, Tamilnadu.
2. Successfully Completed AICTE sponsored **Quality Improvement Program** on “High Performance Computing”, conducted by College of Engineering, Pune, in Association with CDAC, Pune, during 01 July 2024 to 25 December 2024, with a score 75/100 (B – Grade).
3. Attended Three day workshop (offline) SPARC National workshop on "Analysis and Design of High-speed serial links", conducted from 2<sup>nd</sup> - 4<sup>th</sup> August, 2023 at NIT Warangal, Telangana.
4. Attended One Week Faculty Development Program on “Applications of Computer Vision using Deep Learning”, conducted by Seshadri Rao Gudlavalleru Engineering College, during 20 - 25 February 2023.
5. Attended One week Professional development program on “Outcome based Education and Design thinking”, from October 7<sup>th</sup> – 15<sup>th</sup>, 2022, conducted by IEEE Guntur subsection and Department of EEE, KLEF Deemed to be University.
6. Attended 12 Weeks NPTEL Course (Two Weeks FDP) on “Analog Electronic Circuits” organized by IIT Delhi, during October 2022.
7. Participated and Successfully completed Two Days Faculty Training program on “Full Custom IC design using Cadence Software Tools”, from 04.08.2022 to 05.08.2022, at Seshadri Rao Gudlavalleru Engineering College, Andhrapradesh.
8. Participated and successfully completed AICTE Training and Learning (ATAL Academy Online FDP on “Internet of Things (IoT)” from 07.12.2020 to 11.12.2020 at Gudlavalleru Engineering College, Andhrapradesh.
9. Participated in A National Level Webinar on “Intellectual Property Rights & Patents - A View” organized by IQAC, Gudlavalleru Engineering College, Gudlavalleru held during 10 - 12 August 2020.
10. Participated in AICTE Sponsored Online Short Term Training Program on "Blockchain Architecture Design and Use Cases – Phase - I" Organized by Department of Electronics & Communication Engineering, Gudlavalleru Engineering College, Gudlavalleru, Andhra Pradesh-521356, from 10.8.2020 to 15.8.2020.
11. Attended Two week FDP on “Data Science and Data Analytics through Python & R Programming”, organized by Gudlavalleru Engineering College, Andhrapradesh, from 27.01.2020 to 08.02.2020.

12. Attended One week FDP on “Microelectronics: Devices to Circuits”, organized by IIT Kharagpur, through NPTEL Course, during November 2019, and secured 77 % as a consolidated score.
13. Attended one day workshop on “Ed-Tech tools in Teaching and Learning”, Organized by JNTUK, UCEV Campus, Vizianagaram, Andhrapradesh, on 05.10.2019.
14. Attended one day workshop on “Make in India – Transforming Research to Reality”, Anna University, Chennai, on 05.09.2017.
15. Attended Special lecture on “Research methodology and Funding opportunities”, organized by The Kavery Engineering College, Salem, on 22.02.2017.
16. Attended One day Faculty Training program at Dharmapuri District Co-operative Sugar Mills Ltd., Palacode, Tamilnadu, on 04.02.2017.
17. Attended One day Faculty Training program at Wheel Alignment and Assembly Section, Toyato Tsusho India Private Limited, Kunnavakkam, Kanchipuram, on 03.11.2016.
18. Participated in Faculty updation program on “Modeling & Thermal Analysis of Electronic Products using FloTHERM”, during 19th to 23rd May, 2014, at NIELIT, Chennai.
19. Attended Five Day Coordinator workshop on “Analog Electronics” from 1st – 5th April, 2013, at IIT Kharagpur.
20. Attended One Day workshop on Xilinx 7 Series FPGAs and Vivado Tool Flow on 22nd January, 2014, at IISc Bangalore.
21. Attended One day workshop on Research methodology, Techniques of writing Research articles for SCI Journals for Research Scholars” on 16.12.2014 at Anna University, Chennai.
22. Attended Two week AICTE sponsored FDP on “Verification and Testing of VLSI Circuits”, PSG Tech, Coimbatore, from 6th to 19th November 2013.
23. Attended the One Day workshop on “VLSI Co-design Tools”, conducted at SASTRA University, Thanjavur, on 05.10.2013.
24. Participated in Three days Hands on Training in “Digital IC Design”, organized by VLSI Division, VIT University, Vellore, from 23.02.2012 to 25.02.2012.
25. Participated in a Three day course on “Advanced Refresher program for VLSI faculty with Hands on Training on Analog-Mixed signal and Digital Design using Cadence Tools” conducted by Cadence Design Systems and ICTACT Tamilnadu, at Pandiyan Saraswathi Yadav Engineering college, Madurai from 11.11.2010 to 13.11.2010.
26. Participated in Two weeks Faculty updation Training on “System Design using FPGA”, organized by CDAC Hyderabad as a part of Prepare Future Project, HRD Division, Department of IT, Government of India, from 16.11.2009 to 27.11.2009.

#### **SYMPOSIUM / CONFERENCES ORGANIZED:**

1. Played the role of Co-convener for Two Days International Conference on “Computational and Intelligent Techniques for Automation of Engineering Systems (CITAES-2K22)”, from 29.07.2022 to 30-07.2022, at Seshadri Rao Gudlavalluru Engineering College, Gudlavalluru, Andhra Pradesh, India.
2. Played the role of Convener for One Day National Level Technical Symposium titled “Kavery TriZone - 2K18”, on 13th Feb. 2018, at The Kavery Engineering College, Salem, Tamilnadu, India.
3. Played the role of Convener for One Day National Level Technical Symposium titled “Kavery TriZone - 2K16”, on 2nd Sep. 2016, at The Kavery Engineering College, Salem, Tamilnadu, India.
4. Played the role of Convener for One Day National Level Conference on “Advanced Technologies in Computing, Communication and Electrical Engineering” (NCATCCEE’16), 30th Sep. 2016, at The Kavery Engineering College, Salem, Tamilnadu, India.

## **PROPOSALS SUBMITTED / GRANTED:**

1. Received seed money Rs. 26,156 /- under in-house R&D scheme for the academic year 2022 -23, for the proposal titled "Cattle tracking and Sound classification to monitor and diagnose its health conditions", from Seshadri Rao Gudlavalluru Engineering College, Krishna District, Andhra Pradesh on 31.01.2023 (**Hardware Implementation Completed**)
2. Submitted a proposal for Start-up Research grant for SERB on the title "Vehicle tracking to predict and prevent potential accidents in Highways of India using ML techniques", submission date: 01.03.2021, Project File No.: SRG/2021/000488/ES
3. Submitted a proposal to conduct Short Term Training Program (STTP) on the title, "One Week STTP on Wireless Communication and Networks" for AICTE, New Delhi, on 30.11.2017.
4. Submitted a proposal to conduct Faculty Development and Training Program (FDTP) on the title, "One Week FDTP on Recent Trends in Soft Computing Techniques" for AICTE, New Delhi, on 28.12.2016.
5. Submitted a proposal to conduct Faculty Development and Training Program (FDTP) on the subject, "EC6601 – VLSI Design", for winter vacation 2016 to Center for faculty development, Anna University, Chennai, under self supporting scheme.
6. Submitted a proposal for MODROBS (Modernization and removal of Obsolescence Scheme) under AICTE, New Delhi, with title "Modernization of VLSI Lab", November 2012.
7. Submitted a proposal for RPS (Research Promotion Scheme) under AICTE, New Delhi, titled "A Novel test vector compression technique for high density system on chip", November 2011.

## **PROJECTS ACCOMPLISHED**

**\*UG Project Details:** "Process Control And Data Acquisition Using Smart Card".

Team Size	:	3
Position	:	Project Member
Duration	:	December 2003 to May 2004

**\*PG Project Details:** "VLSI Implementation of High resolution Time-to-Digital Converter".

Synthesis	:	Xilinx Project Navigator, Mentor Graphics
Core design	:	VHDL
Team Size	:	1
Position	:	Project Member
Duration	:	August 2006 to March 2007

**\*Title of the Ph.D Thesis:** "Area and Power Efficient testable hardware design using High-level Synthesis".

## **PROJECTS GUIDED AT UG LEVEL**

- Buffalos sound classification using Machine Learning
- Smart Wheelchair for Physically Challenged
- RISC-V Processor architecture implementation using FPGA (2020 – 21)
- FPGA implementation of low power 16x16 Vedic Multiplier (2019-20)
- Green House Monitoring and Control using Arduino Based on IOT (2019-20)
- FPGA Implementation of Denoising architecture for various noises in digital images

- FPGA Implementation of Low power Test pattern generators
- Smart Home Control System Using PLCC and ZigBee
- VLSI Implementation of 32-bit RISC Processor using VHDL.
- VLIW Processor Implementation using VHDL (2009- 2010)
- Night Vision Robot for Spying in Warfield.
- FPGA Implementation of Low power BIST architectures for General purpose processor
- A Programmable truncated multiplier for low power DSP applications

## **ADMINISTRATIVE EXPERIENCES**

- Acted as Co-convenor for the Second International Conference on Computational and Intelligent Techniques for Automation of Engineering Systems (CITAES'22), Organized by Seshadri Rao Gudlavalleru Engineering College, from 29 - 30 July, 2022.
- Board of studies member of CSE Department (Cyber Security), CMR Engineering College, Hyderabad, during 2021 – 22 and 2022 - 23.
- Department level NAAC Co-coordinator during 2020 – 2021
- NBA – Criteria IV (Students achievements) Coordinator from 2021 - 22.
- Academic Coordinator for 2<sup>nd</sup> Year ECE during 2019-20, 2020 – 21, 2021 - 22.
- Board of studies Member of ECE Department, Gudlavalleru Engineering College, Krishna District, during 2019 – 20 to till date.
- Board of studies Member of ECE Department, Anil Neerukonda Institute of Technology and Sciences, Visakhapatnam, during 2018 - 19.
- Head of the Department (From May 2016 to April 2018)
- Department Research Coordinator during 2016 - 2018

## **PERSONAL TRAITS**

- Strong analytical and logical skills.
- Good communication and interpersonal skills along with willingness to travel.
- Young and energetic.

## **PERSONAL PROFILE**

Date of Birth & Age	:	14.05.1983, Age: 41
Gender	:	Male
Marital Status	:	Married
Languages Known	:	English, Tamil, Telugu (Only can Speak)
Address for Communication	:	S/o. S. Sundhari, No. 216 / 4, Saranya Nagar, Venkarumbur, Tittagudi (TK), Cuddalore (Dt), Tamilnadu, India - 606105 Mobile: +91-9842469804 E-mail : ravi.vlsi29@gmail.com
Nationality	:	Indian.
Orcid ID	:	0000-0002-2071-1550
Vidwaan ID	:	198252
Web of Science Researcher ID	:	GSN-7700-2022

Scopus ID : 57200983246  
AICTE Faculty ID : 1-7423497949

**DECLARATION:** I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.

**Place:** Vijayawada

**Date:** 29.01.2025



**(Dr. S. Ravi)**