Dr. I Manju, M.E, Ph.D
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EDUCATION

Ph.D. – VLSI Design, Anna University, Chennai	2011-2017
M.E -- VLSI Design, RMK Engineering College, Anna University, Chennai	2004-2006
B.E – ECE, Periyar Maniyammai College of technology for women, Bharathidasan University, Trichy.	1992-1996

Thesis Title: Improved SRAM using 22nm FINFET Technology And Efficient Deblocking Filter For H.264/SVC Video CODEC

PROFESSIONAL EXPERIENCE

Professor & Head ECE & IQAC, Mohamed Sathak A.J College of Engineering.	May 2019 - Till date
Professor & Head / ECE, Chennai Institute of Technology.	Nov 2017 - May 2019
Senior Grade Asst. Professor/ ECE, Velammal Engineering College.	Jun 2012 – Nov 2017
Asst. Professor/ ECE, Velammal Engineering College.	Jul 2008 – May 2012
Lect, Sr.Lect,Asst. Professor/ ECE, RMK Engineering College.	Dec 1998 – Jun 2008
Lecturer / ECE, Dr M G R Engineering College.	Aug1997 – Dec 1998

Summary:

i. **24+ Years** "experience with Excellent Teaching in engineering colleges at both postgraduate and under graduate levels.

ii. 8 journal publications including 3 SCI indexed journals, 6 Scopus Indexed journals and 6 international conference publications. Number of Citations -72, h index-3 & i index-2.

https://www.scopus.com/authid/detail.uri?authorId=57895104900

https://www.webofscience.com/wos/author/record/IAO-3588-2023

https://scholar.google.com/citations?user=NC0nDKsAAAAJ&hl=en

iii. Anna University recognized supervisor-Ref no 3040008.

iv. Setting up of various Technology Centers through academic and industry collaboration.

v. Excellent working experience in NBA, NAAC, ISO and autonomous status.

vi. Excellent administrative and motivational skills that brings teamwork and positive attitude among faculty and students. Excellent **communication and written s**kills.

vii. Above 90% pass percentage in all subjects handled for the past 22 years, 100% results in PG courses.

MAJOR CONTRIBUTIONS:

1. **Adminstration**

- **Technology Centres**
    i. Established and executed the training schedule for the following Technology Centres

Name of Technology centre	Industry / Organisation
Robotic Process Automation	Automation Anywhere
Cloud Computing Centre	Amazon Web Services
Cyber Security Academy	Palo Alto systems
Mobile App and Web Development Centre	Openwave.
Coding Learning Centre	Codetantra
Networking Academy	CISCO
Embedded Systems & IoT	Levergent technologies
E-Yantra	IIT Bombay remote centre
Drone Development Centre	Propeller technologies
Labview Academy	National Instruments
Centre for E-mobility	ISIE.
Renewable Energy Centre	-
Centre for CAE	Altair, CATIA & Autodesk
Additive Manufacturing and 3D Printing	-
Centre for Industrial Robotics	-
Product Application centre	Supported by Ford, India

Godrej Skill Development Centre	Godrej
Bosch Industry Academia Collaboration	Bosch India

ii. Acheivements

- **Winners** in IITB-ISRO-AICTE jointly organized **Mapathon competition** 2020 among 5228 participating team.
- Semifinalist in SWADESHI Microprocessor Challenge 2020 is organized under "#Aatma Nirbhar Bharat Abhiyan and uses Sakthi processors" by MeitY at C-DAC Govt of India, IIT Madras and IIT Bombay. Awarded with 1 lakh **and FPGA board** to develop the proof of concept.
- Awarded 1 lakh under UBA 2.0 for technology implementation by IITD.
- Appreciation letter from IITB for Spoken Tutorial.

iii. Product List

- Smart Chimney & Jar Cleaning Automation for Preethi Home Appliances.
- E-Learning Modules for Preethi Home Appliances & Sona Comstar.
- IoT based water management system for GoWatr.
- Pocketqube

2. **Industry – Institute Interaction**

- Consultancy Projects with Preethi Home Appliances, GoWatr, Sona Comstar.
- Instrumental in signing MoUs with Automation Anywhere, Preethi Home Appliances, Altair, ISIE India.
- 100+ students sent to internships at Ashok Leyland, Lenovo, Comstar, Mando and TAFE.

3. **Government – Institute Interaction**

- Co-Ordinator for Unnat Bharat Abhiyan at MSAJCE. Five villages were adopted and received a fund of Rs100000.
- Co-Ordinator for Student Exchange Programme and EBSB at MSAJCE.
- Established Institute Innovation council at MSAJCE.

4. **NBA/NAAC/Autonomous**

- Instrumental in preparing college level Autonomous application, SSR,SAR and ARIIA documents in MSAJCE
- Instrumental in preparing College level and Department level Preparation of NBA Self-Assessment Report at Chennai Institute of technology
- Created awareness about the Outcome Based Education, PEOs, PSOs and Self- Assessment Report for the college &department at MSAJCE & CIT.
- Presented to NBA Committee as a HOD for department of ECE department accreditation by NBA (First time Dec 2018). Accredited for 3years.
- NBA & NAAC Coordinator for ECE department accreditation at Velammal Engineering College.
- Contributed to Teaching Learning process framing for autonomous status at Velammal Engineering College.
- Contributed to NBA & NAAC work at RMK Engineering college.

5. **Conferences / FDP / Workshops Organized**

- Convenor of International Virtual Conference on Emerging Frontiers in Control and Communication Technologies (ICECCT 2020) held on 26.08.2020.
- Convener for Free Online Workshops series Techjumboree for +2 students. 850+ certificates issued.
- Convener for Free Online Mock test series for NEET and JEE Aspirants
- Convener for Two Day Workshop on "Trends in Emerging Technologies" on July 08 & 09,2020
- Convener for International Conference on Scientific Research and Innovations (ICSRI 1.0) on 6th and 7th April2018.
- Convener of National Level Workshop on Internet of Things - A new Perspective" on 6th march2018.
- Convener of Two Days Workshop on " Design and Development of Networking Protocols using Network Simulators" on Sep 14th &15th,2018.

- Convener of Two Days Workshop on "MATLAB for Control Systems" on Sep 21st & 22nd,2018.
- Coordinator for National Conference on VLSI and Image Processing (NCVLSI '13) on 19.3.13.
- Coordinator for Virtual Instrumentation – Labview and TCAD, IC CAD and FPGA Design Using Silvaco and Tanner Tools,3rd and 4th November2008.
- Numerous events Organized During Lockdown at department level

6. **Department Administration** :
- Overall administration of the department at MSAJCE and CIT.
- Improved Academic Performance of the department at MSAJCE and CIT.
- Motivated the students and faculty to participate in various Hackathon and Industrial Projects Competitions, students won many prizes.
- Motivated faculty to obtain certifications from industry and govt. agencies
- Students Counseling &Mentoring
- Contributed as Project Coordinator for UG and PG project, Academic Coordinator for ECE department.
- Developed VLSI Design Lab, Digital Signal Processing Lab and Electronics Circuits Lab in the Department.
- Submitted proposals to various funding agencies.

7. Recent certifications:
- Python Programming by Codetantra
- Automation Anywhere Certified Advanced RPA Professional
- Introduction to IoT by CISCO
- The Ultimate Guide to Game Development with Unity 2019 by Udemy
- Innovation Ambassador.

8. **Patents:**

ML Strategy for Performance Enhancement of Phase Change Material for a Smart Control Solar Application.Reference: 22219/2021-CO

JOURNALPUBLICATIONS:

1. Senthil Pandi, S., Senthilselvi, A., Maragatharajan, M., Manju, I, "An Optimal Enhanced Kernel Extreme Learning Machine for Identification and Classification of Plant Leaf Disease", Accepted for publication in Signal, Image and Video Processing, (SCI Journal , IF:2.3)

2. Senthil Pandi, S., Senthilselvi, A., Maragatharajan, M., Manju, I. , "An optimal self adaptive deep neural network and spine-kernelled chirplet transform for image registration" Concurrency and Computation: Practice and Experience 7297, 1-16 (SCI Journal, IF:1.8)

3. V. Dhandapani, M. Muniraj and Manju. I, "Underwater Image Enhancement Using Color Constancy Via Homomorphic Filtering and Depth Estimation," *2022* International Conference on Signal and Information Processing (IConSIP), Pune, India, 2022, pp. 1-6, doi: 10.1109/ICoNSIP49665.2022.10007522. (Scopus Indexed)

4. V. Dhandapani, M. Muniraj and Manju. I, "Fusion based Underwater Image Enhancement and Detail Preserving," 2022 International Conference on Signal and Information Processing (IConSIP), Pune, India, 2022, pp. 1-5, doi: 10.1109/ICoNSIP49665.2022.10007472. (Scopus Indexed)

5. Manju I , Mohamed Malik S , Srinivasan K.S , Naveen Kumar S , Vairaperumal K, "Health Impacts of Micronutrient Deficiencies on Humans—A Review", International Journal of Food and Nutritional Sciences, Volume 10,Issue 3,Pages,1-12, ISSN: 2320-7876, DOI: 10.4103/ijfans_13_21 (UGC Care)

6. I Manju, KS Srinivasan, E Rohith Kumar, R Haresh, "Efficient Band Offset Calculation Method for HEVC and Its VLSI Implementation". Proceedings of International Conference on Recent Trends in Machine Learning, IoT, Smart Cities and Applications, Springer,817-825,2021.(Scopus Indexed)

7. Ram Prasanna.K, Manju.I, Srinivasan K.S," A Stochastic Search algorithm for Fire Rescue Assistance, "International Journal of Recent Technology and Engineering(IJRTE)"atVolume-8 Issue-1, May 2019 (Scopus Indexed)

8. I.Manju, R.Dhanagopal, R.Pandimeena, G.Archana, S.Sharmila, "Verification of Elliptic Curve Digital Signature" Journal of Emerging Technologies and Innovative Research,March 2019,Volume 6, Issue 3,pp294-297. (UGC Approved Journal)

9. I.Manju, R.Dhanagopal, R.Pandimeena, V.Nivedha,V.Vineetha, "Design and Implementation of ALU by various Multipliers" Journal of Emerging Technologies and Innovative Research,March 2019,Volume 6, Issue 3,pp6-13. (UGC Approved

Journal)

10. I.Manju, R.Dhanagopal, Ashifa.S,Monica P, "An Agile and Diligent Application of IFTTT Google Assistant Supported Domicile Mechanisation and Quantification of Energy" Journal of Emerging Technologies and Innovative Research, March 2019,Volume 6, Issue 3,pp 362-369. (UGC Approved Journal)

11. Manju.I, Srinivasan K.S, Dhanagopal R , Karthikeyan, Ashwin Raam, Srinivasan N K" An Illustrative Study on Methods of Improving Student Engagement",Journal of Emerging Technologies and Innovative Research , pp.31-36, Volume 5, Issue 9, ISSN-2349-5162,2018 (UGC Approved Journal).

12. Manju.I , Senthil Kumar.A ,, A 22nm FinFET based 6TSRAM cell design with scaled supply voltage for increased read access time", **Analog Integrated Circuits and Signal Process**,(**Springer Publications**) vol.84,pp.119-126, ISSN 0925-1030,E-ISSN 1573-1979. 2015 (SCI Journal, IF 1.321)

13. Manju.I,Senthil Kumar. A ,, A Parallel Architecture with Novel Filtering and data Accessing Order for Deblocking Filter in H.264/Svc Using Reconfigurable Architecture ",**INFORMACIJE MIDEM-Journal of Microelectronics Electronic Components And Materials**, vol. 45, no. 1, pp. 12-21, ISSN 0352-9045, 2015 (SCI Journal)

14. I.Manju, " Improving Read/write Stability of SRAM based Cam using Schmitt Trigger", International Journal of Applied Engineering Research, ISSN 0973-4562, Special Issue Vol. 10 No.22 (2015),pp 20586-20596 (Scopus Indexed)

15. I.Manju ,Elphin Samuel,Vishnukumar "Video restoration for H.264 using Gaussian and median filter" Journal of Advanced Research in Dynamical and control systems,.11-special issue, July 2017,pp 307-320 (Scopus Indexed)

16. I.Manju "Biomedical Signal Transmission Using VLC" International Journal on Recent and Innovation Trends in Computing and Communication (IJRITCC),ISSN: 2321-8169, Volume: 5 Issue: 3,pp97-99,2017.

17. I.Manju, A.Senthil Kumar, S.Sumathi, C.Preethi "Read/Write Stability Improvement of 8T Sram Cell Using Schmitt Trigger", International Journal of Scientific and Research Publications, Volume 5,Issue 2,February2015

18. I.Manju ,A.Senthil Kumar,Devishree.K "Fine Grain reconfigurable Architecture for CMOS SRAM", International Journal of Engineering Sciences & Research Technology,ISSN:2277-9655,pp.5003-5006, April 2014.

19. I Manju, M.Manigandan."Wireless Vision Based mobile Robot Control using Hand

Gesture recognition through Perpectual Color Space", International Conference on Advances in Computer Engineering, (ACE 2010) , IEEE Xplore in Pg 95-99,5532868. (Scopus Indexed)

20. I Manju, M.Manigandan."Wireless Vision Based Object tracking using Continuously Adaptive Mean Shift Tracking Algorithm"., International Conference on Advances in Recent Technologies in Communication and Computing (ARTCom 2009) Conference Publishing Services (CPS),IEEE Computer Society, IEEE Xplore in Pg 921-925 in ISBN978-0-7695-3845-7/09. (Scopus Indexed)

CONFERENCE PUBLICATIONS:

1.   Manju.I , Dhivya M, Grace Shoba "EMD Based Feature Extraction And Classification Of EEG Signal Using Supervised Learning" Fifth International Conference On Contemporary Engineering And Technology, pp 12,March 24 - 25,2017

2.   Priyanka R, Grace Shoba, Manju.I "Segmentation Of Various Anatomical Structures In Fundus Images With Convolutional Neural Networks" Fifth International Conference On Contemporary Engineering And Technology, pp 14, March 24 - 25,2017

3.   Manju.I , Surakshitha V, Lavanya B M , Yamuna R, K Shruthi "STRIDER: Spline Tripedal Dynamic Extrication Robot For Rescue Operations In Borewells" Fifth International Conference On Contemporary Engineering And Technology, March 24 - 25, 2017,pp163.

4.   Manju.I , Senthil Kumar.A, M.Manigandan,Elphin Samuel,Vishnukumar "Video restoration for H.264 using gassian filters" Fifth International Conference On Contemporary Engineering And Technology, March 24 - 25, 2017,pp188.

5.   Manju, I & Senthil Kumar, A 2016, „FinFET based SRAMS – A Research Survey", Proceedings of International Conference on Communication and security (ICCS"16),pp.580-585.

6.   Quality And Quantity Analysis Of Food Products, National Conference On Modern Electronics & Signal Processing (NCMESP"16).

7.   I Manju "Efficient Optimization of FPGA On-Chip Memory for Image Processing Algorithm", International Conference on Innovations in Intelligent Instrumentation, Optimization and Signal Processing ICIIIOS"13,Karunya University, Coimbatore, Page No 804-808 .

8.   I Manju "Low Power implementation of FPGA based SRAM for image Processing Algorithm", National ConferenceonVLSI&ImageProcessing,NCVLSI"13,Pageno:194-

198.

9.   I Manju , Low Power Optimization of a FFT/IFFT Processor using Multiplier-Less unit for OFDM Systems, International Conference on Modeling, Optimizing & Computing, Noorul Islam Centre for Higher Education, Nagercoil.

10.   I Manju ,TAM Controller and Wrapper design Based on Area Efficiency for Embedded Cores Third International Conference on Intelligent Science & Technology (IIST 2011) at Sun College of Engineering & Technology, Kanyakumari Dist.

11.   I Manju ,TAM controller and wrapper Efficiency in Embedded Core Testing National Conference on VLSI and Image Processing-NCVLSI"11.

12.   I Manju, M.Manigandan."Implementation of Wireless Vision Based Object Tracking Mobile Robot Control through Spatial Coordinates using LABVIEW MathScript" in National Conference NCECA 2009 Organised by SRM University.

13.   I Manju, M.Manigandan "Wireless Vision Based Object Detection and Collision Avoidance through Spatial Coordinates using LABVIEW MathScript" Selected in Trend in Image Processing and Pattern Analysis TIPA 2009 Organised by SASTRA University

FDP & WORKSHOPS ATTENDED

1.   Atal FDP:
  i.   "Management of Intellectual Property (IP) and Innovation (Creation, Protection and Leveraging of IP)" from 2021-07-05 to 2021-07- 09 at National Institute of Industrial Engineering.
  ii.   "Wearable Devices" from 2021-2-15 to 2021-2-19 at Anna University.
  iii.   "Internet of Things (IoT)" from 2020-11-30 to 2020-12-4 at Sri Sairam Engineering College.
  iv.   "Academic Leadership in Higher Education" from 2021-06-21 to 2021-06-25 at Department of Educational Management, Faculty of Education and Psychology, The Maharaja Sayajirao University of Baroda.
  v.   "VLSI Design, Verification and Testing" from 2021-06-07 to 2021-06-11 at Government Engineering College, Rajkot
  vi.   "Design Thinking" from 2021- 1-18 to 2021-1-22 at Poojya Doddappa Appa College of Engineering

2.   Innovation Ambassador training (Foundation Level) conducted by MoE's Innovation Cell & AICTE during the period from 30th June - 30th July2021

3. Ten day online FDP on Deep Reinforcement Learning using Python from 30.03.20 to 08.04.20 organized by **St**. Peter‟s Institute of Higher Education and Research.

4. Six day online FDP on Fundamentals of Machine Learning from 18.5.20 to 23.5.20 organized by ICT academy

5. One - Day NBA Awareness Workshop on Outcome Based Education and Accreditation on 04th August 2018 at The TAG Auditorium, CEG Campus, Anna University, Chennai.

6. Training Programme on " Outcome Based Education" on 30th November to 2ndDec.2017 by National Institute of Technical Teachers Training & Research,Chennai.

7. Research Perspectives on LTE-A for Next Generation MIMO Mobile networks, 29th July 2016, Velammal Engineering college.

8. IOT Design, Implementation & Future Prospects, 26-27 Aug 2016, Velammal Engg college.

9. Power Electronics applications to Renewabale-Energy Sources using MATLAB andPSIM, 29-30 April 2016 Velammal Engineering college.

10. VLSI System Design (RTL-GDSII) using CADENCE, 22nd September 2014 , MIT, Chennai.

11. Hands on training on Design Finishing for Chip tape out, 17-29 June 2013, RMK Engg. College.

12. Optical Communication & Networking, 23 – 24 August 2011, Velammal Engg College.

13. Instructional Design and Delivery, 31 May – 3 June 2011 Velammal Engineering College.

14. Faculty Development Program on EDA Tools for VLSI Design and Signal Processing, Nov. 15-18, 2010, SSN Engineering College.

15. Digital Signal processing 15th - 21st June 2009,Anna University.

Other responsibilities include

1. Question paper setting for Anna University, Vels University, Sathyabama University

2. Resource person for Anna University sponsored FDP on Signals and systems, Digital signal processing.

3. Reveiwer for the Conference papers for the "2017 Second IEEE International Conference On Computing And Communications Technologies(ICCCT"17)"