

CURRICULUM VITAE

CONTACT ADDRESS

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OBJECTIVE

To be associated with a progressive and renewed organization that gives me scope to apply my knowledge and skills and involve myself as part of the team that dynamically works towards the growth of the organization.

EDUCATION DETAILS

Course	School/ College	Year of Passing	Percentage Obtained
Ph. D (Image and Signal Processing)	VTU, Belagavi	February, 2020	-----
M. Tech (Microelectronics & Control Systems)	NMAMIT, Nitte(VTU Belagavi)	2012	75.5%
B.E. (Electronics & Communication Engineering)	STJIT, Ranebennur (VTU Belagavi)	2010	68.52%
PUC (PCMB)	RTES, Ranebennur (Karnataka Board)	2005	71.50%
SSLC	Rotary English Medium School, Ranebennur. (Karnataka Board)	2003	63.52%

TEACHING EXPERIENCE: 10 YEARS

College/ Institution	Designation	Duration
Prasanna College of Engineering & Technology, Ujire. (Karnataka)	Assistant Professor	02 Years (01-06-2012 to 30-07-2014)
S. G. Balekundri Institute of Technology, Belagavi. (Karnataka)	Associate Professor	6.7 Years (01-08-2014 to 15-02-2021)
Nitte Meenakshi Institute of Technology, Bangalore.	Assistant Professor	01-04-2021 to till now

RESEARCH EXPERIENCE: 4 YEARS

Totally I had 4 years of Research experience in the stream of Electronics and Communication Engineering with the specialization in Imaging and Signal Processing at Dr. Ambedkar Institute of Technology, Bangalore (VTU-Research Center).

WORKSHOPS/ SEMINARS/FDP

1. Attended and coordinated Two Days Workshop on “**Latest Trends in Engineering & Technology**” at *Prasanna College of Engineering and Technology* during 23th to 24th of September 2013.
2. Attended and coordinated Two Days Workshop on “**Research Methodology**” at *S. G. Balekundri Institute of Technology, Shivabasava Nagar, Belagavi* during 13th to 14th of July 2015.
3. Attended Three Days National Level Workshop on “**Effective Teaching Pedagogies for Technical College Teachers**” at *S. G. Balekundri Institute of Technology, Shivabasava Nagar, Belagavi* during 29th to 31th of July 2015.
4. Attended One Day Workshop on “**Lean Manufacturing and Process Improvement**” at *S. G. Balekundri Institute of Technology, Shivabasava Nagar, Belagavi* during 22nd January 2016.
5. Attended Two Days National Level Workshop on “**Effective Teaching Pedagogies for Technical College Teachers**” at *S. G. Balekundri Institute of Technology, Shivabasava Nagar, Belagavi* during 22nd to 23rd of July 2016.
6. Attended Three Days National Level Workshop on “**Image Processing and Its Applications**” at *S. G. Balekundri Institute of Technology, Shivabasava Nagar, Belagavi* during 23rd to 25th of January 2017.
7. Attended Three Days National Level Workshop on “**Effective Teaching Pedagogies for Technical College Teachers**” at *S. G. Balekundri Institute of Technology, Shivabasava Nagar, Belagavi* during 3rd to 5th of August 2017.

8. The project entitled “**One Touch Smart Soil Examiner to Assist Farmer in the field of Agriculture**” selected and awarded as Project of the Year award during the Seminar and Exhibition of Student Projects – 38th Series held on 20th and 21st August 2015 at *Sahyadri College of Engineering and Management, Mangaluru*.
9. Conducted and organized one day **State Level Technical Paper Presentation** at *Prasanna College of Engineering and Technology, Ujire* during 2014.
10. Attended One Day Seminar on “**ARM Cortex M3 Microcontrollers**” at *S. G. Balekundri Institute of Technology, Shivabasava Nagar, Belagavi* during 11th of November 2017.
11. Attended One Day Seminar on “**NS2 Using TCL Scripts**” at *S. G. Balekundri Institute of Technology, Shivabasava Nagar, Belagavi* during 1st of February 2018.
12. Attended Three Days National level Workshop on “**Pedagogy for Engineering Faculty**” at *S. G. Balekundri Institute of Technology, Shivabasava Nagar, Belagavi* during 26th-28th of July 2018.
13. Attended One Day National level Workshop on “**National Programme on Technology Enhanced Learning**” at *M S Ramaiah Institute of Technology, Bangalore* during 11th of August 2018.
14. Attended One Day “**EBSCO: IEEE Workshop**” held at *Visvesvaraya Technological University, Belagavi* during 17th of September 2018.
15. Completed AICTE approved 08 weeks Faculty Development Programme on “**Introduction to Research**” conducted by IIT’s and IISC during August to September 2018.
16. Completed AICTE approved 12 weeks Faculty Development Programme on “**Digital Image Processing**” conducted by IIT’s and IISC during August to October 2018.
17. Completed AICTE approved 12 weeks Faculty Development Programme on “**Patent Law for Engineers and Scientists**” conducted by IIT’s and IISC during February to May 2019.
18. Completed AICTE approved 12 weeks Faculty Development Programme on “**Qualitative Research Methods and Research writing**”, conducted by IIT’s and IISC during February to May 2019.
19. Completed AICTE approved 08 weeks Faculty Development Programme on “**Accreditation and Outcome Based Learning**”, conducted by IIT’s and IISC during August to October 2019.
20. Completed AICTE approved 08 weeks Faculty Development Programme on “**Ethics in Engineering Practice**”, conducted by IIT’s and IISC during Dec-Feb 2020.

JOURNAL PUBLICATIONS

1. The paper entitled “**IREMD: An Efficient Algorithm for Iris Recognition**”, *International Journal of Advanced Networking and Applications*, Vol. 9, No. 5, pp. 3580-3587, 2018. (UGC Journal)
<http://www.ijana.in/papers/V9I5-6.pdf>
2. The paper entitled “**Detection of GSM Based Accident Location, Vehicle Theft and Fuel Theft Using ARM Cortex M-3 Microcontroller**”, *International Journal on Future Revolution in Computer Science and Communication Engineering*, Vol. 4, No. 4, pp. 178-185, 2018. (UGC Journal)
http://www.ijfrcsce.org/download/browse/Volume 4/April 18 Volume 4 Issue 4/1524130633_19-04-2018.pdf
3. The paper entitled “**Performance Evaluation of Face Recognition based on Multiple Feature Descriptors using Euclidean Distance Classifier**”, *International Journal of Advanced Networking and Applications*, vol. 10, no. 3, pp. 3864-3879, 2018. (UGC Journal and ISI indexed).
<https://www.ijana.in/papers/V10I3-5.pdf>
4. The paper entitled “**Performance Evaluation of Face Recognition based on the Fusion of Bit-Plane and Binary Image Compression Techniques using Euclidean Distance Classifier**”, *International Journal of Intelligent Engineering and Systems*, vol. 11, no. 6, pp. 52-64, 2018. (Scopus Indexed and UGC Journal).
<http://oaji.net/articles/2017/3603-1540170964.pdf>
5. The paper entitled “**Comprehensive Study of Data Aggregation Models, Challenges and Security Issues in Wireless Sensor Networks**”, *International Journal of Computer Network and Information Security*, vol. 11, no. 3, pp. 30-39, 2019. (IET Indexed and UGC Journal).
<http://mecs-press.org/ijenis/ijcnis-v11-n3/IJCNIS-V11-N3-5.pdf>
6. The paper entitled “**Comprehensive Study of Biometric Authentication Systems, Challenges and Future Trends**”, *International Journal of Advanced Networking and Applications*, vol. 10, no. 4, pp. 3958-3968, 2019. (UGC Journal and ISI indexed).
<http://ijana.in/papers/V10I4-8.pdf>
7. The paper entitled “**An Extensive Study of Issues, Challenges and Achievements in Iris Recognition**”, *Asian Journal of Electrical Sciences*, vol. 8, no. 1, pp. 25-35, 2019. (UGC Journal and ISI indexed).
<http://www.trp.org.in/wp-content/uploads/2019/03/AJES-Vol.8-No.1-January-March-2019-pp.25-35.pdf>
8. The paper entitled “**Technical Challenges, Performance metrics and Advancements in Face Recognition System**”, *International Journal of Computer Sciences and Technology*, accepted for publication in vol. 7, no. 3, pp. 836-847, 2019. (UGC Journal and ISI indexed).
https://www.ijcseonline.org/pdf_paper_view.php?paper_id=3925&139-IJCSE-06069.pdf
9. The paper entitled “**An Extensive Review of Feature Extraction Techniques, Challenges and trends in Automatic Speech Recognition**”, *International Journal of Image, Graphics and Signal Processing*, accepted for publication in vol. 11, no. 4, April 2019. (IET Indexed)

and UGCJournal).

<http://mecs-press.org/ijigsp/ijigsp-v11-n5/IJIGSP-V11-N5-1.pdf>

10. The paper entitled “**Performance Analysis of MSB based Iris Recognition using Hybrid Features Extraction Technique**”, *International Journal of Recent Technology and Engineering*, vol. 8, no. 6, pp. 1-10, 2019. (Scopus Indexed Journal)
<https://www.ijeat.org/wp-content/uploads/papers/v8i6/E7292068519.pdf>
11. The paper entitled “**Performance Analysis of Iris Recognition Using Multi-Stage Wavelet Transform Decomposition and Bicubic Interpolation Technique**”, *International Journal of Recent Technology and Engineering*, vol. 8, no. 6, pp. 230-239, 2019. (Scopus Indexed Journal)
<https://www.ijeat.org/wp-content/uploads/papers/v8i6/E7322068519.pdf>
12. The paper entitled “**Development of Algorithm for Offline Signature Verification Using Fusion Extraction Techniques**”, *International Journal of Seybold Report*, vol. 15, no. 9, pp.1421-1431, 2020. (Scopus Indexed Journal)
<https://app.box.com/s/3xeu8j3u3cl8m9wo30sop1lskmpu0gtq>
13. The paper entitled “**Development of Crop Security Model for Enhancement in Agricultural Productivity using Internet of Things**”, *International Journal of Seybold Report*, vol. 15, no. 9, pp. 1320-1329, 2020. (Scopus Indexed Journal)
<https://app.box.com/s/63k82twbaign2fphkz4k5wr7om0bu7lw>
14. The paper entitled “**Project Work for Technical Students and Teachers**”, *Journal of Huazhong University of Science and Technology*, vol. 50, no. 4, pp. 1-19, 2021. (Scopus Indexed Journal)
<https://app.box.com/s/ztgj3a1fwkhmomrrah3ggjvedir6vla3>
15. The Paper entitled “**Machine learning based fusion algorithm to perform multimodal summarization**”, *International Journal of Health Sciences*, vol. 6, no. 3, pp. 671–683, 2022. (Scopus Indexed Journal)
<https://doi.org/10.53730/ijhs.v6nS3.5411>
16. The Paper entitled “**Integrated Analysis of Tomato Plant leaf disease disorder using improved Machine Learning approach**”, *Journal of Positive School Psychology*, vol. 6, no. 4, pp. 921–932, 2022. (Scopus Indexed Journal)
<https://journalppw.com/index.php/jpsp/article/view/3196/2082>
17. The Paper entitled “**Biometric Trait: Offline Signature Identification and Verification based on Multimodal Fusion Techniques**”, *Journal of Positive School Psychology*, vol. 6, no. 4, pp. 2180-2191, 2022. (Scopus Indexed Journal)
<https://journalppw.com/index.php/jpsp/article/view/3592/2363>
17. The Paper entitled “**Huffman Coding: Energy efficient algorithms in wireless networks**”, *International Journal of Health Sciences*, vol. 6, no. 3, pp. 3624–3641, 2022. (Scopus Indexed Journal)
<https://sciencescholar.us/journal/index.php/ijhs/article/view/6588/2667>

19. The Paper entitled “**Robust Iris recognition algorithm using EMD and Support Vector Machine**”, *Journal of Positive School Psychology*, vol. 6, no. 4, pp. 4279-4288, 2022. (Scopus Indexed Journal)
<https://www.journalppw.com/index.php/jpsp/article/view/4105/2687>

CONFERENCE PUBLICATIONS

1. The paper entitled “**Implementation of Adaptive FIR Filter for Pulse Doppler Radar**”, *National Conference on Emerging Trends in Engineering and Management* during 01-02nd March 2013 held at PES Institute of Technology & Management, Shivamogga.
2. The paper entitled “**Design of Low Power VLSI using Shift Invert Coding**”, *National Conference on Innovative and Emerging Trends in Engineering and Management* during 22-23rd March 2013 held at Alva’s Institute of Engineering and Technology, Moodbidri.
3. The paper entitled “**A Survey on Efficient Biometric system for multimodal Traits**”, *National Conference on Make in India- An Opportunity for Emerging Engineering Technologies* during 05-06th February 2016 held at S. G. Balekundri Institute of Technology, Belagavi.
4. The paper entitled “**Iris Recognition based on EMD and SVM Classifier**”, *National Conference on Skill Development and Entrepreneurship* during 27-28th April 2018 held at S. G. Balekundri Institute of Technology, Belagavi.
5. The paper entitled “**Detection of Accident Location and Fuel theft using ARM Cortex M-3 Microcontroller**”, *National Conference on Skill Development and Entrepreneurship* during 27- 28th April 2018 held at S. G. Balekundri Institute of Technology, Belagavi.

INTERNATIONAL CONFERENCE

1. The paper entitled “**Comparative Survey of Iris Recognition**”, *IEEE International Conference on Electrical, Electronics, Communication, Computer, and Optimization Techniques*, pp. 280-283, 2017.
<https://ieeexplore.ieee.org/document/8284682>
2. The paper entitled “**Face Recognition based on SWT, DCT and LTP**”, *Springer International Conference on Integrated Intelligent Computing, Communication and Security*, pp. 565-573, 2019.
https://link.springer.com/chapter/10.1007%2F978-981-10-8797-4_57
3. The paper entitled “**Face Recognition based on the fusion of Bit-Plane and Binary Image Compression Techniques**”, *IEEE International Conference on Recent Trends in Electronics, Information and Communication Technology*, pp. 1889-1994, 2018.
<https://ieeexplore.ieee.org/document/9012230/metrics#metrics>
4. The paper entitled “**Design of an Efficient Algorithm for Iris Recognition**”, *IEEE International Conference on Inventive Communication and Computational Technologies*, pp. 876-880, 2018.
<https://ieeexplore.ieee.org/document/8473179>
5. The paper entitled “**MSB based Iris Recognition using Multiple Feature Descriptors**”, *Springer International Conference on International Conference on Intelligent Computing, Information and Control Systems*, pp. 615-623, 2019. (Springer and Scopus Indexed)
https://link.springer.com/chapter/10.1007/978-3-030-30465-2_68

6. The paper entitled “**Iris Recognition using Bicubic Interpolation and Multi Level DWT Decomposition**”, *Springer International Conference on Computational Vision and Bio Inspired Computing*, pp. 1146–1153, 2020. (**Springer and Scopus Indexed**)
https://link.springer.com/chapter/10.1007/978-3-030-37218-7_120
7. The paper entitled “**Performance analysis of CPU & GPU for Real Time Image/Video**”, *IEEE International Conference on Recent Trends on Electronics, Information, Communication & Technology*, pp. 1146–1153, 2020. (**IEEE and Scopus Indexed**)
<https://ieeexplore.ieee.org/document/9573554>
8. The paper entitled “**Plant Leaf Disease Detection using Computer Vision and Machine Learning Algorithms**”, *Elsevier Global Transitions Proceedings*, pp. 1–6, 2022. (**Elsevier and Scopus Indexed**)
<https://www.sciencedirect.com/science/article/pii/S2666285X22000218>
9. The paper entitled “**Robust video summarization algorithm using supervised machine learning**”, *Elsevier Global Transitions Proceedings*, pp. 1–5, 2022. (**Elsevier and Scopus Indexed**)
<https://www.sciencedirect.com/science/article/pii/S2666285X22000450>

ONLINE COURSES

1. Completed NPTEL Online Course on “**Introduction to Research**” with elite certificate conducted by IISC and IIT’s during August to September 2018. (8 week)
2. Completed NPTEL Online Course on “**Digital Image Processing**” with elite certificate conducted by IISC and IIT’s during August to October 2018. (12 week)
3. Completed NPTEL Online Course examination on “**Patents Law for Engineers and Scientists**”, with elite certificate held on 27th of April 2019. (12 week)
4. Completed NPTEL Online Course examination on “**Qualitative Research Methods and Research writing**”, with elite certificate held on 28th of April 2019. (12 week)
5. Completed NPTEL Online Course examination on “**Accreditation and Outcome Based Learning**”, with elite + Silver certificate held during August to October of 2019. (8 week)
6. Completed NPTEL Online Course examination on “**Ethics in Engineering Practice**”, held during December 2020. (8 week)

PROFESSIONAL MEMBERSHIP

1. Life Member of India Society for Technical Education (**LMISTE**)
2. Life Member of Institute of Scholars (**InSc**)
3. International Association of Engineers (**IJENG**)
4. <https://scholar.google.co.in/citations?user=O1s7hnMAAAAJ&hl=en>
5. https://www.researchgate.net/profile/Sunil_S_Harakannavar

TEXTBOOK PUBLICATION

1. A Textbook “**Introduction to Information Theory and Coding**” as per CBCS Scheme for 5th Semester Electronics and Communication Engineering/Telecommunication Engineering prescribed syllabus of Visvesvaraya Technological University, Belagavi, Published by Mayas Publishers, Chennai (TN), 2018. **ISBN: 9789387756205.**

Text Book Available on Flipkart

https://www.flipkart.com/introduction-information-theory-coding/p/itm9w38gegbbnj8?pid=9789387756205&lid=LSTBOK9789387756205QFMAWH&marketplace=FLIPKART&srno=s_1_1&otracker=search&otracker1=search&fm=SEARCH&iid=72d2864b-e843-450d-aed7e7a43914a34f.9789387756205.SEARCH&ppt=Homepage&ppn=Homepage&ssid=go7runb2fgy51uy01556724054473&qH=dbf2c795d9686ac0

Text Book Available on Amazon

https://www.amazon.in/INTRODUCTION-INFORMATION-THEORY-CODING%20HARAKANNANAVAR/dp/B07J9XD1WZ/ref=sr_1_fknull_1?keywords=information+theor%20y+and+coding+by+sunil+s+harakannanavar&qid=1556723987&s=gateway&sr=8-1-fknull

2. Book Series Editor for “*Futuristic Trends in Artificial Intelligence*” with Series Code IIP_V2_2022_BS_09_04, IIP International Publishers. It will be indexed in RSquareL and other indexing platforms including Amazon, Google Books etc.

E-NOTES

A lot of valuable time is saved to both the faculties and young research mind students for discussing the novel concepts in their respective fields without dictation of notes in the classroom. In this regard, Students can refer my notes in the available (<https://lecturenotes.in/>) website.

1. Lecture notes on Principles of Communication Systems.
https://lecturenotes.in/notes/15347-principles-of-communication-systems?utm_source=my_uploads&utm_medium=web&utm_campaign=material_page
2. Lecture notes on Optical Fibre Communication.
https://lecturenotes.in/notes/13602-optical-fiber-communication?utm_source=my_uploads&utm_medium=web&utm_campaign=material_page
3. Lecture notes on Information Theory and Coding.
https://lecturenotes.in/notes/23109-information-theory-coding?utm_source=my_uploads&utm_medium=web&utm_campaign=material_page
4. Lecture notes on DSP Algorithms and Architecture.
https://lecturenotes.in/notes/13601-dsp-algorithms-and-architecture?utm_source=my_uploads&utm_medium=web&utm_campaign=material_page

PATENT DETAILS

1. Patent Published in Indian Patent Journal on 25th December 2020, “**DEVELOPMENT OF WIRELESS SENSOR NETWORK BASED SMART SYSTEM FOR PREVENTING RAILWAY ACCIDENTS**” application number for the patent is [202041055057](#).
2. **Granted Australian Innovation Patent AN ARTIFICIAL INTELLIGENCE BASED HEART DISEASE MONITORING SYSTEM**, application number for the patent is [2021101570](#).
3. **Granted Australian Innovation Patent IOT BASED AGRI ROBOTIC HANDS FOR PLUCKING UNDER GROUND CROPS & AUTOMATIC SPRAYING**, application number for the patent is [2021101375](#)

STAFF ACHIEVEMENTS

1. Achieved more than 90% and above passing percentage in the Analytical subjects taught such as Information Theory and Coding, Principles of Communication Systems, Optical Fibre Communication, Fundamentals of HDL, DSP Architecture and Algorithms and so on.
2. Helped in establishing well equipped laboratories such as Advanced Communication and Analog Communication + LIC Lab.
3. “**One Touch Smart Soil Examiner to Assist Farmer in the field of Agriculture**” awarded as Project of the Year award during the Seminar and Exhibition of Student Projects – 38th Series held on 20th and 21st August 2015 at *Sahyadri College of Engineering and Management, Mangaluru*.

JOURNAL REVIEWER

1. Reviewer for the Institute for Exploring Advances in Engineering International Journals, India.

RESPONSIBILITIES

1. Conducted SGBIT International E-Conference on “**Applications of Intelligent Computing**” organized during 27-28, November 2020.
2. Project Coordinator.
3. Conducted **Internal Hackathon** as coordinator for **SIH-2020**.
4. Conducted **Vistara-2020**, National Level Poster Presentation as coordinator.
5. Coordinated **Talentrionics Quiz** for third and second year BE students.
6. Conducted **AICTE Sponsored Six Days Virtual Short Term Training Programme on “Awareness of Intellectual Property Rights for Engineers and Industrialists”** Phase 1, Phase2 and Phase 3 held during November and December 2020.
7. “**One Touch Smart Soil Examiner to Assist Farmer in the field of Agriculture**” awarded as Project of the Year award during the Seminar and Exhibition of Student Projects – 38th Series held on 20th and 21st August 2015 at *Sahyadri College of Engineering and Management, Mangalore*.

Proposals Submitted for Funding

1. Submitted One proposal for VGST-KFIST-1 (Under Review)/2021-22
2. Submitted One proposal for VGST-FDP1 (Under Review) /2021-22
3. Proposal shortlisted by DRDO-GTRE, Bangalore for 10Lakhs-Waiting for official Order.

WORK UNDER PROGRESS

1. Manual for Paper Publications on Final Year Projects for UG and PG. **(In Progress)**.
2. Paper on UG/PG Projects case study **((In Progress)**
3. Paper on Biometrics is under preparation. (SCI Journal)
4. Proposal for Funding to Lab and STTP

Date: 17.06.2022

Place: Bangalore



Sunil S. Harakannavar