



# KONGU ENGINEERING COLLEGE

## CAMPUS R&D NEWS



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### PH.D VIVA-VOCE COMPLETED

1. Ms.S.Gomathy, Research Scholar, Department of Electrical and Electronics Engineering defended his thesis entitled "Design and analysis of single input dual output converter with MPPT algorithm for standalone photovoltaic applications" on 20.11.2023 under the guidance of Dr.N.Senthilnathan / EEE.
2. Mr.R.Dhanasekar, Research Scholar, Department of Mechanical Engineering defended his thesis entitled "An investigation on thermomechanical properties of heat-affected zones of nickel-free high nitrogen austenitic stainless steel" on 16.11.2023 under the guidance of Dr.V.Balusamy / Mechanical.
3. Ms.K.Poomani, Research Scholar, Department of Mechatronics Engineering defended his thesis entitled "Design of intelligent controller to regulate propofol to control hypnosis during surgery" on 09.11.2023 under the guidance of Dr.S.Sathiyavathi / Mechatronics.

### R&D PROJECTS SACTIONED (2023-2024)

1. Dr.S.Anandakumar/Civil, received research grant of Rs.3,00,000/- for the project entitled "Development of track maintenance model for metro rail system" under TNSCST-RFRS scheme on 27.04.2023, File No. TNSCST/RFRS/E&T/VR/05/2020-21.
2. Dr.N.Muralidharan/MTS, Dr.S.K.Thangarasu/MTS, Dr.A.Shanmugam/MTS received research grant of Rs.18,19,000/- for the project entitled "Machinability and surface integrity investigation in CNC-wire cut electrical discharge turning (WEDT)" under CSIR-R&D scheme on 14.07.2023, File No. 22/0871/23/EMR-II.
3. Dr.M.Mohanasundari/MBA, Dr.P.Vidhya Priya/MBA, Dr.P.Sudharesalingam/MBA, Ms.M.Dharshne/MBA received research grant of Rs.8,06,250/- for the project entitled "Entrepreneurial Ecosystem-The Effectiveness of Stand-up India in promoting women and SC/ST owned Business in Tamil Nadu" under ICSSR-Collaborative Research Grant Scheme on 29.09.2023, F.No.226/CRP-2023-2122/SUI/SCD.

4. Dr.S.Padmavathy/MBA, Dr.S.Maheswari/EEE, Dr.M.Sivachitra/EEE, Mr.S.K.Logesh /EEE received research grant of Rs 6,45,000/- for the project entitled "An Empirical Study on Jan Aushadhi Yojanas Reach and Socio Economic Impact in selected areas of Tamilnadu" under ICSSR – Collaborative Research Grant Scheme on 03.10.2023, F.No.188/CRP-2023-2120/AB/SCD.

### REFERRED JOURNAL PUBLICATIONS

1. Chinnasamy, M., Rajasekar, R., Samanta, B., Pal, S.K., Palaniappan, S.K., Muthuswamy, P., and Roy, S., (2023). Implications of cryogenic treatment on microstructure, phase formation, mechanical and tribological properties of tungsten carbide cutting bits with varying cobalt content for mining applications. *International Journal of Refractory Metals and Hard Materials*, Vol.117, p.106421.
2. Chinnasamy, M., Rajasekar, R., Samanta, B., Pal, S.K., Palaniappan, S.K., Korrayi, R.R., and Roy, S., (2023). Microstructure evolution, phase formation, mechanical and tribological response of deep cryogenically treated hard WC-6% Co cutting bits. *Journal of Materials Research and Technology*, Vol.27, pp.1293-1306.
3. Madheswaran, D.K., Thangamuthu, M., Gnanasekaran, S., Gopi, S., Tamilvanan, A., and Pardeshi, S.S., (2023). Powering the Future: Progress and Hurdles in Developing Proton Exchange Membrane Fuel Cell Components to Achieve Department of Energy Goals - A Systematic Review. *Sustainability*, Vol.15(22), p.15923.
4. Jegan, M.M., Sathishkumar, T.P., Manoj Kumar, S., Satheesh Kumar, S., (2023). Study on the fracture behaviour of jute/glass fortified hybrid epoxy composites through compact tension test. *Journal of Environmental Protection and Ecology*, Vol.24(7), pp.2416-2427.
5. Shankar, S., Nithyaprakash, R., Maheswari, C., Harish, M., Kishore, M., and Moneesh, V., (2023). Design and Development of Automatic Tennis Ball Collector. *In International Conference on Advances in Mechanical Engineering and Material Science*, pp.235-247.
6. Nithyaprakash, R., Shankar, S., Kumar, R.N., Kumar, S.P., Seenivasa, R., and Prasath, S.N., (2023). Semi-Automatic Child Rescuing BOT in Deep Borewell. *In E3S Web of Conferences*, Vol.453, p.01056.

7. Nithyaprakash, R., Shankar, S., Kumar, R.N., Abinesh, P., Abishek, R., and Senthur, B.H., (2023). Design and Fabrication of Automatic UPS Battery Maintenance System. *In E3S Web of Conferences*, Vol.453, p.01057.
8. Shankar, S., Abbas, G., Nithyaprakash, R., Naveenkumar, R., Mohanty, S.R., Sabarinathan, A., and Karthick, S., (2023). Study on the Impact of Firecrackers on Atmospheric Pollutants during Diwali Festival in Tamil Nadu, India. *In E3S Web of Conferences*, Vol.453, p.01004.
9. Shankar, S., Maheswari, C., Abbas, G., Nithyaprakash, R., Jeganes, V.S., Adhithya, S.H., and Gupta, M., (2023). Design And Development of Teakwood Bud Pruning Machine using Sustainable Engineering Approach. *In E3S Web of Conferences*, Vol.453, p.01002.
10. Basak, A., Pramanik, A., Prakash, C., and Shankar, S., (2023). Thermomechanical processing of Ti-alloy for high-end applications. *Modern Manufacturing Processes for Aircraft Materials 1st Edition*, Elsevier Book Chapter - 6.
11. Priyanka, E.B., Vivek, S., Thangavel, S., Sampathkumar, V., Al-Zaqri, N., and Warad, I., (2024). Forecasting and meta-features estimation of wastewater and climate change impacts in coastal region using manifold learning. *Environmental Research*, Vol.240, p.117355.
12. Tamilarasi, T., Ragunathan, T., Ram, N.V., Santhosh, M., Karthikeyan, K. and Prasath, S.S., (2023). Design and fabrication of automatic fertilizer dispenser by NPK ratio. *AIP Conference Proceedings*, Vol.2788(1).
13. Tamilarasi, T., Ganesan, P.V., Kuttiappan, R., Narasimman, J., Nagarajan, K., Ramachandran, K. and Ravichandran, A.K., (2023). Design and fabrication of smart table for physically challenged persons. *AIP Conference Proceedings*, Vol.2788(1).
14. Pratheep, V.G., Tamilarasi, T., Ravichandran, K., Srinivasan, M., Someswaran, N., Vimal, S., and Praveen, S., (2023). Design and fabrication of IOT based scissor jack. *AIP Conference Proceedings*, Vol.2788(1).
15. Ingle, R.B., Swathi, S., Mahendran, G., Senthil, T.S., Muralidharan, N., and Boopathi, S., (2023). Sustainability and Optimization of Green and Lean Manufacturing Processes using Machine Learning Techniques. *In Circular Economy Implementation for Sustainability in the Built Environment*, pp.261-285.
16. Usha, S., Jeevitha, G., Logesh, M., Karthik, M., Kaviyaa, M., and Prasanth, S.S., (2023). IoT based Integrated Health Care Monitoring System. *4<sup>th</sup> International Conference on Smart Electronics and Communication (ICOSEC)*, pp.353-358.
17. Andrews, L.J.B., Alagappan, A., Kumar, V.S., Raj, R.A., Sarathkumar, D., (2023). IoT Adoption for Botswana in the Sub-Saharan Region of Africa. *Intelligent Control, Robotics, and Industrial Automation. RCAAI 2022. Lecture Notes in Electrical Engineering*, Vol 1066. Springer, Singapore.
18. Sultanuddin, S.J., Sudhee, Devulapalli., Prakash Satve., Priyanka, Sumithra, M., Sathyanarayana, K.B., Kumari, R., Krishna Narasimharao., Jonnadulag Reddy., Vijaya Kumar, and R., Rajkumar, R., (2023). Cognitive Computing and 3D Facial tracking method to explore the ethical implication associated with the detection of fraudulent system in online examination. *Journal of Intelligent & Fuzzy Systems*, Vol.45(5), pp.8449-8463.
19. Venkatesan, B., and Ragupathy, U.S., (2023). An Investigation on Multimodal Brain Image Fusion in the Time- Frequency Domain using Wavelet Transforms, Published Online, Nov-2023,
20. Selvakarhi, D., Sivabalaselvamani, D., Sedhumadhavan, V., Aashish, K.S., Kanishka, P., and Kavinessh, M., (2023). Fluid flow monitoring and Pipeline Fault Diagnosis in three tank Conical System using Capsule Neural Network. *14<sup>th</sup> International Conference on Computing Communication and Networking Technologies*, pp.1-6, IEEE.
21. Maurya, M., Puranik, V.G., Senthil Kumar, A., and Balambigai, S., (2023). Introduction to artificial intelligence. *In Toward artificial general intelligence*, pp.1-21. Dr Gruyter, 2023
22. Charanya, J., Renugadevi, A.S., and Vennila, A., (2023). Solutions for Complications in Pregnant Women. *In Predicting Pregnancy Complications Through Artificial Intelligence and Machine Learning*, pp.260-275.
23. Shabariram, C.P., Shanthi, N., and Ponnuswamy, P.P., (2023). Computational offloading in vehicular edge computing using multiple agent-based deterministic policy gradient algorithm and generative adversarial networks. *International Journal of Ad Hoc and Ubiquitous Computing*, Vol.44(4), pp.209-220.
24. Narayanasamy, K., Maragatharajan, M., and Deepa, D., (2023). CNN-based Deep Learning Approach for MRI-based Brain Tumor Detection. *4<sup>th</sup> International Conference on Smart Electronics and Communication (ICOSEC)*, pp.875-879, IEEE.
25. Mohana, R.S., Thangaraj, P., Krishnakumar, B., Praveen, M., Rohinith, T., and Sanjayan, S., (2023). ShopBot for visually impaired people using deep learning. *AIP Conference Proceedings*, Vol.2764, (1).

26. Thangaraj, P., Krishnakumar, B., Kousalya, K., Mohana, R.S., Kumar, D.S., Rithik, M., and Prasanth, S., (2023). Classification of rice leaf diseases using deep learning. *AIP Conference Proceedings*, Vol.2764, (1).
27. Vani Rajasekar., Sathya, K., and Dhanaraj, R.K., (2023). Fault diagnosis in digital twin manufacturing. *Digital Twin for Smart Manufacturing*, pp.203-220.
28. Dhanaraj, R.K., Bashir, A.K., Vani Rajasekar., Balusamy, B., and Malik, P. (2023). Digital Twin for Smart Manufacturing. *Elsevier*.
29. Nandhini, P.S., Bharani, s., Harish, M., and Gomanishwaran, S., (2023). Feature Selection using Firefly Algorithm for Classification of Attacks in Routing Protocol for Low Power Lossy Networks (LLNs) Based Internet of Things (IoT) Networks. *4<sup>th</sup> International Conference on Smart Electronics and Communication (ICOSEC)*, pp.359-364. IEEE.
30. Rekha, H., Kumaravel, T., Natesan, P., Brinda, B.M., Sangeetha, S., and Dharanesh, S., (2023). Comparative Study of Deep Learning Techniques for Automated Classification of Lung Diseases. *4<sup>th</sup> International Conference on Smart Electronics and Communication (ICOSEC)*, pp.1324-1328, IEEE.
31. Rekha, H., Kumaravel, T., Natesan, P., Sangeetha, S., Nathiya, N., and Uvetha, V., (2023). Enhancing Apple Leaf Diagnosis Through Deep Learning Techniques. *4<sup>th</sup> International Conference on Smart Electronics and Communication (ICOSEC)*, pp.1288-1292, IEEE.
32. Senthil Kumar, K., and Anandamurugan, S., (2023). An power and bound-aware optimised scheduler for virtualized cloud computing. *Journal of Intelligent & Fuzzy Systems*, pp.1-14.
33. Sathya, M., Ramya Sri, M., Vijaya Krishna Sonthi., Subashini, S., Sakthivel, B., (2023). Generic framework in convolutional neural networks for autism with psychological approach, Generic Framework In Convolutional Neural Networks for Autism with Psychological Approach Section A-Research Paper European Chemical Bulletin, Vol.12(10), pp.99-104.
34. Subashini, S., Sasi, S.P., Selvapriyanka, R., and Sowmiya, S., (2023). Detection of Covid-19 using Mask R-CNN. *International Conference on Sustainable Computing and Data Communication Systems (ICSCDS)*, pp.413-419, IEEE.
35. Subashini, S., Kamalam, G.K., and Vanitha, P., (2024). A Survey of IoT in Healthcare: Technologies, Applications, and Challenges. *Artificial Intelligence and Machine Learning*, pp.136-144.
36. Akshaya, V., Mandala, V., Anilkumar, C., VishnuRaja, P., and Aarthi, R., (2023). Security enhancement and attack detection using optimized hybrid deep learning and improved encryption algorithm over Internet of Things. *Measurement: Sensors*, Vol.30, p.100917.
37. Kamalam, G.K., Mithila, S.K., and Madhu Shriy, N.M., (2023). A Text-Based Approach for Diagnosing Depression using Social Media Texts. *International Conference on Circuit Power and Computing Technologies (ICCPCT)*, pp.181-185, IEEE.
38. Kamalam, G.K., and Rajasekar, V., (2023). Digital twin meets artificial intelligence: AI-augmented industrial automation systems using intelligent digital twins. *In Digital Twin for Smart Manufacturing*, pp.145-159.
39. Anitha, S., Anitha, N., Ashok, N., Daranya, T., Nandhini, B., and Chandrasekaran, V., (2023). Detection of Deepfakes in Financial Transactions using Algorand Blockchain Consensus Mechanism. *In International Conference on Network Security and Blockchain Technology*, pp.173-183.
40. Anitha, S., and Devi, E.R., (2024). Integration of Artificial Intelligence (AI) and Other Cutting-Edge Technologies. *In Artificial Intelligence and Machine Learning for Smart Community*, pp.26-50.
41. Anbukkarasi, S., and Varadhaganapathy, S., (2023). Deep Learning-based Hate Speech Detection in Code-mixed Tamil Text. *IETE Journal of Research*, Vol.69(11).
42. Sivaprakash, P., Senthil Kumar, S., Stanly Felix, C., Kayalvili, S., and Meesala Sudhir Kumar., (2023). Detection of Anomalies in Pedestrian Walking using Open Pose and Bidirectional LSTM. *4<sup>th</sup> International Conference on Smart Electronics and Communication (ICOSEC)*, 2023.
43. Kogilayani Shanmugavadivel., Sathishkumar, V.E., Jaehyuk Cho., and Malliga Subramanian., (2023). Advancements in computer-assisted diagnosis of Alzheimer's disease: A comprehensive survey of neuroimaging methods and AI techniques for early detection. *Ageing Research Reviews*, Vol.91, p.102072.
44. Revathy, G., Indirani, G., Senthilvadivu, K., and Sathya, D., (2023). Driver drowsiness detection using machine learning. *4<sup>th</sup> International Conference on Smart Electronics and Communication (ICOSEC)*, 2023.

45. Pradeepkumar, G., Rohith Bhat, C., Senthilvadivu, K., Latha Jothi, V., Sharanyanivasini, J.S., and Neelam Sanjeev Kumar., (2023). A Novel Hybrid Approach to Smart Door Locking System based on Real Time Data Transmission. *14<sup>th</sup> International Conference on Computing Communication and Networking Technologies (ICCCNT)*, 2023.
46. Vijaya, K., (2023). Predict the quality of fresh water using support vector machinES. *2<sup>nd</sup> International Conference on Applied Artificial Intelligence and Computing (ICAAIC)*, pp.370-377.
47. Meenalochini, M., and Amudha, P., (2023). Cauliflower Plant Disease Prediction using Deep Learning Techniques. International Conference on Worldwide Computing and Its Applications WWCA 1997. *Proceedings of World Conference on Artificial Intelligence: Advances and Applications*, pp.163-175.
48. Gomathi, N., Suganya, S., Meenalochini, M., Rathna, R., (2023). Carbonic oxide monitoring and control in veicle using Raspberry Pi-3. Vol.22(11), p.1222.
49. Sivabalaselvamani, D., Nanthini, K., Selvakarthi, D., Niranchan, V.M., Saravana Kumar, L., and Swetha, P., (2023). Skin melanoma detection using image augmentation. *4<sup>th</sup> International Conference on Smart Electronics and Communication (ICOSEC)*, IEEE.
50. Sharmila, M., Manjula, M., Muthu Yogesh, B., Keerthana, S., Vijayakumar, P., and Selvam, N., (2023). Efficient brain-computer interface for attention detection in health care industry. *International Conference on Self Sustainable Artificial Intelligence Systems (ICSSAS)*, IEEE.
51. Gowrishankar, V., Veen, P., Ponnurugan, P., Annapoorani, B.T., Vijayakumar, P., and Siva Ramkumar, M., (2023). Edge computing enabled smart warehouse management system for food processing industries. *14<sup>th</sup> International Conference on Computing Communication and Networking Technologies (ICCCNT)*, IEEE.
52. Nanthiya, D., Gopal, S.B., Balakumar, S., Harisankar, M., and Midhun, S.P., (2023). Gold Price Prediction using ARIMA model. *2<sup>nd</sup> International Conference on Vision Towards Emerging Trends in Communication and Networking Technologies (ViTECoN)*, pp.1-6.
53. Duraivelu, V., Deepa, S., Suguna, R., Arunkumar, M.S., Sathishkumar, P., Aswinraj, S., (2023). Artificial Intelligence Mechanism to Predict the Effect of Bone Mineral Density in Endocrine Diseases-A Review. In: Ranganathan, G., Papakostas, G.A., Rocha, Á. (eds) *Inventive Communication and Computational Technologies. ICICCT 2023. Lecture Notes in Networks and Systems*, Vol. 757. Springer.
54. Amutha Praba Jayaraj., Kuppuswamy Nallappa Gounder., and Jeetendra Rajagopal., (2023). Optimizing signal smoothing using HERS algorithm and time fractional diffusion equation. *Expert Systems with Applications*, Vol.238, p.122250.
55. Yogesh Dadhich., Reema jain., Karuppusamy Loganatha., Mohamed Abbas., Prabhu, K., and Mohammed S. Alqahtani., (2023). Sisko nanofluid flow through exponential stretching sheet with swimming of motile gyrotactic microorganisms: An application to nanoengineering. *Open Physics*, Vol.21(1), p.20230132.

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