

Research Publications

Research Centre: - E&TC Engineering

1. Patent

| Sr No | Name of Staff | Title | Date of Application | Application Number | Publication date |
|-------|-------------------|---|---------------------|--------------------|------------------|
| 1. | Dr. G. K. Kharate | Ultra Wide Band Microstrip Patch Antenna for Biomedical Application. | 30/10/2017 | 201721038401 | 17/11/2017 |
| 2. | Dr. G. K. Kharate | Speech Recognition and Correction for Articulatory Handicapped People | 17/11/2016 | 201621039304 | 09/12/2016 |
| 3. | Dr. G. K. Kharate | Innovative Breast Cancer Prognosis Detection Based on HER2 Marker | 28/04/2017 | 201721015067 | 19/05/2017 |
| 4. | Dr. J. J. Chopade | Hearing Aid for Hearing Impaired with Minimum Latency for Better perception of the Speech Signal. | 09/03/2016 | 201621008170 | 10/03/2017 |
| 5. | Dr. D. D. Dighe | Low Cost Weather Monitoring Station Using RASPBERRY PI | 02/09/2017 | 201721031155 | 10/11/2017 |
| 6. | Dr. D. D. Ahire | Ultra Wide Band Microstrip Patch Antenna for Biomedical Application. | 30/10/2017 | 201721038401 | 17/11/2017 |
| 7. | Dr. D. D. Ahire | Comb Shaped Antenna With SRR for ISM, WLAN and Wifi Application | 08/08/2020 | 202041034103 | 04/09/2020 |

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| 8. | Ms. U. H. Holkar Ms. M. S. Nimse Ms. N. B. Aher Mrs. H. P. Bhamare Mr. B. S. Bodke Ms. V. V. Gite Mr.M. S. Wadatkar | Precision Farming AI robot (Design Patent) | 03/03/2025 | 450226-001 | 12/09/2025 |
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2. Research Scholar Publications in Journals

| Sr. No. | Title of paper | Name of the author/s | Name of Journal | Year of Publication | ISSN number | Link to the recognition in UGC enlistment of the Journal /Digital Object Identifier (doi) number | UGC/SCOPUS/SCI/WoS/etc |
|---------|--|--|--|---------------------|-------------|---|------------------------|
| 1. | Coil material and magnetic shielding methods for efficient wireless power transfer system for biomedical implant application | D. B. Ahire V. J. Gond J. J. Chopade | Biosensors and Bioelectronics: X | 2022 | 2590-1370 | doi: 10.1016/j.biosx.2022.100123 | Scopus |
| 2. | Study of Methods for Calculation of Self and Mutual Inductance | D. B. Ahire V. J. Gond | Journal of Advanced Research in Electronics Engineering and Technology | 2021 | 2456-1428 | http://www.thejournalshouse.com/index.php/electronics-engg-technology/adr/article/view/472 | UGC |
| 3. | Design and Simulation of Wireless Power Transfer System for Biomedical Implant | D. B. Ahire V. J. Gond | International Journal of Advanced Science and Technology | 2020 | 2005-4238 | http://sersec.org/journals/index.php/IJAST/article/view/27391 . | UGC |
| 4. | Efficient Wireless Power Transfer System at Low frequency for Biomedical Implant Application | D. B. Ahire V. J. Gond J. J. Chopade | IOSR Journal of Engineering (IOSRJEN) | 2021 | 2250-3021 | www.iosrjen.org . | UGC |
| 5. | Geometrical parameter optimization of planner square-shaped printed spiral coil for efficient wireless power transfer system to biomedical implant application | D. B. Ahire V. J. Gond J. J. Chopade | e-Prime - Advances in Electrical Engineering, Electronics and Energy | 2022 | 2772-6711 | 10.1016/j.prime.2022.100045 | Scopus |
| 6. | Compensation Topologies for Wireless Power Transfer System for Biomedical Application: A Review | D. B. Ahire V. J. Gond J. J. Chopade | Biosensors and Bioelectronics: X | 2022 | 2590-1370 | DOI: 10.1016/j.biosx.2022.100180 | Scopus |
| 7. | Implementation of SVM with SMO for Identifying Speech Emotions using FFT and Source Features | S. Patil Dr. G. K. Kharate | International Turkish Journal of Computer and Mathematics | 2021 | 1309-4653 | | Scopus |

| | | | Education (TURCOMAT) | | | | |
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| 8. | Design and Analysis of Microstrip Patch Antenna for WLAN and Vehicular Communication | M. P. Joshi V. J. Gond | Progress In Electromagnetics Research C (PIER C) | 2019 | 1937-8718 | DOI: 10.2528/PIERC19090201 | Scopus |
| 9. | Saw-tooth Shaped Sequentially Rotated Fractal Boundary Square Microstrip Patch Antenna for Wireless Application | M. P. Joshi V. J. Gond J. J. Chopade | Progress In Electromagnetics Research Letters (PIER Letters) | 2020 | 1937-6480 | DOI: 10.2528/PIERL20092005 | Scopus |
| 10. | Proximity Fed Broadband Circular Microstrip Patch Antenna for Wireless Service | M. P. Joshi V. J. Gond | Journal of Advanced Research in Electronics Engineering and Technology | 2019 | 2393-283X | | UGC |
| 11. | CPW Fed Dual Band Dual Sense Circularly Polarized Asymmetrical Y-shaped Microstrip Patch Antenna for Wireless Applications | M. P. Joshi V. J. Gond J. J. Chopade | International Journal of Microwave and Optical Technology (IJMOT) | 2021 | 1553-0396 | https://www.ijmot.com/VOL-16-NO-4.aspx | Scopus |
| 12. | Inverted 'T'-shaped DGS Loaded Nearly Square Microstrip Patch Antenna for Wireless Applications | M. P. Joshi V. J. Gond | Australian Journal of Electrical and Electronics Engineering | 2022 | 2205-3622 | DOI: 10.1080/1448837X.2022.2115670 | Scopus |
| 13. | Encoder–Decoder Approach for Describing Health of Cauliflower Plant in Multiple Languages | P. J. Mondhe M. P. Satone N. N. Wasatkar | IAES International Journal of Artificial Intelligence (IJ-AI) | 2024 | 2089-4872 | DOI: 10.11591/ijai.v13.i3.pp2971-2977 | Scopus |
| 14. | Generating Captions in English and Marathi Language for Describing Health of Cotton Plant | P. J. Mondhe M. P. Satone N. N. Wasatkar | Indonesian Journal of Electrical Engineering and Computer Science (IJEECS) | 2023 | 2502-4760 | DOI: 10.11591/ijeecs.v32.i1.pp571-578 | Scopus |
| 15. | Automatic Caption Generation for Aerial Images: A Survey | P. J. Mondhe M. P. Satone N. N. | Indonesian Journal of | 2023 | 2502-4752 | DOI: 10.52549/ijeeci.v11i1.4342 | Scopus |

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| | | Wasatkar | Electrical Engineering and Informatics (IJEI) | | | | |
| 16. | Technique towards Multi-Objective Clustering in Heterogeneous Wireless Sensor Networks | S. V. Purkar Dr. J. J. Chopade Dr. D. D. Ahire | SSRG International Journal of Electrical and Electronics Engineering (SSRG-IJEEE) | 2023 | 2348-8379 | | UGC |
| 17. | Clustering Algorithm for Deployment of Independent Heterogeneous Wireless Sensor Network | S. V. Purkar R. S. Deshpande | Wireless Personal Communications | 2020 | 1572-834X | DOI: 10.1007/s11277-020-07103-w | Scopus |
| 18. | Improved Clustering Protocol to Balanced Energy Consumption in Heterogeneous Wireless Sensor Network | S. V. Purkar R. S. Deshpande | Universal Journal of Electrical and Electronic Engineering | 2019 | 2332-2313 | DOI: 10.13189/ujeee.2019.061501 | Scopus |
| 19. | Dynamic Clustering Protocol to Enhance Performance of Heterogeneous Wireless Sensor Network | S. V. Purkar R. S. Deshpande | Ad Hoc & Sensor Wireless Networks | 2019 | 1552-0633 | | Scopus |
| 20. | Energy Efficient Clustering Protocol to Enhance Performance of Heterogeneous Wireless Sensor Network: EECPEP-HWSN | S. V. Purkar R. S. Deshpande | Journal of Computer Networks and Communications | 2018 | 2090-715X | DOI: 10.1155/2018/2078627 | Scopus |
| 21. | SZBC-HWSN: Stabilize Zone Balanced Cluster Head Selection Protocol for Heterogeneous Wireless Sensor Network | S. V. Purkar R. S. Deshpande | Advances in Wireless and Mobile Communications | 2017 | 0973-6972 | | Google Scholar |
| 22. | A Review on Energy Efficient Clustering Protocols of Heterogeneous Wireless Sensor Network | S. V. Purkar R. S. Deshpande | International Journal of Engineering and Technology (UAE-UET) | 2017 | 2227-5258 | DOI: 10.21817/ijet/2017/v9i3/170903043 | Scopus |
| 23. | Optimization Assisted Framework for Thyroid Detection and Classification: A New Ensemble Technique | N. B. Rajole V. J. Gond | Gene Expression Patterns | 2022 | 1567-133X | DOI: 10.1016/j.gep.2022.119268 | Scopus |
| 24. | Hybrid Classification with Meta- | N. B. Rajole V. J. | International | 2021 | 1098-1098 | DOI: 10.1002/ima.22555 | Scopus |

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| | Heuristic-Enabled Optimal Feature Selection for Thyroid Detection | Gond | Journal of Imaging Systems and Technology | | | | |
| 25. | Thyroid Disorder Diagnosis by Optimal Convolutional Neuron based CNN Architecture | N. B. Rajole V. J. Gond | Journal of Experimental & Theoretical Artificial Intelligence | 2022 | 1362-3079 | DOI: 10.1080/0952813X.2021.1938694 | Scopus |
| 26. | ANN and Machine Learning Techniques for Diagnosis of Thyroid Disorders | N. B. Rajole V. J. Gond | International Journal of Advanced Science and Technology (IJAST) | 2020 | 2005-4238 | | UGC |
| 27. | Object Detection and Tracking using YOLO v3 Framework for Increased Resolution Video | S. A. Shaikh A. K. Kureshi | International Journal of Innovative Technology and Exploring Engineering (IJITEE) | 2020 | 2278-3075 | DOI: 10.35940/ijitee.E3038.049620 | UGC |
| 28. | Performance Evaluation Of Optical Motion-Based Object Detection And Tracking Using Background Subtraction In High-Resolution Video | S. A. Shaikh A. K. Kureshi | International Journal of Advanced Science and Technology (IJAST) | 2020 | 2005-4238 | http://sersc.org/journals/index.php/IJAST/article/view/24495?utm_source=chatgpt.com | UGC |
| 29. | Multiple-Object Detection and Segmentation Based on Deep Learning in High Resolution Video Using Mask-RCNN | S. A. Shaikh A. K. Kureshi | International Journal of Pattern Recognition and Artificial Intelligence (IJPAI) | 2021 | 0218-0014 | DOI: 10.1142/S021800142150038X | SCI, Scopus |
| 30. | Real-Time Multi-Object Detection Using Enhanced Yolov5-7S on Multi-GPU for High-Resolution Video | S. A. Shaikh, J. J. Chopade M. P. Sardey | International Journal of Image and Graphics (IJIG) | Accepted / In Press | 0219-4678 | | Scopus, ESCI |
| 31. | Object Classification and Tracking Using Scaled P8 YOLOv4 Lite Model | S. A. Shaikh J. J. Chopade G. K. Kharate | Periodica Polytechnica Electrical Engineering and | 2022 | 2064-5279 | DOI: 10.3311/PPee.20685 | Scopus |

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| | | | Computer Science | | | | |
| 32. | Analysis of Decoupling Capacitor Performance in Improving Power Integrity in Two Layer/Three Layer Printed Circuit Boards | R. B. Reipade G. K. Kharate J. J. Chopade | European Journal of Electrical Engineering and Computer Science (EJECE) | 2023 | 2736-5751 | DOI: 10.24018/ejece.2023.7.6.575 | Sci-lit |
| 33. | Skin Effect and its Impact on Resistance of Conductor Traces in High Speed Printed Circuit Board Design | R. B. Reipade G. K. Kharate | SSRN Electronic Journal (Elsevier) | 2022 | 1556-5068 | DOI: 10.2139/ssrn.4043572 | SSRN/Elsevier |

3. Research Scholar Presentations in Conference

| Sr No | Name of the teacher | Title of the paper | Title of the proceedings of the conference | Name of the conference | National / International | Year of publication | ISBN/ISSN number of the proceeding | Name of the publisher |
|-------|---|--|--|--|--------------------------|---------------------|------------------------------------|-----------------------|
| 1. | D. B. Ahire V. J. Gond | Wireless power transfer system for biomedical application: A review | IEEE Conference Proceedings | International Conference on Trends in Electronics and Informatics | International | 2017 | 978-1-5090-4258-6 | IEEE |
| 2. | N. B. Rajole V. J. Gond | Review of Diagnosis Methods of Thyroid Disorders | IEEE Conference Proceedings | International Conference on Electronics, Communication and Aerospace Technology (ICECA 2017) | International | 2017 | 978-1-5090-5686-6 | IEEE |
| 3. | R. B. Reipade S. D. Pable G. K. Kharate | Design Issues & Challenges with EMI/EMC in System on Packages (SOPs) | IEEE Conference Proceedings | International Conference on Electronics, Communication and Aerospace Technology (ICECA 2017) | International | 2017 | 978-1-5090-5686-6 | IEEE |
| 4. | S. A. Shaikh A. K. Kureshi | Recent Advances in Object Detection and Tracking for High Resolution Video: Overview and State-of-the-Art | IEEE Conference Proceedings | IEEE International Conference on Computing, Communication, Control and Automation (ICCUBEA 2019) | International | 2019 | 978-1-7281-4042-1 | IEEE |
| 5. | S. Patil Dr. G. K. Kharate | A Review on Emotional Speech Recognition: Resources, Features, and Classifiers | IEEE Conference Proceedings | IEEE 5th International Conference on Computing Communication and Automation (ICCCA) | International | 2020 | 978-1-7281-6324-6 | IEEE |
| 6. | S. Patil Dr. G. K. Kharate | PCA-Based Random Forest Classifier for Speech Emotion Recognition Using FFTF Features, Jitter, and Shimmer | Innovations in Electrical and Electronic Engineering (LNEE Vol. 894) | Innovations in Electrical and Electronic Engineering | | 2022 | 978-981-19-1676-2 | Springer |
| 7. | S. Patil Dr. G. K. Kharate | Comparison of Speech Emotion Recognition Performance with Different System Features | IEEE Conference Proceedings | International Conference on Contents, Computing & Communication (ICCCC-2022) | International | 2022 | 978-1-6654-8048-3 | IEEE |
| 8. | S. A. Shaikh J. J. Chopade | Improved Inferencing on Deep Neural Network Using Mix | Conference Proceedings / | International Conference on Contents, Computing & | International | 2022 | | SSRN / Elsevier |

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| | Regularization and Pruning Techniques | SSRN Preprint | Communication (ICCC-2022) | | | | |
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