



R.M.K.
COLLEGE OF
ENGINEERING AND
TECHNOLOGY

(AN AUTONOMOUS INSTITUTION)

R.S.M NAGAR, PUDUVOYAL - 601 206 GUMMIDIPOONDI TALUK THIRUVALLUR DISTRICT, TAMIL NADU.



RESEARCH & INNOVATION @ RMKCET

(A Quarterly News Bulletin)

RMKCET provides conducive ecosystem for nurturing Research and Innovation and fosters Entrepreneurship amongst students and faculty by inspiring them to innovate and spin off their ideas into successful Start-up.

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THOUGHTS ON RESEARCH

Scientific Research is one of the most exciting and rewarding of occupations.

- Frederick Sanger

No Research without action, No action without Research.

-Kurt Lewin

Prof. M.S. PALANICHAMY

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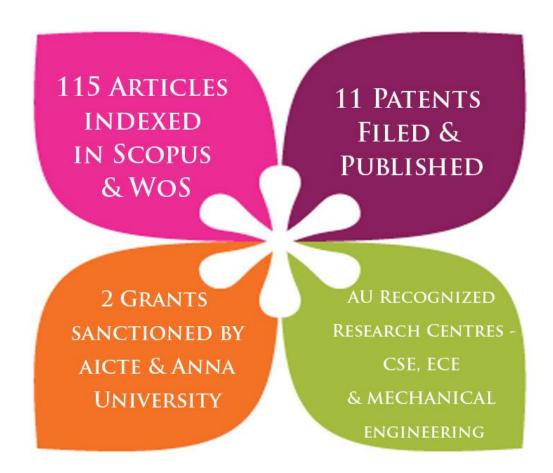
FOREWORD

Chennai.

I am pleased to observe the lofty altitudes that RMKCET has been scaling every year in terms of Research which encompasses Research Publications, Patent filing, getting Funded Projects and doing Consultancy Services. The vibrant Research Cell and the learned faculty members enjoy a feasible research climate under the able guidance of the Principal, Dr. K. Ramar and Dean Research, Dr. K. Sivaram. In line with the saying, "Doing the right thing has power," it's indubitable that RMKCET is in the right academic track accompanied by the research attitude and thus is empowered for excellence. This Newsletter that documents the Quarterly Research and Innovation activities of RMKCET is a novel endeavour to bring to limelight the indisputable research fervour which is a crucial choice of investing in the future.

I record my earnest appreciations to the enthusiastic team of faculty of RMKCET for their passionate and progressive efforts in research and wish them a great journey of exploration.

IDr. M.S. PALANICHAMY



GRANTS SANCTIONED

- 1.The College has been shortlisted out of 95 Institutions across the country for the implementation of AICTE IDEA LAB(Self Financing Mode) with a project cost of Rs. 1.31 crore to encourage the students for Application of Science, Technology, Engineering and Mathematics (STEM) fundamentals towards enhanced hands-on experience and product visualization.
- 2.Centre for Faculty and Professional Development of Anna university has granted an amount of Rs.30,000 under the Scheme "Faculty Development and Training Programme" to the Department of Computer Science and Engineering.





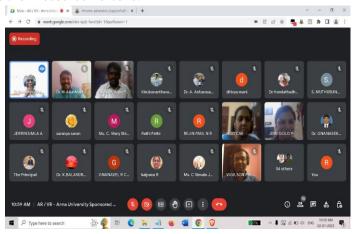
OCTOBER 2022 to JANUARY 2023

PATENTS FILED & PUBLISHED

- Dr.Uma Maheswari G, Mr.Naresh Sammeta, Ms.Gnana Jeslin J, Ms.Jayabharathi R, Ms.Jemi Gold P, filed and published a patent on "Palk Strait Boundary Scanning and Boat Surveillance System," 202241077704, 31.12.2022.
- 2. Dr. Inba Malar T M, Dr.Chettiyar Vani Vivekanand, Dr.Gangatharan N, Chaithanya Chowdhary Enugu, Ajeeth K, Gowtham C, Dhanush V, filed and published a patent on "Energy Efficient and Intelligent BAN for Patient Monitoring," 202241069249, 14.10.22.
- Dr.Gangatharan N, Dr. Praveena N.G., Ms.Samuda Prathima, Mr.K.Sivachandar, Ms.C.Nithiya, Ms.B.J.Komathi, filed and published a patent on "Blind Spot Detection and Accident Prevention System," 202241067860, 25.11.22.
- 4. Dr. Selvakumaran K.A., Mr. Leo Amalraj J, Dr. Hema P., filed and published a patent on "Implementation of Neural Network Methods in Solving Advanced Mathematics Equations," 202241076963, 29.12.2022.
- 5. Mr.Anish T.P filed and published a patent on "Artificial Intelligence Based Smart Road Cleaning Robot," 202241057430, 07.10.2022.
- 6. Ms.Kalyani N, Ms.Manjula G, Ms.Sandhiya R, Ms.Sangeetha A, Ms.Saranya R, filed and published a patent on "Drone for Fire Extinguisher," 369303-001, 17.08.2022.
- Ms. Snehal Sarangi, Ms. Yasmin S Khan, Ms. Malathi J, Mr.AbdusSubhahan D, Dr. Kalaiselvi R, Dr. Jogendra Kumar M, Dr. Rene Robin C. R., filed and published a patent on "A Blockchain-Based System for Digital Certificates Authentications and Method Thereof," 202221056876, 04.10.2022.
- 8. Ms. Sreelekha P filed and published a patent on "IOT based Automatic Vehicle Accident Detection nd Rescue System," 202341001933, 10.01.2023.
- 9. Dr. Catherine T J, filed and published a patent on "AI & ML based System for Prediction of Wind Power for Multi-Turbines," 202221050126, 02.09.2022.
- Dr.RekhaS,Ms.Jothilakshmi S, Ms.AbsaraFDO D, filed and published a patent on "Cetrimide Stabilizer for Eco-friendly Electroless Copper Plating Baths,", 202241051454, 08.09.2022.
- 11. Dr.Devan P.K, filed and published a patent on "A Hybrid Solar-Wind Street Light," 202241072391, 14.12.2022.
- 12. Dr.Bindu K V., filed and published a patent on "Real Time Agricultural Field Monitoring System using IoT" 202241027406, 17.06.2022.
- 13. Dr.Umasankar L., filed and published a patent on "A Foldable Low Weight Compact Electric Vehicle" 352889-001,19.12.2022.

PROGRAMMES ORGANIZED

 Department of CSE conducted a Programme on "Augmented Reality / Virtual Reality" from 02.01.2023 to 07.01.2023. Dr.S.Swamynathan, Professor, Department of IST, Anna University, Chennai, Dr.K.Selvakumar, Associate Professor, Department of Computer Applications, NIT Trichy, Dr.V.Shanmuganeethi, Associate Professor, Department of CSE, NITTTR, Chennai and Mr. D.Robin Reni, Senior Machine Learning Engineer, TMC, Ernakulam were the Resource Persons.



2. Department of CSE organized a Workshop on "Software Development Practice" on 29.12.2022 and 30.12.2022. The sessions were headed by Ms.Sujatha Gopinath, Full Stack Developer, Aspire Systems Ltd.

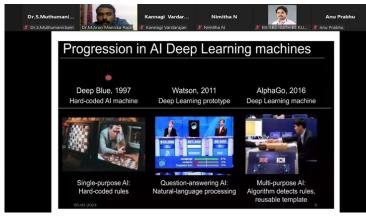


3. Department of CSE organized a Guest Lecture on "Big Data Analytics" on 28.01.2023. Dr.A.Suruliandi, Professor and Head, Department of Computer Science and Engineering, Manonmaniam Sundaranar University, Tirunelveli was the Guest.



PROGRAMMES ORGANIZED

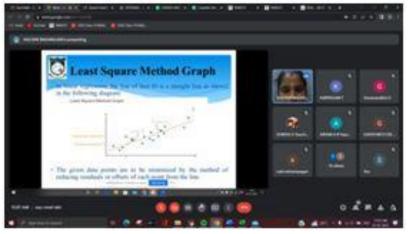
4. Department of ECE organized a Seminar on "Artificial Intelligence & IoT" from 02.01.2023 to 06.01.2023. Dr.Bhawana Rudra., NIT Surathkal, Dr. V. Sowmya, Amrita Vidhyapeetham, Coimbatore, Dr.Selvakumar K, NIT Tiruchirappalli, Dr. M.Arun Manicka Raja, R.M.K. College of Engineering and Technology, Chennai and Mr.Sabarinath Premlal, Respro labs, Chennai were the Guests of Honour.



 Department of ECE organized an International Conference on "Innovations in Electronics and Communication Systems - ICIECS 2022" from 24.11.2022 to 26.11.2022. Dr. K. Mourougayane, Scientist F, Head DSP Division, SAMEER-Centre for Electromagnetics, Govt. of India was the Chief Guest.



6. Department of Artificial Intelligence & Data Science organized a Conference on "Fundamentals of Data Science and Analytics" from 03.01.2023 to 07.01.2023. V.TarunSudhams, Associate Data Engineer, Balyasny Asset Management, Hong kong and Dr. S.Chitrakala, Professor, Department of CSE, Anna University were the invited Speakers.



- 1. Assegie T.A., Karpagam T., Subramanian S., Janakiraman S.M., Arumugam J., Ahmed D.O. published a paper on "Prediction of Patient Survival from Heart Failure Using A Cox-Based Model," in *Indonesian Journal of Electrical Engineering and Computer Science* 27, 3, 2022, 10.11591/ijeecs.v27.i3.pp1550-1556.
- 2. Prathusha Laxmi B., Rajitha Jasmine R., Vignesh S., Rohith K., Bharath V., published a paper on "Automated Solution for Water logging Problem" in the *International Journal of Health Sciences*, 6, 2022, 10.53730/ijhs.v6nS4.9057.
- 3. Vinayaki V.D., Kalaiselvi R., published a paper on "Deep Retinal Image Analysis and Classification Using Deer Hunting Optimization-Based Tandem Pulse Coupled Neural Network," in *Journal of the Institution of Engineers (India): Series B*, 2022 10.1007/s40031-02200785-9.
- 4. Anish T.P., Prathap P.M.J., published a paper on "Automated Vehicle Number Recognition Scheme Using Neural Networks" in *Communications in Computer and Information Science* 1613 CCIS, 2022, 10.1007/978-3-031-12638-3_23.
- 5. Renukadevi P., Dakchinamoorthy A., Anish T.P., Shyam R.S., Chidambarathanu K., published a paper on "Facial Recognition based Attendance" in the 5th International Conference on Inventive Computation Technologies, ICICT 2022 Proceedings, 2022, 10.1109/ICICT54344.2022.9850734.
- Kumar S.P., Renukadevi P., Suguna M.R., Jeyakumar D. published a paper on "The Performance Analysis of a Location based Weather Identification Device" in the 7th International Conference on Communication and Electronics Systems, ICCES 2022 – Proceedings, 2022, 10.1109/ICCES54183.2022.9835863.
- 7. James K.I.A., Prabakaran R., Karthikeyan A., Prianka R.R., published a paper on "Co-operative Beam Forming Selection with Energy Balanced Operation for Wireless Sensor Network," in *Wireless Networks*, 2022, 10.1007/s11276-022-03067-w.
- 8. Aishwarya N., Praveena N.G., Karthikeyan C., Priyanka S., published a paper on "IoT Enabled Detection and Notification System for Potholes and Road Cracks" in *Lecture Notes in Electrical Engineering*, 905, 2022, 10.1007/978-981-19-2177-3_74.
- 9. Babu M., Kumar G.A.S., Sivachandar K., Kannan K., Gurumurthy J., Sudharsanam V., Sathyaraj P., published a paper on "FPGA Implementation of a Modified SMS4-BSK Cipher with Novel Efficient XOR Gate Design" in the 7th International Conference on Communication and Electronics Systems, ICCES 2022 Proceedings, 2022, 10.1109/ICCES54183.2022.9835760.
- 10. Vijay Anandh R., Rukmani Devi S., published a paper on "Visual Enhancement of Underwater Images Using Transmission Estimation and Multi-Scale Fusion" in *Computer Systems Science and Engineering*, 44, 3, 2023, 10.32604/csse.2023.027187.
- 11. Geethamahalakshmi G., Nageswari D., Bindu K.V., Anand R.S., Ananthakrishnan S., Kishorekumar J., published a paper on "Improved Perturb and Observe Maximum Power Point Tracking Technique for Solar Photovoltaic Power Generation Systems," in the *International Journal of Health Sciences* 6,2022, 10.53730/ijhs.v6nS4.9207.
- 12. Sankaramoorthy T., Karthikeyan R., Pradeep G.M., Athikesavan D., Girimurugan R.J, published a paper on "Improved Performance of Confinement of RC Beam with Glass Fibre Reinforced Polymer Laminates," in *Materials Today: Proceedings*, 56, 2022, 10.1016/j.matpr.2021.09.280.
- Loganathan T.G., Kalidas V.K., Bari K., Chadalavala H., Venkatachalam G., published a
 paper on "Structural Integrity Evaluation of Cyclic Loading Glass Fibre Reinforced
 Polymer Composite by Acoustic Emission and Heat Transfer," in *Journal of Composite*Materials, 2022, 10.1177/00219983221121891.
- 14. Vasukidevi G., Anita C.S., Rani P.S., Vimal Kumar M.N., Jaithunbi A.K., published a paper on "COVID Tweet Analysis using NLP," in the *International Journal of Health Sciences* 6, 2022, 10.53730/ijhs.v6nS3.8314.

- 15. Devi G., Magesh T., Lakshmanan T., Surekha R., published a paper on "Performance of Solar Panels Covered with Colour Glass Sheets when Subjected to Different Irradiance Values of Electromagnetic Spectrum," in *Optical Materials*, 133, 2022, 10.1016/j.optmat.2022.112906.
- Balachandar G., Kaabar M.K.A., Kenneth C.R., Yenoke K., published a paper on "A New Theoretical Investigation of the Generalized Formulations of Spirallike Functions" in Mathematical Problems in Engineering, 2022, 10.1155/2022/5361581.
- 17. Indra, G., Duraipandian, N., published a paper on "An Improved Flood Forecasting System with Cluster-based Visualization and Analyzing using GK-ANFIS and CGDNN," in *Expert Systems with Applications*, 212, 2023, 10.1016/j.eswa.2022.118747.
- 18. Basha, S.H., Jaison, B., published a paper on "A novel secured Euclidean space points algorithm for blind spatial image watermarking," in *Eurasip Journal on Image and Video Processing*, 2022, 1, 2022, 10.1186/s13640-022-00590-w.
- 19. Yogeswari, B., Khan, I., Kumar, M.S., Vijayanandam, N., Devarani, P.A., Anandaram, H., Chaturvedi, A., Misganaw, W., published a paper on "Role of Carbon-Based Nanomaterials in Enhancing the Performance of Energy Storage Devices: Design Small and Store Big," in *Journal of Nanomaterials*, 2022, 10.1155/2022/4949916.
- 20. Chidambaranathan, B., Kumar, S.S., Gopinath, S., Madhu, S., Sheeja, R., published a paper on "Computational Fluid Dynamic Analysis of Exhaust Gas Calorimeter," in *Green Energy and Technology*, 2023, 10.1007/978-981-16-8274-2_24.
- 21. Aravindhan, N., Bibin, C., Murali, S., Marimuthu, M., Vardhan, S.H., Varma, S., published a paper on "Analysis of Different Geometrical Impacts on Wind Turbine Blades," *Green Energy and Technology*, 2023, 10.1007/978-981-16-8274-2_4
- 22. Aravindhan, N., Devan, P.K., Santhosh, K., Kumar, V.S., Yogesh S., published a paper on "Hybrid Renewable Power Production on Unfavorable Conditions—A Review," in *Green Energy and Technology*, 2023, 10.1007/978-981-16-8274-2_6.
- Madhu, S., Balasubramanian, M., BenalineSheeba, V., published a paper on "Analysis of Internal Flow and Velocity Characteristics of Threaded Convergent Nozzle Using CFD for Abrasive Jet Application," in *Green Energy and Technology*, 2023, 10.1007/978-981-16-8274-2_25.
- 24. Ramakrishnan, T., Kumar, S.S., Chelladurai, S.J.S., Gnanasekaran, S., Sivananthan, S., Geetha, N.K., Arthanari, R., Assefa, G.B., published a paper on "Recent Developments in Stimuli Responsive Smart Materials and Applications: An Overview," in *Journal of Nanomaterials*, 2022, 10.1155/2022/4031059.
- Kalidas, V.K., T G, L., Abu Hassan, S.B., Chadalavala, H., published a paper on "A Comparative Study on Drill Tool Effect on Vibration and Delamination Characteristics of FRPs," in *Journal of Natural Fibers*. 2022, 10.1080/15440478.2022.2113848.
- Loganathan, T., Vinoth Kumar, K., Ayyappa, K., Mahendran, G., Venkatachalam, G., published a paper on "Mechanical and Vibrational Property Evaluation of Banana Fiber Epoxy Sandwich Composite with Steel Wire Mesh Core," in *Journal of Natural Fibers*, 19, 11, 2022, 10.1080/15440478.2020.1848744.
- 27. Madhu, S., Devarajan, Y., Balasubramanian, M., Prithivi Raj, M., published a paper on "Synthesis and Characterization of Nano Chitosan Obtained using Different Seafood Waste," in *Materials Letters*, 2022, 10.1016/j.matlet.2022.133195
- 28. Pradeep, G.M., Sankaramoorthy, T., Elango, M., Kumar, T.N., Girimurugan, R., published a paper on "Structural Analysis and Mechanical Properties of Thermal Battery by Flexible Phase Change Materials [P.C.M.]," in *Materials Today: Proceedings*, 56, 2022, 10.1016/j.matpr.2021.09.282.

- 29. Jayabalakrishnan, D., Balasubramanian, M., Jayaseelan, V., Muthuramalingam, T., published a paper on "Investigation of AA6061-T6's Mechanical and Microstructural Properties by Modification on the Tool Path in Friction Stir Welding," in *Journal of Process Mechanical Engineering*, 2022, 10.1177/09544089221124290.
- 30. Devi, G., Magesh, T., Lakshmanan, T., Surekha, R., published a paper on "Performance of a PV Module with Poly Methyl Methacrylate Filter," in *Materials Today: Proceedings*, 2022, 10.1016/j.matpr.2022.09.159.
- 31. Devi, G., Priya, R., Tapas Bapu, B.R., Thandaiah Prabu, R., Sathish Kumar, P.J., Anusha, N., published a paper on "Role of Carbonaceous Fillers in Electromagnetic Interference Shielding Behavior of Polymeric Composites: A Review," in *Polymer Composites*, 2022, 10.1002/pc.27009.
- 32. Visuwasam, L.M.M., Kalpana, G., Dhinakaran, K., Kumar, N.K., Manigandan, V., published a paper on "Implementation of Unusual Human Activity Detection in Warehouse Using SSD," in *Cognitive Science and Technology*, 2022, 10.1007/978-981-19-2350-0_80
- 33. Visuwasam, L.M.M., Dhinakaran, K., Kalpana, G., Balakrishna, A., Kowsalyaa, V., NikithaKeerthana, S.R., published a paper on "SMART—Stockpile Management with Analytical Regulation Technology," in *Cognitive Science and Technology*, 2022, 10.1007/978-981-19-2350-0 79.
- 34. Sujatha Therese, P., Eugine Prince, M., JosephinShermila, P., Anna Devi, E., published a paper on "Design of Self Tuning Fuzzy PI Controller for MIMO Process Using an Analytical Approach for Selecting the Scaling Factors," in *Proceedings of the 2022 3rd International Conference on Intelligent Computing, Instrumentation and Control Technologies: Computational Intelligence for Smart Systems*, ICICICT 2022, 10.1109/ICICICT54557.2022.9917626.
- 35. Vinayaki, V.D., Kalaiselvi, R., published a paper on "An Improved Ensemble Extreme Learning Machine Classifier for Detecting Diabetic Retinopathy in Fundus Images IFIP," in *Advances in Information and Communication Technology*, 654, IFIP, 2022, 10.1007/978-3-031-16364-7 26.
- 36. Praveen, D.S., Raj, D.P., published a paper on "Smart Traffic Management System in Metropolitan Cities," in *Journal of Ambient Intelligence and Humanized Computing*, 12, 7, 2021, 10.1007/s12652-020-02453-6.
- 37. Hariharan, B., Karthic, S., Indra Priyadharshini, S., Nalina, E., Wilfred Blessing, N.R., Senthil Prakash, P.N., published a paper on "Hybrid Deep Convolutional Generative Adversarial Networks (DCGANS) and Style Generative Adversarial Network (STYLEGANS) Algorithms to Improve Image Quality," in the 3rd International Conference on Electronics and Sustainable Communication Systems, ICESC 2022, 10.1109/ICESC54411.2022.9885611.
- 38. Hariharan, B., Prakash, P.N.S., Anupama, C.G., Siva, R., Kaliraj, S., Wilfred Blessing, N.R., published a paper on "Dimensionality Reduction Based Medical Data Classification Using Hybrid Linear Discriminant Analysis," in the 3rd International Conference on Electronics and Sustainable Communication Systems, ICESC 2022, 10.1109/ICESC54411.2022.9885728.
- 39. Amanullah, M., Visumathi, J., Sammeta, N., Ashok, M., published a paper on "Convolutional Neural Network-based MRI Brain Tumor Classification System," in *AIP Conference Proceedings*, 2519, 2022, 10.1063/5.0109770.
- 40. Amudha, G., Priya, P.P., Dinesh, V., Akash, A., Akash, A., published a paper on "Node MCU Based DoS Attack Evaluation in IoT Device," in *Conference Proceedings*, 2519, 2022, 10.1063/5.0110613
- 41. Anish, T.P., Joe Prathap, P.M., published a paper on "An Efficient and Low Complex Model for Optimal RBM Features with Weighted Score-Based Ensemble Multi-Disease Prediction," in *Computer Methods in Biomechanics and Biomedical Engineering*, 2022, 10.1080/10255842.2022.2129969.

- 42. Sivaraj, A., Palanisamy, V., published a paper on "Deep Neural Network based Interactive Fuzzy Bayesian Search Algorithm for Low-Cost Smart Farming Automation Model," in *Concurrency and Computation: Practice and Experience*, 34, 27, 2022, 10.1002/cpe.7296.
- 43. Dhanalakshmi, P., Venkatesh, V., Ranjit, P.S., Hemalatha, N., Divyapriya, S., Sandhiya, R., Kushwaha, S., Marathe, A., Huluka, M.A., published a paper on "Application of Machine Learning in Multi-Directional Model to Follow Solar Energy using Photo Sensor Matrix," in *International Journal of Photoenergy*, 2022. 10.1155/2022/5756610.
- 44. Raja Suguna M,,KalaivaniA,Anusuya S, published a paper on "The Detection of Video Shot Transitions based on Primary Segments using the Adaptive Threshold of Colour-based Histogram Differences and Candidate Segments using the SURF Feature Descriptor," in *Symmetry*, 14, 10, 2022, 10.3390/sym14102041.
- 45. Anthay, S.R., Nagarjuna, V., Mahesh, T.V., Aravind Royal, T., Varma, S.V., published a paper on "Detection of Stress in Humans Wearing Face Masks using Machine Learning and Image Processing," in the 3rd International Conference on Electronics and Sustainable Communication Systems, ICESC 2022 Proceedings 2022, 10.1109/ICESC54411.2022.9885552.
- 46. Shanthi, K.G., Sandhiya, G., Abinaya, K., Sangeetha, A., Aruna, T., Aswini, R., published a paper on "Performance Analysis of Vedic Multiplier and Modified Vedic Multiplier in Direct Digital Synthesizer," in the 3rd International Conference on Electronics and Sustainable Communication Systems, ICESC 2022 Proceedings 2022, 10.1109/ICESC54411.2022.9885340.
- 47. Nithiya, C., Praveena, N.G., Prathima, S., Komathi, B.J., published a paper on "Design of Low Power Adaptive Path Changing Glitch Free Radix-4, Radix-8 Multipliers," in the 3rd International Conference on Electronics and Sustainable Communication Systems, ICESC 2022 Proceedings, 2022, 10.1109/ICESC54411.2022.9885276.
- 48. Ambigapathy, S., Sekar, J.G., Priyanga, R., Shamundeswari, S., published a paper on "Design of 38 GHz Millimeter-Wave Microstrip Patch Antenna," in *AIP Conference Proceedings*, 2519, 2022, 10.1063/5.0109984.
- 49. Sekar, J.G., Arun, C., Rushitha, S., Bhuvaneswari, B., Sowmya, C.S., Prasuna, N.S., published a paper on "An Improved Two-Dimensional Image Encryption Algorithm using Huffman Coding and Hash Function along with Chaotic Key Generation," in *AIP Conference Proceedings*, 2519, 2022, 10.1063/5.0114663.
- 50. Sangeethalakshmi, K., Shanthi, K.G., Mohan Raj, A., Muthuselvan, S., Mohammad Taha, P., Mohammed Shoaib, S., published a paper on "Hand Gesture Vocalizer for Deaf and Dumb People," in *Materials Today: Proceedings*, 2021, 10.1016/j.matpr.2021.07.324.
- 51. Shanthi, K.G., Sesha Vidhya, S., Vishakha, K., Subiksha, S., Srija, K.K., SrineeMamtha, R., published a paper on "Algorithms for Face Recognition Drones," in *Materials Today: Proceedings*, 2021, 10.1016/j.matpr.2021.06.186.
- 52. Sivalakshmi, P., Shanthi, K.G., Sangeethalakshmi, K., SeshaVidhya, S., Sandhiya, G., published a paper on "Smart Auction System Flow Model for Agro-Based Sector Farmers Using Blockchain Technology," in *Materials Today: Proceedings*, 2021, 10.1016/j.matpr.2021.05.634
- Praveena, N.G., Selvaraj, K., Judson, D., Anandaraj, M., published a paper on "Low Complexity Ordered Successive Interference Cancelation Detection Algorithm for Uplink MIMO SC-FDMA System," in *ETRI Journal*, 2022, 10.4218/etrij.2022-0100.
- 54. Vijithra, A.J., Milton, A., published a paper on "Pattern Diversity Enabled Bandwidth Reconfigurable MIMO Antenna," in *International Journal of Electronics*, 2022, 10.1080/00207217.2022.2118859.

- 55. Sangeethalakshmi, K., Rukmani Devi, S., Gangatharan, N., published a paper on "Kapur's Entropy based Honey Badger Optimization for Design of Miniaturized Frequency Selective Surface for 5G Electromagnetic Shielding," in *Journal of Computational Electronics* 21, 6, 2022, 10.1007/s10825-022-01928-3.
- 56. Kumar, A., Janakirani, M., Anand, M., Sharma, S., Vivekanand, C.V., Chakravarti, A., published a paper on "Comparative Performance Study of Difference Differential Amplifier Using 7 nm and 14 nm FinFET Technologies and Carbon Nanotube FET," in *Journal of Nanomaterials*, 2022, 10.1155/2022/8200856.
- 57. Kannan, K., Sivaranjani, P., Kumar, S.S., Nalini, M., Balaji, V.R., Sanjeevi, P., published a paper on "Retraction Note: SPAHN Novel Approach for PL-AG Gateway Discovery for Internet Connectivity," in (Peer-to-Peer Networking and Applications, (2020), 14, (2275–2284), 10.1007/s12083-020-00931-4), Peer-to-Peer Networking and Applications, 2022, 10.1007/s12083-022-01409-1.
- 58. Kannan, K., Sivaranjani, P., Sathish Kumar, S., Nalini, M., Balaji, V.R., Sanjeevi, P., published a paper on "SPAHN, Novel Approach for PL-AG Gateway Discovery for Internet Connectivity," in *Peer-to-Peer Networking and Applications*, 14, 4, 2021, 10.1007/s12083-020-00931-4.
- 59. Hariharan, N., Sukhi, Y., Kalaiarasi, N., published a paper on "IC Pattern Based Power Factor Maximization Model for Improved Power Stabilization," in *Intelligent Automation and Soft Computing*, 36, 1,2023, 10.32604/iasc.2023.030768.
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