PROFILE

Name	Dr. G.Indumathi
Position & Affiliation	Professor Department of ECE Formerly Principal Cambridge Institute of Technology , Currently Associate Director Cambridge Instititute of Technology
Areas of Interest	VLSI, SOC Design, Computer Networks, Multimedia Communication, ADHOC Networks, Image processing
Email	indumathi.ece@citech.edu.in , associate.director@cambridge.edu.in
LinkedIn ID	https://www.linkedin.com/in/dr-indumathi-govindarao-7abbb11a0/
Google Scholar ID	uKqba78AAAAJ
Orchid ID	0009-0009-7063-7203
Vidwan ID	270573
Scopus ID	59207715000
Professional Webpage (if any)	--------

Educational Qualifications:

Ph.D	Dr.MGR Deemed University Chennai	India	2012
M.Tech	S.J. College Of Engineering, VTU Belgaum	India	2002
BE	S.J. College of Engineering , Mysore University	India	1987

Areas of Research:

VLSI, SOC, Embedded Sysems, ADHOC Networks, Image processing

Brief Profile: (write about yourself)

Dr. G. Indumathi received her B.E degree in Electronics and Communication Engineering from The S.J. College of Engineering Mysore, M.Tech in Industrial Electronics from S.J. College of Engineering , Mysore and Ph.D. from Dr.M.G.R. Deemed University Chennai. . She is currently working as Professor in Department of Electronics and Communication Engineering and Associate Director Cambridge Institute of Technology, Bangalore. She has worked as Principal Cambridge Institute of Technology from Feb 2022 to August 2025 and prior to that worked as Head Department of Electronics and Communication from 2015 to Jan 2022 at Cambridge Institute of Technology.

She has around 35+years of total experience which includes teaching, research and Industry experience. She has received AICTE sponsored ATAL FDP 2024 grant entitled “Research Problems, Recent Trends and

Future Perspectives of Artificial Intelligence in Image Processing-Tools, Techniques and applications as a co Investigator. As the chief Principal Investigator along with other Investigators and co ordinators received a funding of 4.5 Crores from MEITY , Govt. of India under C2S Project in 2022 an ongoing project. Received funding of 5.3 Lakhs under MODROBS, AICTE during 2017. KSCST Projects sanctioned twice for three student groups. Sponsored FDP under VTU for conducting IOT Program, FDP in VLSI under AICTE Scheme for 3.5 Lakhs.

She has published more than 50 papers in reputed Journals and conferences which includes scopus Indexed , Taylor and Francis , Q2 Journals and WOS. Conducted International symposium in association with NRDC, US PTO during 2024 with funding support from NRDC, International conference in 2024 with Springer . Published 04 patents. Instrumental in setting up of IEEE Student branch at ECE and conducted several conferences, seminars and workshops at ECE. Instrumental in standardization of Process and system at Department of ECE. As research supervisor, five scholars have obtained Ph.D. and three scholars are pursuing Ph.D. Responsible for getting funding support under Visveswaraya full time Ph.D. Scheme, YFRF -Young research fellow scheme for 4 candidates.

University Involvement:
Member BOE VTU during , 2013-14 , 2017 -2018
Member BOS M.S. Ramaiah University during 2018

Examiner for Ph.D. scholars for different Universities.

Chief co ordinator for VTU Valuation Centre at CIT

Awards/Achievements/Others:

[1]. CESEM Award from VGST Govt. of Karnataka

[2]. Best Science park award from DST Govt. of India along with Team

[3]. Women of the year award during 2019-2020

[4. Educator award

[5]. Conducting various sessions for faculty and staff on accreditation process

[6]. Developing the complete Process Documents

[7]. MOUs with several organisations

[8]. Initiated and Implemented several Initiatives for the Institutional developments such as Accreditations, Ranking, Human Resource development, Infrastructure development and student development.

Courses Taught: Digital Electronics, High performance Computer Networks, CMOS VLSI Design, SOC, Computer Communication Networks, ADHOC Networks, Multimedia Communication, Computer organization, Advanced Computer architecture, Microprocessor, Microcontrollers, Embedded systems.

Publications/Patents:

Publications	**NATIONAL CONFERENCES / SYMPOSIUM:** 1. G Indumathi, C K Saneesh and Dr K V Ramakrishnan, **"Case Study of Low Power Techniques in Microcontroller"**, Proceedings of 3rd National Conference on Recent Trends in Electronics and Communication at SJBIT, Bangalore, (4th Apr 09), PP 126-132. 2. G Indumathi, Deepti Kulkarni and Dr K V Ramakrishnan, **"A Case Study of Reduction of Power in Embedded Systems"**, Proceedings of Second National Conference on VLSI Embedded Systems, Signal Processing and Communication Technologies- NCVESCON 09 at AVIT, (8-9 Apr 09),Chennai, ISBN NO: 978-9380043-17-3, PP 93 -97 3. G Indumathi , Vijay Kumar Singh and Dr K V Ramakrishnan, **"Case Study of Task Scheduling In Embedded Systems"**, Proceedings of 6th National Conference for Research Scholars on Application of Emerging Technologies at Adhiyaman College, Hosur, (6-7 Apr 09), SI No 16 in Electrical Science Section, PP 16. 4. G Indumathi, Somanath Sharma and Dr K V Ramakrishnan, **"Case Study of Low Power Techniques using Frequency and Voltage Control"**, Proceedings of Second National Conference on Computing Communication, Electronics and Management at CEIT. Maharashtra, (20-21 Mar 09), PP. 42-50. 5. G Indumathi, Jyoti Pal and Dr K V Ramakrishnan, **"Survey Of Power Estimation Tools for Embedded Systems"**, Proceedings of National Conference on Recent Trends in Communication, Electronics and Information Technology – NACTECIT 09 at CMRIT, (14 -15 May 09),Bangalore, PP 98 – 104. 6. G Indumathi and Vijay Kumar Singh, **"Design of Low Power Embedded Controller"**, Proceedings of 18th IEEE Annual Symposium on Emerging Needs in Computing, Communication, signals and power -29th Aug 2009, Paper No CM02. 7. G.Indumathi, Somanath Sharma, Amit, Saneesh, **"Implementation Of DVS/DFS Techniques On Microcontroller For Embedded Applications"**, Paper presented in the National Conference AT DSCE, 02 Nov 2009, Bangalore 8. G Indumathi and Tulika Ghosh, **"Case Study of Noise Reduction Techniques in Adaptive Signal Processing"**, Proceedings of 4th National Conference on Recent Trends in Communication, Electronics and Information Technology – NACTECIT 10 at CMRIT, (23 -24 April 2010), Bangalore, Paper ID: IS 123, PP 435-439 9. G Indumathi and Dr K V Ramakrishnan**, "Applied Research: Relevance in**

Academic Institutions", Paper Publication in the National Conference on Academic Research, Dr MGR Educational and Research Institute, 13-14 Aug 2010.,paper ID RS025

INTERNATIONAL CONFERENCE

1. G Indumathi, Deepti Kulkarni, Jyoti Pal, M Swathi and Hiranmaye, **"Algorithm Implementation on FPGA for Noise Reduction"**, Proceedings of International Conference on Electronic Design and Signal Processing (ICEDSP-09), 10-12 Dec 2009, Paper Id: 107. (available in CD format) sponsored by IEEE Bangalore section.

2. G Indumathi and Dr K V Ramakrishnan, **"Study and Analysis of Power Optimization Techniques for Embedded Systems"**, Proceedings of Annual Symposium on VLSI, IIT Chennai, July 4-6 2011, sponsored by IEEE Computer Society . ISSN : 2159-3469 E-ISBN : 978-0-7695-4447-2 Print ISBN: 978-1-4577-0803-9 INSPEC Accession Number: 12192058 Digital Object Identifier : 10.1109/ISVLSI.2011.53

3. Prof G Indumathi, Ms. Pragathi, Ms. Pooja, Ms. Sneha Joseph and Ms. Madhuri, **"Comparative Study of Algorithms For Image Compression"**, Proceedings of Third International Conference on Advances in Recent Technologies in Communication and Computing, ARTCOM2011, organized by ACEEE & IET in Reva institute of Technology– September 14-15, 2011 IEEE Explore Digital Library: Digital Object Identifier: 10.1049/ic.2011.0094 Publication Year: 2011 , Page(s): 259 – 261.

4. Prof G Indumathi ,Ms Aishwarya, Ms Kavitha and Mr Karthik Reddy, **"Image segmentation using Gabor filters"**, Proceedings of Third International Conference on Advances in Recent Technologies in Communication and Computing, ARTCOM2011, organized by ACEEE & IET in Reva institute of Technology– September 14-15, 2011 IEEE Explore Digital Library: Digital Object Identifier: 10.1049/ic.2011.0080 Publication Year: 2011 , Page(s): 203 – 205

5. Prof. G Indumathi & Ms. Uma Rani, **"Reversible Wavelet And Spectral Transforms For Lossless Compression Of Color Images"**, Proceedings of International conference CCSEA- 2011 during 15- 17 July 2011 at Chennai.

6. Indumathi.G.,Tyson, Vivek,Samrith, **"Quality Enhancement of Aerial Images using Wiener Filter"** Proceedings of International Conference on Evolutionary Trends in Information Technology, ICETIT 2012 , VTU, Oct 05-07, 2012.

7. Indumathi.G, Priyadarshini, Pradeep Kumar, **"Landmine Detection in a Ground Penetrating Radar Radargram"**, Proceedings of International Conference on Radar, Communication and Computing (ICRCC 2012), SKPEC,

Dec 21-22 2012, pp 165-170: ISBN – 978-81-925286-5-6

8. Indumathi G, Chetan H, Jyothi, **"Comparitive study of various protocols for Vehicular ADHOC Networks (VANET)"** at the International conference on Communication, Electronics and Electrical Engineering (ICCEEE) held in LOS Angeles USA on 18th October 2018.

INTERNATIONAL JOURNALS

1. Jiji, C., Sujitha, M.S., Bessant, A. *et al.* REOUN: restoration and enhancement of optical imaging underwater based on non-local prior. *J Opt* **54**, 1837–1850 (2025). https://doi.org/10.1007/s12596-024-02097-1. **(Scopus - Indexed)**
2. Raghunathreddy, M.V., Indumathi, G. & Niranjan, K.R. Silicon photonic microfluidic biosensor for monitoring renal dysfunction. *J Opt* **52**, 1845–1851 (2023). https://doi.org/10.1007/s12596-022-01082-w. **(Scopus - Indexed)**
3. Harsha, B.K., Shruthi, M.L.J., Indumathi, G. (2022). Convolutional Neural Network-Based Contemporaneous Human Facial Expression Identification. In: Mahajan, V., Chowdhury, A., Padhy, N.P., Lezama, F. (eds) Sustainable Technology and Advanced Computing in Electrical Engineering . Lecture Notes in Electrical Engineering, vol 939. Springer, Singapore. https://doi.org/10.1007/978-981-19-4364-5_28. **(Scopus - Indexed)**
4. M V Raghunathareddy, G Indumathi, K R Niranjan. Highly sensitive optical MEMS based photonic biosensor for colon tissue detection[J]. AIMS Electronics and Electrical Engineering, 2022, 6(3): 285-295. doi: 10.3934/electreng.2022017 **(Scopus - Indexed)**
5. Shruthi, M.L.J., Harsha, B.K., Indumathi, G. (2022). Sliding Windowed Fuzzy Correlation Analysis-Based Marine Motion Detection. In: Satyanarayana, C., Samanta, D., Gao, XZ., Kapoor, R.K. (eds) High Performance Computing and Networking. Lecture Notes in Electrical Engineering, vol 853. Springer, Singapore. https://doi.org/10.1007/978-981-16-9885-9_8. **(Scopus - Indexed)**
6. Kumar, R., Srinivasan, S., Indumathi, G., Dzitac, S. (2018). A Communication Viewpoints of Distributed Energy Resource. In: Balas, V., Jain, L., Balas, M. (eds) Soft Computing Applications. SOFA 2016. Advances in Intelligent Systems and Computing, vol 633. Springer, Cham. https://doi.org/10.1007/978-3-319-62521-8_10. **(Scopus - Indexed)**
7. Geetanjali Udgirkar, G. Indumathi, Research on Net Weighting Schemes in Performance Driven Global Routing, International Journal of Recent Technology and Engineering (IJRTE), ISSN: 2277-3878, Volume-8, Issue-2S3, July 2019. **(Scopus - Indexed)**
8. Mamatha N, Sridevi S, G Indumathi, K Venkateswaran, 2D And 3D Based Network On Chip For A Stream Of Data using Label Switching Technique, International Journal of Engineering and Advanced Technology (IJEAT), Volume-9 Issue-1, October 2019. **(Scopus - Indexed)**
9. B. K. Harsha and G. Indumathi, "Skin Detection in Images based on Pattern Matching Algorithms - A Review," *2020 International Conference on Inventive Computation Technologies (ICICT)*, Coimbatore, India, 2020, pp. 359-363, doi: 10.1109/ICICT48043.2020.9112463. **(Scopus – Indexed)**
10. Shruthi, M.L.J., Harsha, B.K., Indumathi, G. (2020). Implementation of Visible Foreground Abstraction Algorithm in MATLAB Using Raspberry Pi. In: Smys, S.,

Bestak, R., Rocha, Á. (eds) Inventive Computation Technologies. ICICIT 2019. Lecture Notes in Networks and Systems, vol 98. Springer, Cham. https://doi.org/10.1007/978-3-030-33846-6_28 **(Scopus – Indexed)**

11. S. K. K H, C. H and I. G, "A Novel Image Compression Approach Using DTCWT And RNN Encoder," *2020 IEEE Bangalore Humanitarian Technology Conference (B-HTC)*, Vijiyapur, India, 2020, pp. 1-4, doi: 10.1109/B-HTC50970.2020.9297955. **(Scopus – Indexed)**
12. Chetan Huchegowda; G. Indumathi; Naveen Huchegowda, Performance analysis of biorthogonal filter design using the lifting-based scheme for medical image transmission, International Journal of Computer Aided Engineering and Technology (IJCAET), Vol. 14, No. 2, 2021. **(Scopus – Indexed)**
13. G. Indumathi and K. V. Ramakrishnan, "Study and Analysis of Power Optimization Techniques for Embedded Systems," *2011 IEEE Computer Society Annual Symposium on VLSI*, Chennai, India, 2011, pp. 365-366, doi: 10.1109/ISVLSI.2011.53. **(Scopus – Indexed)**
14. C. Cavitha, V.D.K. Redely, R. Aishwarya, G. Indumathi, Image segmentation using Gabor filters, 3rd International Conference on Advances in Recent Technologies in Communication and Computing (ARTCom 2011), 2011, **https://doi.org/10.1049/ic.2011.0080. (Scopus – Indexed)**
15. **B. Pooja, P. Kulkami, J. Sneha, K.L. Madhuri, G. Indumathi, Comparison of algorithms for image compression, 3rd International Conference on Advances in Recent Technologies in Communication and Computing (ARTCom 2011), 2011, https://doi.org/10.1049/ic.2011.0094(Scopus – Indexed)**
16. G. Indumathi, Hamza Abdul Mateen, Fahad Mateen, Mohammed Shoeb and Davalappa Misale, **"Design Of A Programmable General Purpose Microcontroller With Power Optimization For Embedded Systems"**, International Journal of Electronics Engineering Research (IJEER), ISBN: 0975-6450, Volume 2, Number 5, 2010 pp 643-654, Research India Publications.
17. G. Indumathi, Sreehari P and Dr K V Ramakrishnan, **"Design of Power Management Processor/ Controller for Embedded Applications"**, International Journal of Engineering Research and Industrial Applications(IJERIA), ISSN: 0974-1518, Vol 3, No III, August 2010, pp 381-391, Ascent Publications.
18. G. Indumathi, Tulika Ghosh, Sandhya and Shruthi, **"Noise Reduction Using Adaptive Filter Design With Power Optimization For DSP Applications"**, International Journal of Electronic and Electrical Engineering, IJEEE, ISSN: 0974-2174 Volume 3, Number 1 (2010), pp 75-81.
19. G. Indumathi and Dr K V Ramakrishnan, **"Power Optimization Using DVS/ DFS Technique for Microcontroller Designed For Embedded Applications"**, International Journal of Systemics, Cybernetics and Informatics, IJSCI, ISSN : 0973-4864, APR10 – 02, pp 15-19, Pentagram Research Center Publishers
20. G. Indumathi, Priyadarshini, **"Buried Object Discrimination in a Ground penetrating RADAR"** Bonfring International Journal Paper title – ICET – 293, ISSN: 2250-1053 Volume: 3 | Issue: 1 Pages: 08-12 Issue Date:March , 2013 DOI:10.9756/BIJAIP.10188
21. Chetan H. and G. Indumathi, **Low power VLSI Implementation of data Compression for Multimedia devices using CDF**,IEEE Conference 2016. **(Scopus – Indexed)**
22. Sreedevi, G. Indumathi, **A Review on 3D network on chip: Architecture Design and Optimization of Multi-core media Applications**, IEEE Conference 2016. **(Scopus – Indexed)**

	23. Sreedevi, Chetan H. and G. Indumathi, **VLSI Global Routing Algorithms: A Survey** , IEEE conference 2016. **(Scopus – Indexed)** 24. Chetan.H. and G.Indumathi, **VLSI Implementation of Low power and High speed Archietecture of DWTIDWT using Lifting based Algorithm**, Indian Journal of Science and Technology 2017. 25. Geetanjali, G.Indumathi, **NWR: Net Weighing based Timing driven Routing Algorithm**, IJSE, 2017. 26. Sreedevi, G.Indumathi, **Power Optimization using Label Switching Router and Predictor Technique in two Dimensional Network on Chip**, Indian Journal of Science and Technology 2018. 27. G.Indumathi, **Comparative study of various routing protocols for Vehicular Ad hoc Networks** (VANET) Presented at International conference conducted by ISSRD at LOS ANGELES USA, 18th OCT 2018. 28. Geetanjali, G.Indumathi, **Comparative Analysis of Net Weighting schemes in performance driven Global Routing**, Proceedings of 5th International conference on Green Computing and Engineering Technology,2019.**(Scopus - Indexed)**
Workshops and training programs Attended	Outcome based Education, Accreditation process, Internet Technologies, Effective Teaching, Leadership program, Computer concepts, FDP on IOT, PATENT and Importance, Writing of Research proposal, FDP on TLP
Book/Book Chapters	Harsha, B.K., Shruthi, M.L.J., Indumathi, G. (2022). Convolutional Neural Network-Based Contemporaneous Human Facial Expression Identification. In: Mahajan, V., Chowdhury, A., Padhy, N.P., Lezama, F. (eds) Sustainable Technology and Advanced Computing in Electrical Engineering . Lecture Notes in Electrical Engineering, vol 939. Springer, Singapore. https://doi.org/10.1007/978-981-19-4364-5_28. **(Scopus - Indexed)**

Research and Consultancy:

[1]. Received AICTE sponsored ATAL FDP 2024 grant entitled “Research Problems, Recent Trends and Future Perspectives of Artificial Intelligence in Image Processing-Tools, Techniques and applications: An industry Perspective” worth of Rs.350000/- as a Co-Investigator

[2]. Sanction of Funding from MEITY Govt.of India under C2S Project along with the team.

[3]. Received VTU sponsored FDP in IOT

[4]. AICTE MODROB Scheme and FDP Funding

[5].KSCST Student project funding