Kathir College of Engineering

Faculty Profile

DR.NK.ANUSHKANNAN ***Professor*** ***Electronics and Communication Engineering***	
Qualification	**BE ME (AUS) PHD.,**
Area of Specialization	**MIXED SIGNAL VLSI**
Email	**Anushkannan81@gmail.com**
Mobile Number	**9942476295**
Membership in Professional Bodies	**IEEE, ISTE, NSPE, IAENG, IASTER, BMESI, BMES**
Total Experience in (Years) :	
Industry	**Academic**
Experience in Years : NIL	Experience in Years : 19

Publication Details

Number of Papers Published	Journal Publications	Conference Publications

- **Journals**

1. Janardhana, K., Anushkannan, N. K., Dinakaran, K. P., Puse, R. K., & Boopathi, S. (2023). Experimental investigation on microhardness, surface roughness, and white layer thickness of dry EDM. Engineering Research Express, 5(2), 025022. https://doi.org/10.1088/2631-8695/acce8f **(Science Citation Indexed Expanded)**

2. Mohan Das, R., Arun Kumar, U., Gopinath, S., Gomathy, V., Natraj, N. A., Anushkannan, N. K., & Balashanmugham, A. (2023). A novel deep learning-based approach for detecting attacks in social IoT. Soft Computing, 1-11. https://doi.org/10.1007/s00500-023-08389-1
(Science Citation Indexed Expanded)

3. Khan, S. D., Sharma, P. K., Anushkannan, N. K., Kiruba, S., Sujatha, R., & Das, M. N. (2023). A framework based on artificial intelligence for the creation of a modern brand marketing management mode. Journal of Data Acquisition and Processing, 38(3), 347. Journal of Data Acquisition and Processing (sjcjycl.cn)
(Scopus)

4. Shamim, S. M., Trabelsi, Y., Arafin, N., Anushkannan, N. K., Dina, U. S., Hossain, M. A., & Islam, N. (2023). Design and analysis of microstrip patch antenna with photonic band gap (PBG) structure for high-speed THz application. Optical and Quantum Electronics, 55(7), 618. https://doi.org/10.1007/s11082-023-04834-5V.
(Science Citation Indexed Expanded)

5. Balaji, N. K. Anushkannan, Sujatha Canavoy Narahari, Punam Rattan, Devvret Verma, Deepak Kumar Awasthi, A. Anbarasa Pandian, M. R. M. Veeramanickam, Molla Bayih Mulat, "Deep Transfer Learning Technique for Multimodal Disease Classification in Plant Images", Contrast Media & Molecular Imaging, vol. 2023, Article ID 5644727, 8 pages, 2023. https://doi.org/10.1155/2023/5644727
(Science Citation Indexed Expanded)

6. Almawgani, A. H., Han, B. B., Anushkannan, N. K., Armghan, A., Alzahrani, A., & Patel, S. K. (2023). Solar thermal energy harvesting using graphene-based plus-shaped Cr–InSb–Cr multilayer structure. International Journal of Thermal Sciences, 193, 108501. https://doi.org/10.1016/j.ijthermalsci.2023.108501
(Science Citation Indexed Expanded)

7. Wekalao, J., Patel, S. K., Alsalman, O., Surve, J., Anushkannan, N. K., & Parmar, J. (2023). Waterborne Bacteria Detecting Highly Sensitive Graphene Metasurface Based Cost-Efficient and Efficient Refractive Index Sensors. Plasmonics, 1-15.
https://doi.org/10.1007/s11468-023-01983-x
(Science Citation Indexed Expanded)

8. Udayakumar, Arun Kumar, Raghavendra Rajan Vijaya Raghavan, Mohamad Abou Houran, Rajvikram Madurai Elavarasan, Anushkannan Nedumaran Kalavathy, and Eklas Hossain. "Three-Port Bi-Directional DC–DC Converter with Solar PV System Fed BLDC Motor Drive Using FPGA." Energies 16, no. 2 (2023): 624.
https://doi.org/10.3390/en16020624 . **(Science Citation Indexed Expanded)**

9. Babu, W. R., Kumar, P. R., Murali, L., & Anushkannan, N. K. (2023). Broadband graphene and metasurface-loaded solar thermal absorber design for visible and infrared regions. Optical and Quantum Electronics, 55(1), 1-14, https://doi.org/10.1007/s11082-022-04331-1.
(Science Citation Indexed Expanded)

10. Priya Remamany, K., Maheswari, K., Ramesh Babu Durai, C., Anushkannan, N. K., Victoria, D., Ben Othman, M. T., ... & Hamam, H. (2022). A Localized Bloom Filter-Based CP-ABE in Smart Healthcare. Applied Sciences, 12(24), 12720, https://doi.org/10.3390/app122412720. **(Science Citation Indexed Expanded)**

11. Anushkannan N.K., Mangalam H., Rathish C.R., Arun Kumar U.,Design, simulation, and optimization of optical full-adder based on Mach–Zehnder interference, Optics Communications,Volume 528, 2023, 129056, ISSN 0030-4018, https://doi.org/10.1016/j.optcom.2022.129056. **(Science Citation Indexed Expanded)**

12. Valsakumari, M.K., Anushkannan, N.K., Anusuya, M. et al. Biomolecules and microwaves directed fabrication of Ag/CeO2 nanocomposite: a versatile candidate for the degradation of textile dye mixtures and antibacterial studies. Res Chem Intermed (2022). https://doi.org/10.1007/s11164-022-04855-x **(Science Citation Indexed Expanded)**

13. B.Swaminathan, Siddhartha Choubey, N.K Anushkannan, Jeevanantham Arumugam, K Suriyakrishnaan, Hesham S. Almoallim, Sulaiman Ali Alharbi, S. R. Soma, Ramata Mosissa. (2022), "IOTEML: An Internet of Things (IoT)-Based Enhanced Machine Learning Model for Tumour Investigation", Computational Intelligence and Neuroscience, vol. 2022, Article ID 1391340, 9 pages, https://doi.org/10.1155/2022/1391340 **(Science Citation Indexed Expanded)**

14. Duraisamy S, Santhosh A, Anushkannan N K, Saisadan D. (2022), "Severe acute respiratory syndrome Coronavirus-2 – A surge of CoronaVirus Disease-2019, An epidemiological study in Coimbatore District", **J Pharm Bio all Sci,**14, 360-363 10.4103/jpbs.jpbs_124_22 **(Emerging Sources Citation Index**)

15. B.Ashok, P.Tamilmani, N.K.Anushkannan, Rupali Dhamdhere, Saravanan, & M.Anusuya (2022), "STUDIES OF ELECTRICAL PROPERTIES OF SUPERCAPACITOR AND ITS APPLICATIONS", **Journal of East China University of Science and Technology**, 65(3), 552-576, **zenodo (Scopus)**

16. Anushkannan, N. K., and H. Mangalam (2022), "Low Power Non-Linear SFD for a PLL" **NeuroQuantology,** 20(5), 4593-4603, **AnKa**

17. Anushkannan, N. K., and H. Mangalam (2019), "Design of an Ultra-low power, low complexity and low jitter PLL with DCO". **International Journal of Advanced Intelligence Paradigms,** 15(1), 98-107,
https://doi.org/10.1504/IJAIP.2020.104110 **Inderscience. (Scopus)**

18. Anushkannan, N. K., and H. Mangalam (2016), "A Modified PFD based PLL with Frequency dividers in 0.18-µm CMOS technology" **Circuits and Systems**, 7, 4169-4185, 10.4236/cs.2016.713343, **Scientific Research. (Google Scholar)**

19. Anushkannan, N. K., and H. Mangalam (2015), "Design of a CMOS PFD-CP module for a PLL."**Sadhana-IAS** 40.4 1105-1116. https://doi.org/10.1007/s12046-015-0379-1. **(Science Citation Indexed Expanded)**

20. H. Mangalam., and Anushkannan, N. K (2013), "Design of Various PFD and Charge-Pump Architectures for a PLL-a Survey". **Digital Signal Processing,** 5(8), 284-287, **CiiT International**.

- **Conferences**

1. A. Sagar, N. K. Anushkannan, G. Indumathi, N. Vasant Muralidhar, D. K A and P. Malini, "Wireless Sensor Network-based Intrusion Detection Technique using Deep Learning Approach of CNN-GRU," 2023 8th International Conference on Communication and Electronics Systems (ICCES), Coimbatore, India, 2023, pp. 1147-1152, 10.1109/ICCES57224.2023.10192844. **(Scopus)**
2. N. K. Anushkannan, G. H. Balde, D. Suganthi, P. M. Pandian, B. Kaur and K. V. D. Sagar, "A Novel Method for Categorizing Brain Tumors using the Hybrid ALO-ELM Model," 2023 7th International Conference on Trends in Electronics and Informatics(ICOEI),Tirunelveli,India,2023,pp.1467-1472, 10.1109/ICOEI56765.2023.10125907. **(Scopus)**
3. T. S. Karthik, N. Hussain, N. K. Anushkannan, R. Pinnamaneni, V. R. E and S. Das, "Automated Intracranial Haemorrhage Detection and Classification using Rider Optimization with Deep Learning Model," 2022 International Conference on Automation, Computing and Renewable Systems (ICACRS), Pudukkottai, India, 2022, pp. 588-594 10.1109/ICACRS55517.2022.10029294. **(Scopus)**
4. Anushkannan, N. K., et al. "YOLO Algorithm for Helmet Detection in Industries for Safety Purpose." 2022 3rd International Conference on Smart Electronics and Communication (ICOSEC). IEEE, 2022. 10.1109/ICOSEC54921.2022.9952154 **(Scopus)**
5. Lalitha, T., Anushkannan, N. K., Shreepad, S., Sasireka, S., Anandaram, H., & Razia, S. (2022, October). Deep Learning-based Automatic 3D Printer Anomaly Detection during the Printing Process. In 2022 3rd International Conference on Smart Electronics and Communication (ICOSEC) (pp. 1343-1348). IEEE. 10.1109/ICOSEC54921.2022.9951903 **(Scopus)**
6. N. K. AnushKannan, H. Mangalam, V. A. Dharani, G. Divya, N. Esack and M. Gokulraj, "Comparison and analysis of various PFD architecture for a phase locked loop design," 2013 IEEE International Conference on Computational Intelligence and Computing Research, India, 2013, pp. 1-4 10.1109/ICCIC.2013.6724238. **(Scopus)**
7. Anushkannan, N. K., et al. "Design of Various PFD & CP Architecture for a PLL- A Survey," proceedings in DRDO Sponsored 2 Day National conference on Emerging trends in Data Mining, Tamilnadu College of Engineering, Coimbatore.
8. Anushkannan, N. K., et al. "Design of LC-VCO & Architecture of Quadrature LO for a PLL", proceedings of National conference on Recent trends in Engineering & Technology, KSR Institute of Engineering & Technology, Tiruchengode.
9. Anushkannan, N. K., et al. "Design of Quadrature LO for a PLL" proceedings in 2nd National conference on Electrical Systems in Electrical & Electronics engineering, RVS College of

Engineering & Technology, Coimbatore.

- **Book Chapters**

1. Anushkannan, N.K & Mangalam, H. (2022). “Phase Frequency Detector (PFD) Design with Frequency Dividers for a Phase Locked Loop (PLL) in 0.18-µm CMOS Technology.” Technological Innovation in Engineering Research Vol. 3, 28–43. https://doi.org/10.9734/bpi/tier/v3/1924B
2. Anushkannan, N.K (2022). “Intelligent traffic control system for emergency vehicle and stolen vehicle using rf technology.” Lap Lambert Academic Publishing.
3. Anushkannan, N. K., et al. "Development of Environmental Benign Nanomaterials for Energy and Environmental Applications." Materials for Sustainable Energy Storage at the Nanoscale (2023): 337-347.

- **Patents**

1. Dr.N.K Anushkannan et.al (2023) “COMMUNICATION IN CIRCUITRY SYSTEM AND METHODS USING ARTIFICIAL INTELLIGENCE” **(Published)**
2. Dr. C. Dhandapani, Dr N K Anushkannan, Prakash Muthachari, Dr Dharmendra Kr Dubey, A. Agalya, Dr. K. Ch Appa Rao, Prof.Dr E D Francis, Prem Chandra, Dr. Deepak Dalal, Dr Sumit Kumar Gupta, Dr. Prafulla Kumar Sahoo, Mr.Sunil Kumar Sahu, (2023) “STUDY ON ANALYSING THE STRENGTH AND WEAKNESS OF VARIOUS MECHANICAL MATERIALS USING THE TECHNIQUE OF ARTIFICIAL INTELLIGENCE” **(Published)**
3. Dr.S.Ramachandran, Ms.M.Kavitha, Ms.K.N.Jayapriya, Dr. K. Asan Mohideen, Dr. N.K. Anushkannan, Ms.P.Sangeetha, Ms.C.Eyamini, Mr.D.Sathishkumar, Mr.S.Saravanan, Mr.N.Sathishkumar, (2022)“AN ARTIFICIAL INTELLIGENCE BASED INFANT EMOTION PREDICTION USING WALL MOUNTED STICKERS” **(Published)**
4. Dr. N.K Anushkannan, Dr.C .Gunasundari, Dr.P.Anitha, Dr.D.Madankumar, Dr.V.Saravanan,Dr. M. Anusuya, Dr.Nikhat Farhana, Dr. Jiwanpremchandlavande, Dr. Mukesh kumar meena, (2022) “A DEEP LEARNING BASED TECHNIQUE INTEGRATED WITH NANO TECHNOLOGY APPROACH TO STUDY THE EFFECT OF TOPICAL CREAMS FOR TREATING BLOOD CANCER NODES” **(Published)**
5. Dr.Yogesh P.Shinde, Dr.N.K Anushkannan, Rohinee Manish Barai, Dr.K.Santhi, Dr.Mohammad Ayaz Afsar, Sarvesh Kiyan, Bivani (2022) “A SMART LOCKING SYSTEM FOR VEHICLE USING IOT AND CLOUD TECHNIQUE AND SERVER” **(Published)**

Research Interests	***Type your Research Interests here:*** Mixed Signal VLSI, Bio Medical Electronics, Optical Electronics, Photonics and Quantum physics
Other relevant achievements, awards and links:	***Type any other relevant links/Information here:*** ● **“Certificate of Academic Excellence Award”**-SIPH registered under the ministry of SME, Government of India ● **“Certificate of Excellence in Teaching Award”**- 100 % result in Microprocessor & Microcontroller Subject

	• Super Singer Drona Teachers Day Award