

# PROFILE

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Position & Affiliation	Professor, Department of ECE
Areas of Interest	Internet of Things, VLSI and Embedded Systems
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## **Educational Qualifications:**

Ph.D	VTU	India	2021
MTech	United Technologies Limited, VTU Extension Centre, VTU	India	2007
BE	Adhichunchanagiri Institute of Technology, Kuvempu ersity	India	2000

## **Areas of Research:**

VLSI and Embedded Systems, Internet of Things, Image Processing

## **Brief Profile: (write about yourself)**

Completed M.Tech in VLSI Design and Embedded Systems at UTL VTU Extension Centre, bangalore and PhD in VLSI at VTU. Has over Twenty Two years of Academic and Global Teaching Experience. The areas of interest are IoT, VLSI and Embedded Systems. Worked as a VLSI Trainer at Chipedge, Bangalore. Currently working as Professor, PG Coordinator for VLSI & Embedded Systems and Head Research Promotions Publications and Faculty Contributions at Cambridge Institute of Technology in Bangalore. Associated with CiTech from July 2018 onwards. Iam the director of Startup Robotum Robotics. Currently guiding 4 Ph.D. students, guided several UG And PG students.

**Awards/Achievements/Others: Received “International Best Researcher Award” from ASIA**

## Awards 2024

**Courses Taught: Basic Electronics, Digital System Design, Network Analysis, Microcontroller, Fundamentals of HDL, Fundamentals of VLSI Design, Embedded Systems, Advanced Embedded Systems**

## Publications/Patents:

### Publications

1. Sujatha.S, Mahendra BM, & Dr. Girish H. (2024). Smart Irrigation System for Optimal Water Conservation. *Revista Electronica De Veterinaria*, 25(1), 2613 - 2619. <https://doi.org/10.69980/redvet.v25i1.1311>
2. Mamatha K R, Thejaswini S, Rashmi N, & Dr. Girish H. (2024). Laser Fencing Surveillance System With Email Alert. *Educational Administration: Theory and Practice*, 30(2), 1539–1544. <https://doi.org/10.53555/kuey.v30i2.7919>
3. Thejaswini S, Mamatha K R, Rashmi N, & Dr. Girish H. (2024). Performance Evaluation of AI Models in Early Heart Disease Diagnosis. *Educational Administration: Theory and Practice*, 30(2), 1531–1538. <https://doi.org/10.53555/kuey.v30i2.7918>
4. Sushma K Sattigeri, Seema Srinivas, Shridhar Kabbur, Girish H, “Revolutionizing Urban Waste Management: An AI-Powered Autonomous Solution for Smart Cities”, *Tuijin Jishu/Journal of Propulsion Technology* ISSN: 1001-4055, Vol. 45 No. 02 (2024)
5. Girish H, Vajjala Sai Sree Hari, Ponde Lakshmi Narasimha, P N Shreya, Dadigala Bhargavi, "THE DESIGN AND VERIFICATION OF A 32-BIT RISC V PROCESSOR USING VEDIC MATHEMATICS", *International Journal of Creative Research Thoughts (IJCRT)*, ISSN:2320-2882, Volume.12, Issue 5, pp.1130-1135, May 2024, Available at :<http://www.ijcrt.org/papers/IJCRTAB02172.pdf>
6. IoT based home automation using Blynk cloud, J. Chetan Naik, B. S. Deeksha, H. Girish, Gurusharan Kashetty, T. G. Shivapanchakshari, Manohar Sai Polakam, *Journal: AIP Conference Proceedings*, AIP Conf. Proc. 2965, 020006 (2024), <https://doi.org/10.1063/5.0215427>, Published: July 2024
7. IoT based fire alarm system using Blynk app, T. Bhargava, H. Kishor Kumar, Pramod Mahalingappa Godi, H. Girish, J. Chetan Naik, *Journal: AIP Conference Proceedings*, AIP Conf. Proc. 2965, 020007 (2024), <https://doi.org/10.1063/5.0212325>, Published: July 2024
8. Dr. GIRISH H et. al., “Integrating Disaster Data Clustering with Neural Networks for Comprehensive Analysis”, *Tuijin Jishu/Journal of Propulsion Technology* ISSN: 1001-4055 Vol. 45 No.1 (2024).
9. Dr. Tejaswini C, Dr. Sunitha P H, Dr. Sendamarai P, Dr. Kusuma M S , Dr. Girish H, Voice Activated Personal Robot, *Journal of Technology* , ISSN: 10123407
10. Mamatha K R, Hariprasad S A, Thippeswamy G, & Girish H. (2023). Real-time Animal Detection and Alert System using IoT and Deep Learning. *Educational Administration: Theory and Practice*, 29(4), 1050–1054. <https://doi.org/10.53555/kuey.v29i4.5982>
11. Dr. GIRISH H et. al., “Design and Analysis of a Machine learning based Agriculture bot”, *Tuijin Jishu/Journal of Propulsion Technology* ISSN: 1001-4055 Vol. 44 No. 6 (2023)
12. Dr. GIRISH H et. al., “ROBOTIC INNOVATION IN E-DELIVERY

SYSTEMS: A DESIGN AND MODELING APPROACH”, The Seybold report ISSN 1533-9211, 2023.

13. Dr. GIRISH H et. al., “Machine Learning based Agriculture Bot”, International Conference on Smart Technologies, Communication and Robotics [ ICSCR-2023 ] in association with IJSRSET Print ISSN: 2395-1990 | Online ISSN : 2394-4099 (www.ijsrset.com) doi : <https://doi.org/10.32628/IJSRSET>

14. Dr. GIRISH H et.al., “A GSM-Based System for Vehicle Collision Detection and Alert”. International Conference on Smart Technologies, Communication and Robotics [ ICSCR-2023 ] in association with IJSRSET Print ISSN: 2395-1990 | Online ISSN : 2394-4099 (www.ijsrset.com) doi : <https://doi.org/10.32628/IJSRSET>

15. Dr. MANGALA GOWRI S G, Dr. SHASHIDHAR T M, Dr. SUNITHA R, SHYLAJA V, Dr. GIRISH H, “DESIGN OF 3-BIT CMOS WALLACE MULTIPLIER” , Seybold report, ISSN 1533-9211, Volume 18, Page No: 1260-1271 DOI: 10.5281/zenodo.8300481

16. Dr. Mangala Gowri S G, Dr. Girish H, Ramesh N, Dr. Nataraj Vijaypur, “IOT based plant monitoring system and smart irrigation using new features” ResMilitaris, vol.13, n°2, January Issue 2023 <https://resmilitaris.net/menu-script/index.php/resmilitaris/article/view/3312/2608>

17. Girish H.2023, Smart Theft Securityvehicular System Using Iot. Int J Recent Sci Res. 14(02), pp. 2881-2884. DOI: <http://dx.doi.org/10.24327/ijrsr.2023.1402.0591> <https://www.recentscientific.com/smart-theft-securityvehicular-system-using-iot>

18. Dr. Mangala Gowri S G, Dr. Girish H, Dr. Santosh Dattatray Bhopale, Weed Detection based on Neural Networks, International Journal of All Research Education and Scientific Methods (IJARESM), ISSN: 2455-6211 Volume 11, Issue 3, March-2023, Impact Factor: 7.429, Available online at: [www.ijaresm.com](http://www.ijaresm.com) DOI: <https://doi.org/11.56025/IJARESM.2023.11323351>

19. H. Girish, T. G. Manjunat and A. C. Vikramathithan, "Detection and Alerting Animals in Forest using Artificial Intelligence and IoT," 2022 IEEE Fourth International Conference on Advances in Electronics, Computers and Communications (ICAIECC), 2022, pp. 1-5, doi: 10.1109/ICAIECC54045.2022.9716679.

20. A. Devipriya, H. Girish, V. Srinivas, N. Adi Reddy and D. Rajkiran, "RTL Design and Logic Synthesis of Traffic Light Controller for 45nm Technology," 2022 3rd International Conference for Emerging Technology (INCET), 2022, pp. 1-5, doi: 10.1109/INCET54531.2022.9824833.

21. S. Vaddadi, V. Srinivas, N. A. Reddy, G. H, R. D and A. Devipriya, "Factory Inventory Automation using Industry 4.0 Technologies," 2022 IEEE IAS Global Conference on Emerging Technologies (GlobConET), 2022, pp. 734-738, doi: 10.1109/GlobConET53749.2022.9872416.

22. T G Manjunath , A C Vikramathithan , H Girish, “Analysis of Total Harmonic Distortion and implementation of Inverter Fault Diagnosis using Artificial Neural Network”, Journal of Physics: Conference Series, Volume 2161, 1st International Conference on Artificial Intelligence, Computational Electronics and Communication System (AICECS 2021) 28-30 October 2021, Manipal, India. <https://iopscience.iop.org/issue/1742-6596/2161/1>

23. GIRISH H , “Internet of Things Based Heart Beat Rate Monitoring System”, © September 2022 | IJIRT | Volume 6 Issue 4 | ISSN: 2349-6002 IJIRT 156592 INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH IN TECHNOLOGY 227

24. Dr Girish H, Dr. Mangala Gowri , Dr. Keshava Murthy , Chetan Naik J,

Autonomous Car Using Deep Learning and Open CV, PAGE NO: 107-115, VOLUME 8 ISSUE 10 2022, Gradiva review journal, ISSN NO : 0363-8057, DOI:10.37897.GRJ.2022.V8I8.22.50332

25. Girish H. "Intelligent Traffic Tracking System Using Wi-Fi ." International Journal for Scientific Research and Development 8.12 (2021): 86-90.

26. Girish H, Shashikumar D R, "Emission monitoring system using IOT", Dogo Rangsang Research Journal, UGC Care Group I Journal, ISSN: 347-7180, Vol – 8 Issue-14, No.6, 2020.

27. Girish H, Shashikumar D R, "Display and misson computer software loading", International journal of engineering research & Technology (IJERT), ISSN: 2278-0181, Vol – 10 Issue-08, No.13, August 2020.

28. Girish H, Shashikumar D R, "A Novel Optimization Framework for Controlling Stabilization Issue in Design Principle of FinFET based SRAM", International Journal of Electrical and Computer Engineering (IJECE) Vol. 9, No. 5 October 2019, pp. 4027~4034. ISSN: 2088-8708, DOI: 10.11591/ijece.v9i5.pp.4027-4034

29. Girish H, Shashikumar D R, "PAOD: a predictive approach for optimization of design in FinFET/SRAM", International Journal of Electrical and Computer Engineering (IJECE) Vol. 9, No. 2, April 2019, pp. 960~966. ISSN: 2088-8708, DOI: 10.11591/ijece.v9i2.pp.960-966

30. Girish H, Shashikumar D R, "SOPA: Search Optimization Based Predictive Approach for Design Optimization in FinFET/SRAM", © Springer International Publishing AG, part of Springer Nature 2019 Silhavy (Ed.): CSOC 2018, AISC 764, pp. 21–29, 2019. [https://doi.org/10.1007/978-3-319-91189-2\\_3](https://doi.org/10.1007/978-3-319-91189-2_3).

31. Girish H, Shashikumar D R, "Cost-Effective Computational Modelling of Fault Tolerant Optimization of FinFET-based SRAM Cells", © Springer International Publishing AG 2017 R. Silhavy et al. (eds.), Cybernetics and Mathematics Applications in Intelligent Systems, Advances in Intelligent Systems and Computing 574, DOI 10.1007/978-3-319-57264-2\_1.

32. Girish H, Shashikumar D R, "A Survey on the Performance Analysis of FinFET SRAM Cells for Different Technologies", International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-4 Issue-6, 2016.

33. Girish H, Shashikumar D R, "Insights of Performance Enhancement Techniques on FinFET-based SRAM Cells", Communications on Applied Electronics (CAE) – ISSN: 2394-4714, Foundation of Computer Science FCS, New York, USA .Volume 5 – No.6, July 2016 – [www.caeaccess.org](http://www.caeaccess.org)

34. Girish H, Shashikumar D R, "DESIGN OF FINFET", International Journal of Engineering Research ISSN: 2319-6890 (online), 2347-5013(print) Volume No.5 Issue: Special 5, pp: 992-1128, doi: 10.17950/ijer/v5i5/013 2016.

35. Girish H, Iot operated wheel chair, IJER, Vol-5, ISSN: 2347-5013, may 2016.

	<p>36. Girish H, Sridhar S, Bharath H, Vishvesh V, Gowtham K V, “IOT based transformer power theft detection and protection”, IJER, Vol-5, ISSN: 2347-5013, may 2016</p>
<p>Patents</p>	<ol style="list-style-type: none"> <li>1. “An IOT based system for detection of Brain Cancer in the human body”, Indian Patent Published on 09/07/2021 Patent No: 202141027836</li> <li>2. “Utilization of Solar System using IOT or Industrial Application 4.0”, Indian Patent Published on 16/07/2021 Patent NO: 202141029672</li> <li>3. “Optimization of human manpower using robotics based IOT system in the field of Agriculture”, Indian Patent Published on 06/08/2021 Patent No:202121029673</li> <li>4. “Design and development of Automatic Gear changing model using Electromagnetic Valves” Indian Published on 13/08/2021 Patent No:202141031663</li> <li>5. “An artificial intelligence and iot based method for prevention of security attack on cloud medical data” Australian Granted on 04/07/2021 Patent No: 2021102115</li> <li>6. “An artificial intelligence based system for detection of covid influence on human skin” Australian Patent Granted on 01-07-2021 Patent No: 2021102184</li> <li>7. “An artificial intelligence and iot based covid-19 early warning system for senior citizens” Australian Patent Granted on 29/10/2020 Patent No: 2020102250</li> <li>8. “An artificial intelligence and machine learning based traffic control system” Australian Patent Granted on 24/09/2020 Patent No: 2020101880</li> <li>9. “An artificial intelligence and internet of things based automated system for animal health care” Australian Patent Granted on 17/09/2020 2020101719</li> <li>10. “An apparatus for sanitization and pasteurization of eggs” Indian Patent Published on 17/07/2020 and Patent No:202021025300</li> <li>11. “A SYSTEM AND METHOD FOR ENABLING AN ORDERED EATABLES TRACKER SYSTEM” Indian Patent Published on 05/11/2021 Patent No: 202141048063</li> <li>12. “A WEARABLE DYNAMIC FRAME CAPTURING SYSTEM”, Indian Published on 29/04/2022 Patent No: 202241022837</li> <li>13. “SYSTEM AND METHOD FOR ENABLING ARTIFICIAL INTELLIGENCE-BASED MOTORCYCLE DROP PROTECTION” Indian Patent Published on 22/07/2022 Patent No: 202241041057</li> <li>14. “ SYSTEM AND METHOD FOR ENABLING INTERNET OF THINGS-BASED DROP PROTECTION”, Indian Patent Published on 28/10/2022 Patent No: 202241057965</li> <li>15. “A Human Intrusion detection system” Indian Patent Published on 02/12/2022 Patent No: 202241068047</li> <li>16. “System and method for enabling FPGA Based Video Processing”, Indian Published Patent No: 202241070463</li> </ol>
<p>Book Chapters</p>	<p>Shashidhara, K.S., Girish, H., Parameshwara, M.C., Rai, B.K., Dakulagi, V. (2023). A Novel Approach for Identification of Healthy and Unhealthy Leaves Using Scale Invariant Feature Transform and Shading Histogram-PCA Techniques. In: Shetty, N.R., Patnaik, L.M., Prasad, N.H. (eds) Emerging Research in Computing, Information,</p>

	Communication and Applications. Lecture Notes in Electrical Engineering, vol 928. Springer, Singapore. <a href="https://doi.org/10.1007/978-981-19-5482-5_47">https://doi.org/10.1007/978-981-19-5482-5_47</a>
Book	<ol style="list-style-type: none"><li>1. “Basic Electronics” published by skyward publishers</li><li>2. “VLSI design” published by Hexagon 6D publishers</li></ol>

**Research and Consultancy:**

Received 494 Lakhs from MEiTy through Chips2Startup Project titled “DESIGN AND DEVELOPMENT OF GROUND PENETRATING RADAR WITH ON-FIELD RECONFIGURATION CAPABILITY APPLICABLE TO SUSTAINABLE INDUSTRIAL AND AGRICULTURAL PURPOSES” in 2023 for 3 years.