




Valliammai Engineering College

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Department of Electronics and Communication Engineering

Personal Details

Name :	Dr. USHA BHANU.N	
Designation :	Professor	
Educational Qualification :	B.E.,M.E,Ph.D.	
Experience:	25 Years	
Area of Specialization :	Signal and Image Processing, VLSI	
Date of Birth :	14.05.1975	
Date of Joining :	01.06.2015	
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Educational Details

S.No	Degree	Branch/Specialization	Institution / University	Year
1	B.E.	ECE	Kongu Engineering College/Bharathiar University	1996
2	M.E	VLSI Design	Easwari Engineering College/ Anna University	2006
3	Ph.D	Information & Communication Engineering	Anna University	2014

Professional Society Memberships

1. *Indian Society of Technical Education: Life Member*
2. *Computer Society of India : Life Member*
3. *The Institution of Electronics & Telecommunication Engineers :Fellow*
4. *International Association of Engineers (IAENG)-Member*

Publication Details

International Journals

1. S.Benila , N.Usha Bhanu (2022) , ‘Service Level Agreement Based Secured Data Analytics Framework for Healthcare Systems’, Intelligent Automation & Soft Computing, Vol.32, No.2, pp. 1277-1291, DOI:10.32604/iasc.2022.021920, ISSN:1079-8587.
2. B.Keerthiga , S.Kalaiarasan, G.Kowsalya, M.Jeevitha , Dr.N.Usha Bhanu.(2021) “Intelligent IoT based Irrigation System for Agriculture” International Research Journal of Engineering and Technology (IRJET) VOLUME: 08 ISSUE: 03, MARCH 2021.
3. Tamilselvi. S , Sowbaghya. D , Theepaloshini. D , Thooyavan. R , N. Usha Bhanu (2021) , “ A Prototype Device for Medicine Disbursement and Sanitization in Covid Zones”, International Journal for Research in Applied Science & Engineering Technology (IJRASET), Volume 9 Issue III March 2021
4. C.Saravanakumar, Usha Bhanu.N, Themozhi.G, “A Competent Multiplier Architecture with Reduced Transistor Count for Radix -2 Butterfly Computation of Fast Fourier Transform” , TEST Engineering and Management, The Mattingley Publishing Co. Inc, March-April 2020 .
5. C. Saravana Kumar, N. Usha Bhanu, “Exploration of De blocking Filter and Sample Adaptive offset for HEVC Standard”, International Journal of Future Generation Communication and Networking, Vol. 13, No. 2, April 2020.

6. Bavakirn G, Deepak J, Deepak P, Dr.N.Usha Bhanu, "Post Intensive Health Care Monitoring System", International Journal of Advanced Development in Science and Technology International Journal of Advanced Development in Science and Technology, Volume:2 Issue: 01 ,Mar 2020.
7. R. Sharmila , M. Saravanan , A.N. Ravindhar, N. Usha Bhanu, "Women Safety Thread", International Journal of Engineering Research & Technology (IJERT), Volume 9, Issue 5, May 2020
8. Nisha. R., Usha Bhanu.N, "Implementation of Class Based Priority Tunneling In Multi Protocol Label Switching Networks", International Journal of Innovative Technology and Exploring Engineering (IJITEE), Volume-8 Issue-7 May, 2019.
9. Madhuras Ramesh, Nasreen Munawar Ali Khan, Dr. N. Usha Bhanu, "Real Time Video Surveillance Architecture for Secured City Automation", International Research Journal of Engineering and Technology, Volume: 06 Issue: 03 , Mar 2019.
10. Seenu Aravind Raj. S , Srikanth.A, Swathi.S , Dr.N.Usha Bhanu, " Smart Security System For Women By Detecting Psychological And Physiological Variation With Rescue Measures", Suraj Punj Journal For Multidisciplinary Research, Volume 9, Issue 3, 2019.
11. Sree Vidya T, Usha Bhanu.N, "Investigation Of Enhanced Interior Gateway Routing Protocol For Implementing Hub And Spoke Topologies In Virtual Private Network", International Journal of Current Advanced Research, Volume 7; Issue 5(C); May 2018
12. NISHA .R , Dr. N. Usha Bhanu, "Implementation of Traffic Engineering Technique in MPLS Network Using RSVP", i-manager's Journal on Wireless Communication Networks, Vol. 7 | No. 1 | April - June 2018
13. Sree Vidya T. R. , Usha Bhanu N. "Investigation Of Open Short Path First For Implementing Hub And Spoke Topologies In Virtual Private Networks", i-manager's Journal on Wireless Communication Networks, Vol. 6 | No. 2 | July - September 2017
14. M.Prethippa, N.Usha Bhanu, "VLSI Implementation of Lifting Based 3-D DWT", International Journal of Engineering Trends and Technology (IJETT) , Volume 47 Number 4 May 2017
15. R. Vani, N. Usha Bhanu, M. Sangeetha, " Fast Motion Estimation Algorithm using Hybrid Search Patterns for Video Streaming Application", International Journal Of Computers Communications & Control, 12(5), 715-727, October 2017.
16. Usha Bhanu, N & Chilambuchelvan, A , VLSI architectures for high speed and low power implementation of 5/3 lifting Discrete Wavelet Transform, International Journal of Computational Science and Engineering, Vol. 12, Nos. 2/3, 2016, Inderscience Publishers.
17. Usha Bhanu.N , Dr. A. Chilambuchelvan, "Discrete Wavelet Transform Based Detection Of Breast Cancer And Its Classification Using Neural Networks", International Journal of Advanced Engineering Technology, Vol. VII Issue II 2016.
18. Vini Antony Grace, Dr. A. Chilambuchelvan, Dr. N. Usha Bhanu, "A Comprehensive Survey on Speech Compression Techniques Based on Discrete Orthogonal Transforms", Australian Journal of Basic and Applied Sciences, 9(16) Special 2015, Pages: 229-234.
19. S.Anusuya,N.Usha Bhanu , E. Kasthuri, "Yeast Gene Expression Analysis Using K Means and FCM", Int J Pharm Bio Sci 2015.
20. Usha Bhanu, N & Chilambuchelvan, A , " High Speed Systolic VLSI Architecture for 2D Forward Lifting Based DWT " Arabian Journal for Science and Engineering, Springer Heidelberg, Saudi Arabia, Vol.39, 2014.DOI 10.1007/s13369-014-1208-2.
21. Usha Bhanu, N & Chilambuchelvan, A 2014, 'High Speed VLSI architecture for Non-separable Block based lifting wavelet transform' has been accepted for publication in Journal of Theoretical and applied Information Technology, Little Lion Scientific Publishers, Pakistan.
22. Usha Bhanu. N, Dr.A.Chilambuchelvan. "Efficient VLSI Architecture for Discrete Wavelet Transform", IJCSI International Journal of Computer Science Issues, Special Issue, ICVCI-2011, Vol. 1, Issue 1, November 2011. ISSN (Online): 1694-0814.
23. UshaBhanu.NandDr.A.Chilambuchelvan,"A Detailed Survey on VLSI Architectures for Lifting

based DWT for efficient hardware implementation ", International Journal of VLSI design & Communication Systems (VLSICS) Vol.3, No.2, April 2012.

International Conferences

1. UshaBhanu.Nand Dr.A.Chilambuchelvan,"VLSI architectures for Lifting Based DWT- A Detailed survey ", Proceedings of International Conference on Advances in Computing, Communications and Informatics (ICACCI-2012) in ACM digital library .DOI: 10.1145/2345396.2345431 page no: 207-214.
2. UshaBhanu.N and Dr.A. Chilambuchelvan,"High Speed VLSI implementation of Lifting Based DWT", Proceedings of International Conference on Advances in Computing, Communications and Informatics (ICACCI-2012) in ACM digital library .DOI: 10.1145/2345396.2345573 page no: 1104-1110.
3. L . Nancy Priyanka, UshaBhanu.N, "Investigation of algorithms for reducing delay in cognitive radio networks", International Conference on Information Communication, and Embedded Systems, ICICES 2016, IEEE XPLORE.
4. Vanthana.K,Usha Bhanu.N, "Analysis Of Enhanced Channel Estimation Techniques In High Mobility OFDM Systems", International Conference on Information Communication, and Embedded Systems, ICICES 2016, IEEE XPLORE.
5. Aishwarya.S, AkshayaRaj.A.P., Deepika.M, Divya.V and UshaBhanu.N, "Indoor Vertical Farming with IoT based Monitoring and Analysis of Crop Environmental and Soil Parameters, National Conference on Electronics, Communication and Computing (NCECC-2017).
6. Sobana.S, UshaBhanu.N, "Investigation on VLSI implementation of Deblocking Filter for HEVC standard", National Conference on Electronics, Communication and Computing (NCECC-2017) .
7. M.Prethippa, N.Usha Bhanu, " A Parallel Pipelined VLSI Implementation of Lifting based 3-D Discrete Wavelet Transform", International Conference on NextGen Electronic Technologies: Silicon to Software, VIT Chennai, India ,2017.
8. S. Benila, Dr. N. Usha Bhanu, " Investigations of Fog Computing standard for High speed and secured IoT Environment", 2nd International Conference on signals, Systems and Communication, ICSSC-2019, College of Engineering, Anna University, Chennai, Jan 2019.
9. B. Keerthiga, G. Kowsalya, M. Jeevitha, S. Kalaiarasan, N. Usha Bhanu, "Intelligent IoT Irrigation System for Agriculture", 2nd International Conference on Innovation in Engineering Sciences (ICIES-Online) , March 2021.
10. Saravanakumar C, Usha Bhanu N (2021), " Fault diagnosis of Gate Level 2 – to – 1 Multiplexer in FinFET Technology", International Conference on System, Computation, Automation and Networking (ICSCAN), IEEE Explore / DOI: 10.1109/ICSCAN53069.2021.952652

Research and Development Details

No. of Research Projects Completed:

1. Aishwarya.S, AkshayaRaj.A.P., Divya.V and Dr.UshaBhanu.N, Indoor Vertical Farming using LEDs and Remote Monitoring of Crop Environmental factors received a fund of Rs.10,000 for this project from Tamil Nadu State Council for Science & Technology, April 2017.
2. Coordinator for AICTE ISTE Sponsored Induction / Refresher Programme titled " FPGA for Low Power IoT". Received a fund of Rs.93,000/- for the Financial year 2021-22.
3. Coordinator for AICTE Sponsored Six days Short Term Training Programme (STTP) titled "A Hands on approach for Design and Implementation of Digital Circuits using Open Source Computer Aided Design (CAD) tools". Received a fund of Rs. 3,35,000/- under AICTE- AQIS STTP scheme for the Financial year 2020-21.

No. of Patents Filed: 03

1. Title of the Patent : Machine Learning Based Diagnosis of Chronic Kidney Disease in Diabetes Patients

Patent number : 2021107110

Publication Date : 26.10.2021

2. Title of the Patent : IOT Based Wearable Wireless Volume Control Device for any Electronic Gadgets

Application No : 202041049423 A

Publication Date : 20.11.2020

3. Title of the Patent: Automated Attendance Management System

Application No : 201841018255 ,

Publication Date : 16.05.2018

No. of Ph.D candidates /guiding: 02

Mr.C. Saravanakumar, Registration No : 16134997303, Part- Time(I & C)

Ms. S. Benila, Registration No : 17244991279 , Part- Time(I & C)

Recognized as a Supervisor (Ref. No: 2840049) for Centre for Research, Anna University, Chennai for guiding Ph.D. and M.S.(By Research) scholars under the Faculty of Information & Communication Engineering in the field VLSI, Signal and Image Processing, IoT.

No of STTP/FDP coordinated:

1. Coordinated AICTE ISTE Sponsored Induction / Refresher Programme titled “ FPGA for Low Power IoT”. in Online Mode for the Financial year 2021-22.

2. Conducted AICTE Sponsored Six days Short Term Training Programme (STTP) titled “A Hands on approach for Design and Implementation of Digital Circuits using Open Source Computer Aided Design (CAD) tools”- online mode in three slots in the financial year 2020-21.

Other Particulars**No. of Books / Chapters Published:**

1. Dr. Usha Bhanu.N, “Principles of Digital Signal Processing”, Sri Krishna Hitech Publishing Company, ISBN: 978-93-80659-05-3, 2016.

2. Usha Bhanu.N., Maheswari.M, Shanmugapriya.M, Chapter in Smart Cyber Physical Systems Advances, Challenges and opportunities, CRC Press Taylor & Francis Group, Jan 2021.

Awards Received

“Senior Woman Educator & Scholar Award”, National Foundation for Entrepreneurship Development (NFED), March 2017.

Resource Person

1. Delivered a session titled PSO for VLSI applications in AICTE sponsored STTP organized by Department of EIE, SRM VEC, OCT 2020.

2. Delivered a session titled Computing Paradigm for IoT Applications in AICTE sponsored STTP organized by Department of IT , SRM VEC, NOV 2020.