Curriculum Vitae

Dr. K K Senthilkumar. M.E.,Ph.D.
Professor & Head.
Department of Electronics & Communication Engineering,
Prince Shri Venkateshwara Padmavathy Engineering college,
Medavakkam-Mambakkam road, Ponmar Chennai 127
senthilkumar.k.k.ece@psvpec.in
Digital Image Processing, Analog & VLSI Design, Embedded
Systems

EDUCATIONAL QUALIFICATIONS:

Ph.D. (I&C), College of Engineering, Anna University, Chennai in May 2016

M.E. (VLSI Design), College of Engineering, Anna University, Chennai in June 2007

BE (Electrical & Electronics Engineering), Government college of Engineering, Periyar University in 2002, secured first class.

Title of the Ph.D. Thesis: Realization of Reduced Computation and Power Efficient DCT Architecture for Image Compression

PROFESSIONAL EXPERIENCE

➢ Worked as Service Engineer in BSNL to Attend the CDOT Cards on behalf of Sri Sakthi Electronics, Salem from Nov. 1996 to May July 2004.

➢ Worked as a VLSI Design Engineer (Trainee) in Datacom Solutions India Pvt Ltd., Chennai from June 2004 to May 2005

➢ **Working as Professor and Head of the department of ECE in Prince Sri Venkateshwara Padmavathy Engg. College,Chennai 127 from 2007**

PUBLICATIONS

1. **Senthilkumar, K.K**., Kumarasamy, K. & Dhandapani, V. Approximate Multipliers Using Bio-Inspired Algorithm. J. Electr. Eng. Technol. 16, 559–568 (2021). https://doi.org/10.1007/s42835-020-00564-w

2. **Senthilkumar, K K,** Kunaraj, K & Seshasayanan, R 2015, 'Implementation of computation-reduced DCT using a novel method, EURASIP Journal on Image and Video Processing', (Impact Factor = 0.736). vol.2015, no.1,pp. 1-18. https://doi.org/10.1186/s13640-015-0088-z

3. **Senthilkumar K K** & Seshasayanan R 2014, 'Power Reduction in DCT Implementation using Comparative Input Method',INFORMATION, An International Interdisciplinary Journal, 2014 (Impact Factor = 0.358). Vol.17, No.12(B), pp.6619-6642

4. **Senthilkumar K K** & Seshasayanan R 2014, 'FPGA Implementation of DCT architecture developed Using Comparative Input Method', International Journal of Applied Engineering Research, 2014, Vol.9, No.23, pp.19591-19610

5. **Senthilkumar, K K**, Seshasayanan, R & Gayathri, D 2015, 'A Novel method for Reducing Number of Computation in 2D-DCT', ARPN Journal of Engineering and Applied Sciences, vol.10, no.8, pp.3731-3737.

6. **K. K. Senthilkumar,** and V. S. Harshini, "Design of Hybrid Sorting Unit," *2019 International Conference on Smart Structures and Systems (ICSSS)*, 2019, pp. 1-6, doi: 10.1109/ICSSS.2019.8882866

7. **K. K. Senthilkumar,** A.R. Aravind, G. Vijayalakshmi, J. Gayathri, and G. Kalanandhini , "Study on modified booth recoder with fused add-multiply operator", AIP Conference Proceedings 2393, 020139 (2022) https://doi.org/10.1063/5.0074212

8. **K. K. Senthilkumar,** G. Vijayalakshmi, J. Gayathri, G. Kalanandhini, and A. R. Aravind , "A smart rail track inspection system", AIP Conference Proceedings 2393, 020122 (2022) https://doi.ohrg/10.1063/5.0074206

9. **K. K. Senthilkumar** ,G. Kalanandhini, A. R. Aravind, G. Vijayalakshmi and J. Gayathri, "Bluetooth technology on IoT using the architecture of Piconet and Scatternet", AIP Conference Proceedings 2393, 020121 (2022) https://doi.org/10.1063/5.0074188

10. **K. K. Senthilkumar,** G. Kalanandhini, A. R. Aravind, G. Vijayalakshmi, and J. Gayathri , "Image fusion based on DTDWT to improve segmentation accuracy in tumour

detection", AIP Conference Proceedings 2393, 020120 (2022) https://doi.org/10.1063/5.0074183

11. **K. K. Senthilkumar,** J. Gayathri, G. Vijayalakshmi, A. R. Aravind, and G. Kalanandhini , "Multi-purpose unmanned aerial vehicle for temperature sensing and carbon monoxide gas detection with live aerial video feeding", AIP Conference Proceedings 2393, 020124 (2022) https://doi.org/10.1063/5.0074193

12. S.Santhosh, G.sundeep & **K.K. Senthilkumar**., Multi-purpose unmanned aerial vehicle for sensing radiation and carbonmoxide gas with live aerial video feeding., Vol.01 , No. o5, Year 2014, Page no: 55-60.

13. Vinesh Srinivasan, R. Varshad Venkatraman, **K.K. Senthilkumar**, Schmitt Trigger based SRAM Cell for Ultralow Power Operation- A CNFET based Approach,Procedia Engineering,Volume 64,2013,Pages 115-124,ISSN 1877-7058, https://doi.org/10.1016/j.proeng.2013.09.082.

14. Hemalatha, B., Karthik, B., Balaji, S., **Senthilkumar, K.K**., Ghosh, A. (2022). CNN Based Image Forgery Segmentation and Classification for Forensic Verification. In: Mekhilef, S., Shaw, R.N., Siano, P. (eds) Innovations in Electrical and Electronic Engineering. ICEEE 2022. Lecture Notes in Electrical Engineering, vol 894. Springer, Singapore. https://doi.org/10.1007/978-981-19-1677-9_57

15. Priya, V., Raj, V.J.A., Chethanasai, K.V., Kumar, J.P.M., Manikandan, V., **Senthilkumar, K.K.** (2022). Design and Simulation of a Robotic Manipulator for Ladle with PLC. In: Mekhilef, S., Shaw, R.N., Siano, P. (eds) Innovations in Electrical and Electronic Engineering. ICEEE 2022. Lecture Notes in Electrical Engineering, vol 894. Springer, Singapore. https://doi.org/10.1007/978-981-19-1677-9_66

16. Balu Ambadas, M. Allah Khan, E. Sharmila, S. Singh, **K. K. Senthilkumar** and V. K, "Predicting Student Performance and its Outcomes in the Modern Education Systems Using Attention Based BiRNN and CNN Method," *2023 International Conference on Sustainable Communication Networks and Application (ICSCNA)*, Theni, India, 2023, pp. 1118-1123, doi: 10.1109/ICSCNA58489.2023.10370657.

17. **K.K. Senthil Kumar,** R. Vignesh, V.R. Vivek, Jagdish Prasad Ahirwar, Khamdamova Makhzuna, R. Ram kumar,"Approximate Multiplier based on Low power and reduced latency with Modified LSB design",E3S Web Conf. 399 01009 (2023).DOI:10.1051/e3sconf/202339901009

18. V. J. Vijayalakshmi, **Senthilkumar, K.K**, R. R. Mirajkar, A. J. S, M. K. Goyal and N. N. Sakhare, "Retracted: Analyzing the Performance of Machine Learning Algorithms for Real-Time Data Analysis Under Optimization," *2023 3rd International Conference on Smart Generation Computing, Communication and Networking (SMART GENCON)*, Bangalore, India, 2023, pp. 1-5, doi: 10.1109/SMARTGENCON60755.2023.10442459.

19. R. Kumar, N. N. Sakhare, N. Thangarasu, **K. K. Senthilkumar**, P. S. Wawage and A. Rengarajan, "Retracted: Exploring the Potential Benefits of Machine Learning for Optimizing Real-Time Data Analysis," *2023 3rd International Conference on Smart Generation Computing, Communication and Networking (SMART GENCON)*, Bangalore, India, 2023, pp. 1-7, doi: 10.1109/SMARTGENCON60755.2023.10441922.

20. A. B. S, **K. K. Senthilkumar**, S. Kannimuthu, V. Deshpande, P. Kumar Parida and S. Pund, "A Comparative Analysis of PCA and IA for Assortment of Features in Hyper Spectral Images," *2023 International Conference on Power Energy, Environment & Intelligent Control (PEEIC)*, Greater Noida, India, 2023, pp. 1674-1679, doi: 10.1109/PEEIC59336.2023.10450964.

21. Radhakrishnan S., Jasmin M., Senthilkumar K.K., Vanitha M.,"Intelligent Control System for Wind Turbine Farms Using IoT and Machine Learning",E3S Web Conf., 387 (2023) 04004.,Published online: 2023-05-15.DOI: https://doi.org/10.1051/e3sconf/202338704004.

22. B. Rubini, Saloni Bansal, Dhiraj Jadhav, **K.K. Senthilkumar**, R. Dhilipkumar, Avinash M. Pawar, V. Vivek.,"Innovative Control Approaches for Efficient Power Management in Hybrid Renewable Energy Resource Microgrids",E3S Web Conf. 591 05003 (2024).DOI: 10.1051/e3sconf/202459105003

23. M. K. Sharma, R. Kumar, D. K. Sinha, **K. K. Senthilkumar**, D. Dhabliya and G. Ahluwalia, "Exploring the Benefits of Deep Learning for Data Science Practices," *2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT)*, Kamand, India, 2024, pp. 1-7, doi: 10.1109/ICCCNT61001.2024.10724226.

24. **K. K. Senthilkumar**, P. S. Mehta, M. V. Panduranga Rao, M. Pandey, B. Singh and S. Khurana, "Investigating the Effects of AI-Driven Systems on Data Science Automation," *2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT)*, Kamand, India, 2024, pp. 1-7, doi: 10.1109/ICCCNT61001.2024.10726209.

25. A. Kannagi, T. Agrawal, M. K. Singar, K. R. Singh, **K. K. Senthilkumar** and N. P. Sable, "From Theory to Practice: Analyzing the Feasibility of Augmenting Human Intelligence with AI Technologies," *2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT)*, Kamand, India, 2024, pp. 1-8, doi: 10.1109/ICCCNT61001.2024.10724873.

26. E. Gupta, **K. K. Senthilkumar**, V. S. Gaikwad, M. Nagpal, A. P. Singh and S. Sharma, "Leveraging Deep Learning Methodologies in Data Science Practices: A Systematic analysis," *2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT)*, Kamand, India, 2024, pp. 1-6, doi: 10.1109/ICCCNT61001.2024.10725241.

27. **K. K. Senthilkumar**, S. Manhas, K. M. Gnanapriya, Z. Alsalami, A. K. Rai and P. C, "Jellyfish Search Algorithm for UWSNs Energy Management," *2024 IEEE International Conference on Communication, Computing and Signal Processing (IICCCS)*, ASANSOL, India, 2024, pp. 1-5, doi: 10.1109/IICCCS61609.2024.10763682.

28. G. Ravivarman, A. Sidhu, **K. K. Senthilkumar**, S. Goyal, P. S. Raghavendra Rao and S. R. Bhagwat, "De-Modulation Techniques for Non-Coherent UWB Radio Systems," 2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT), Kamand, India, 2024, pp. 1-6, doi: 10.1109/ICCCNT61001.2024.10725599.

29. A. Rajiv, V. J. Vijayalakshmi, S. Khurana, P. Garg, S. P. Bhoite and **K. K. Senthilkumar**, "Resource Discovery Model for Optimized Performance in P2P Communications," 2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT), Kamand, India, 2024, pp. 1-6, doi: 10.1109/ICCCNT61001.2024.10726267.

30. A. Rajiv, V. J. Vijayalakshmi, S. Khurana, P. Garg, S. P. Bhoite and **K. K. Senthilkumar**, "Resource Discovery Model for Optimized Performance in P2P Communications," 2024 15th International Conference on Computing Communication and Networking Technologies (ICCCNT), Kamand, India, 2024, pp. 1-6, doi: 10.1109/ICCCNT61001.2024.10726267.

31. **K. K. Senthilkumar**, C. Bhatt, R. J. S, S. Bula Patil, G. Ravivarman and S. Mahajan, "Twitter Sarcasm Detection using Natural Language Processing and Deep Learning Techniques," 2024 Global Conference on Communications and Information Technologies (GCCIT), BANGALORE, India, 2024, pp. 1-8, doi: 10.1109/GCCIT63234.2024.10862514.

Patents Published -4

1 Centralized Drainage System Detection and Monitoring – 202241046199-19.08.2022

2. Smart Locking System- 202241042950-06.08.2022

3.A systematic vision-based hand gesture motion identify to enabled of home automation using IOT- 202241001748A- 28-01-2022

4.Firefighting ROBOT- 202241040212- 22.07.2023

Reviewer/ Auditing/DC member /Editor/ Colloborations:-

1.Reviewer for Journal of Computer Systems Science and Engineering, Tech Science Press
2.Reviewer for Journal Microprocessors and Microsystems, Science Direct.

3.Reviewer for IEEE Conferences.

Awards And Achievements:-

1.Received AICTE Lilavati Awards 2020-2021 for implementing Science and Technology for rural women   empowerment.

2. Invited Speaker to SERB sponsored National Level Seminar on "Artificial intelligence-based image processing implementation using VLSI design" on 22nd and 23rd May 2023 conducted by K. Ramakrishnan College of Technology, Trichy

3.Invited Speaker to AICTE sponsored Short Term Training Programme (STTP) on FPGA based Digital System Design with HDL (Phase-II) from 08.02.2021 to 13.02.2021 organized by the Department of Electronics and Communication Engineering Vel Tech Multi Tech Dr. Rangarajan Dr. Sakunthala Engineering College Avadi, Chennai, Tamilnadu – 600062.

4.Acted as evaluator in Smart India Hackathon 2022

5.Acted as Mentor in in Smart India Hackathon 2020 & 2022

Administrative Duties:-

1.Controller of Examination (COE) form December 2022

2.Chief Superintend for Anna University Examinations from 2019-2022

3.Department Head – Electronics & Communication engineering form 2011

4.Institute Innovation council (IIC) –Convenor form 2020

5.NAAC coordinator for Criteria 3

6.NIRF Coordinator from 2020

Professional Memberships:-

Indian Society for Technical Education (ISTE)

International Association of Engineers (IAENG)

Programs Organized:-

Anna university summer Faculty Development Training Program in 2018

FDP/WORKSHOPS / SEMINARS / TRAINING ATTENDED: -

Participated six days online Faculty Development Programme on "Emerging Trends and Technologies in Renewable Energy for Sustainable Development" held on 10.2 2025 -15.2. 2025 organized by AICTE Training and Learning (ATAL) Academy at Prince Shri Venkateshwara Padmavathy Engineering College.

Participated Seven days online Faculty Development Programme on "Recent Advancements of Computational Electromagnetics in Modern Microwave Antennas" held on 12.10.23 -17.10.23 organized by Shri Venkateshwara Padmavathy College of engineering & Technology.

Participated Seven days online Faculty Development Programme on "Design of High Frequency Antennas for Real Time Applications" held on 14.3 2023 -18.3.2023 organized by GMR Institute of Technology & V R Siddhartha Engineering College