



SAI RAM ENGINEERING COLLEGE

An Autonomous Institution | Affiliated to Anna University & Approved by AICTE, New Delhi
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DEPARTMENT OF MECHANICAL ENGINEERING



Name : **Dr.G.SHANMUGASUNDAR**

Designation : **Professor & Dean R&D**

Email : deanresearch@sairam.edu.in, shanmugasundar.mech@sairam.edu.in

Qualification : B.E., M.E, PhD

Specialization : Mechanical Engineering

Research Interest : Robotics, Mechatronics System Design, CAM & CNC optimization

Experience in years : **Teaching** UG PG **Industry**

No. of Workshop/Conferences/
FDP / Webinar attended : Workshop & Webinar Conferences FDP

No. of Workshop/Conferences/
FDP/ Webinar Organized : Workshop & Webinar Conferences FDP

Professional Membership	<ol style="list-style-type: none"> Life member ISTE- (LM- 57272) Fellow Member IEI – (F-1280645) Life Member in Robotic Society Of India Life Member in Association for Machines and Mechanisms Annual Member in IEEE Robotics and Automation Society (MNo: 93884135) Annual Member SAE – (Mno: 7200410082) Life Member Indian Welding Society (IWS) – (L01999) 	<input type="text" value="02"/>
Publications	National : 04	
	International: 70	
	Book : 04	
Research Funded Projects	06 – (DST –TEDP , DST – EAC , IIC mentor mentee program) as Co-Coordinator	
Consultancy	02	

Patents	24
Academic Achievements	Academic Project funded by Tamilnadu State Council Science and technology 02 Times. Appreciation reward for 100 % results
Recognitions & Honors	<ul style="list-style-type: none"> • IEI – KLC Secretary. • IEEE – Robotics and Automation Society student branch Counselor • Best Paper Presentation awards in conferences • Journal Editor & reviewer. • Acting as Resource person/Session Chair in FDPs. • Member –Results passing Board and valuation Board Chairman . • MOE’s IIC – Convener • Board of studies (BOS) member in ROBOARM Company .
Any Other Information	<ol style="list-style-type: none"> 1. Co- Coordinator Innovation and Entrepreneurship Development Centre (IEDC) Funded by DST , New Delhi . 2. Coordinator for MOE – IIC Mentor mentee Scheme 3. Nodal Officer - NIRF – Ranking Frame work. 4. Nodal Officer- ARIIA – ATAL Innovation Ranking. 5. Propagator for Entrepreneurship Club. 6. Over all Coordinator for NACC Criteria3. 7. Institute coordinator for IIRS Govt.of India– Online Courses.

List of Publications:

1. Shanmugasundar, G., & Srinivass, K. (2025). *Vehicle monitoring system and governance*. In *Design, Modelling and Fabrication of Advanced Robots* (Vol. 4, Issue 2). REST Publisher. <https://doi.org/10.46632/dmfar/4/2/2> .
2. Shanmugasundar, G., & Newton Solomon Raj, R. (2025). *Development of smart IoT based life jacket for workers*. In *Design, Modelling and Fabrication of Advanced Robots* (Vol. 4, Issue 2). REST Publisher. <https://doi.org/10.46632/dmfar/4/2/3>
3. Shanmugasundar, G., & Agileshwar, J. (2025). *Smart emergency shutdown system for hazardous gas leak prevention in industrial environments*. In *Design, Modelling and Fabrication of Advanced Robots* (Vol. 4, Issue 2). REST Publisher. <https://doi.org/10.46632/dmfar/4/2/4>
4. Shanmugasundar, G., & Abdul Rahman, M. (2025). *Ultrasonic sensor-based work holding devices for enhancing safety and accident prevention*. In *Design, Modelling and Fabrication of Advanced Robots* (Vol. 4, Issue 2). REST Publisher. <https://doi.org/10.46632/dmfar/4/2/5>
5. Shanmugasundar, G., & Shanmugapriya, M. (2025). *Development of machine monitoring system using IoT*. In *Design, Modelling and Fabrication of Advanced Robots* (Vol. 4, Issue 2). REST Publisher. <https://doi.org/10.46632/dmfar/4/2/6>

6. Shanmugasundar, G., & Maheshkumar. (2025). *Development of smart coal miners helmet*. In *Design, Modelling and Fabrication of Advanced Robots* (Vol. 4, Issue 2). REST Publisher. <https://doi.org/10.46632/dmfar/4/2/7>
7. Shanmugasundar, G., & Sivachandran, S. (2025). *Development of flammable fluid monitoring system using IoT*. In *Design, Modelling and Fabrication of Advanced Robots* (Vol. 4, Issue 2). REST Publisher. <https://doi.org/10.46632/dmfar/4/2/8>
8. Shanmugasundar, G., & Jameel Jahan, H. (2025). *Innovative chemical looping combustion using a dynamic hexagonal crossflow packed-bed reactor with CuO-enhanced red mud for carbon capture*. In *Design, Modelling and Fabrication of Advanced Robots* (Vol. 4, Issue 2). REST Publisher. <https://doi.org/10.46632/dmfar/4/2/9>
9. Shanmugasundar, G., & Vasu, E. (2025). *IoT integrated noise pollution monitoring system for industrial zones*. In *Design, Modelling and Fabrication of Advanced Robots* (Vol. 4, Issue 2). REST Publisher. <https://doi.org/10.46632/dmfar/4/2/10>
10. Das, S., Sapkota, G., **Shanmugasundar, G.**, Guha, S., Verma, A., Swarna, B., & Kratochvil, J. (2025). Optimization of lanthanum oxide (La₂O₃) and aluminium oxide (Al₂O₃) incorporated aluminium metal matrix composites developed using stir casting machine. *MM Science Journal*, 2025(November), 8751–8758. https://doi.org/10.17973/MMSJ.2025_11_2025124
11. **Shanmugasundar, G.**, Dutta, P., Chohan, J. S., Swarna, B., & Muniyandy, E. (2025). Enhancing drilling fluid filtration with novel swarm-intelligent adaptive XGBoosting-based analysis of nanoparticles. *Journal of the Institution of Engineers (India): Series C*, 106(5), 1601–1610. <https://doi.org/10.1007/s40032-025-01249-x>
12. Sapkota, G., **Shanmugasundar, G.**, Kratochvil, J., Samal, S., Tiwary, A. P., & Das, S. (2025). Optimizing drilling operation of hybrid aluminium composites using MEREC and entropy-based weighting strategies—An MCDM-based comparative study. *MM Science Journal*, 2025, 8489–8496. https://doi.org/10.17973/MMSJ.2025_06_2025064
13. Sai Krishnan, G., Vanitha, M., Čep, R., Omgba, A. D. B., **Shanmugasundar, G.**, Selvaraju, P., & Logesh, K. (2025). Enhancement of epoxy composites with benzoylated fibres of *Demostachya bipinnata* (Darbha): Impact on mechanical properties. *Manufacturing Technology*, 25(1), 57–66. <https://doi.org/10.21062/mft.2025.002>
14. **Shanmugasundar, G.**, Venkadeshwaran, K., Chohan, J. S., Vanitha, M., Cepova, L., & Samal, S. P. (2025). Effect of heat treatment over the electrochemical, mechanical and tribological properties of the Cr-DLC coating. *MM Science Journal*, 2025(September), 8527–8532. https://doi.org/10.17973/MMSJ.2025_09_2025087
15. Kalita, K., **Shanmugasundar, G.**, Chohan, J. S., & Chakraborty, S. (2025). Forming of ceramic composites: State-of-the-art and future perspectives. In *Intelligent machining: Using computational intelligence to optimize manufacturing processes* (pp. 193–266). Apple Academic Press. <https://doi.org/10.1201/9781774919590-13>
16. **Shanmugasundar, G.** (2025). Innovative machine learning techniques for pedestrian detection in autonomous vehicles. In *Studies in Computational Intelligence* (Vol. 806, pp. 231–247). Springer. https://doi.org/10.1007/978-3-031-78440-8_10
17. **Shanmugasundar, G.** (2025). Optimizing smart home energy analysis with Sailfish and random forest algorithms. In *Studies in Computational Intelligence* (Vol. 806, pp. 603–616). Springer. https://doi.org/10.1007/978-3-031-78440-8_27
18. Kalita, K., **Shanmugasundar, G.**, & Chohan, J. S. (2025). A comparative study of bird-based metaphor algorithms for feature selection problems. In *Studies in Computational Intelligence* (Vol. 806, pp. 185–205). Springer. https://doi.org/10.1007/978-3-031-78440-8_8
19. **Shanmugasundar, G.**, Ramesh, J. V. N., Suthagar, S., Karthik, K., & Ramesh, V. (2025). Machine learning-enhanced dynamic routing for Internet of Things energy efficiency. In *Studies in Computational Intelligence* (Vol. 806, pp. 249–266). Springer. https://doi.org/10.1007/978-3-031-78440-8_11

20. **Shanmugasundar, G.,** Ramesh, J. V. N., Murali, B., Karthik, K., & Ramesh, V. (2025). Adaptive multigrid long short-term memory algorithm for improved air quality forecasting. In *Studies in Computational Intelligence* (Vol. 806, pp. 267–282). Springer. https://doi.org/10.1007/978-3-031-78440-8_12
21. Shanmugasundar, G., Ramesh, J. V. N., Karthik, K., Muthukumarasamy, S., Ramesh, V., Rathee, S., & Kumar, A. (2024). Enhancing Accessibility and Interaction in Autonomous Vehicles. In *SmartElectric and Hybrid Vehicles* (pp. 233–250). Wiley. <https://doi.org/10.1002/9781394225040.ch10>.
22. Shanmugasundar, G., Ramesh, J.V.N., Suthagar, S., Karthik, K., Ramesh, V. (2025). Machine Learning-Enhanced Dynamic Routing for Internet of Things Energy Efficiency. In: Oliva, D., Valdivia, A., Mousavirad, S.J., Kalita, K. (eds) *Advances in Optimization Algorithms for Multidisciplinary Engineering Applications: From Classical Methods to AI-Enhanced Solutions*. *Studies in Computational Intelligence*, vol 806. Springer, Cham. https://doi.org/10.1007/978-3-031-78440-8_11.
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24. Rahman, K. F. U., Kalaivani, N., Shanmugasundar, G., Rajan, H. B. M., & Elangovan, M. (2024). Neutrosophic Semi β -F-Contra Continuity in a Neutrosophic Topological Space. In *Contemporary Mathematics* (pp. 1–8). Universal Wiser Publisher Pte. Ltd. <https://doi.org/10.37256/cm.5220243802>
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26. Ghadai, R. Kr., Shanmugasundar, G., Vanitha, M., Čep, R., Das, S., & Swain, B. P. (2024). Investigation of mechanical properties of silver-doped diamond-like carbon coating by varying deposition temperature. In *Frontiers in Mechanical Engineering* (Vol. 10). Frontiers Media SA. <https://doi.org/10.3389/fmech.2024.1354903>
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32. Shanmugasundar, G., Kalita, K., Čep, R., & Chohan, J. S. (2023). Decision Models for Selection of Industrial Robots—A Comprehensive Comparison of Multi-Criteria Decision Making. In *Processes* (Vol. 11, Issue 6, p. 1681). MDPI AG. <https://doi.org/10.3390/pr11061681>
33. G. Shanmugasundar, S. Shanmugapriya, M. Vanitha, M. Dharanidharan; Brain-computer interface of robot control with home automation for disabled. *AIP Conference Proceedings* 12 May 2023; 2747 (1): 040005. <https://doi.org/10.1063/5.0132527>.
34. G. Sai Krishnan, G. Shanmugasundar, M. Vanitha, S. Kumar; Investigation on mechanical properties of metallic fiber reinforced concrete. *AIP Conference Proceedings* 12 May 2023; 2747 (1): 020011. <https://doi.org/10.1063/5.0133150>.
35. Shanmugasundar, G., Bansod, A., Schindlerova, V., & Čep, R. (2023). Influence of Filler Material on the Microstructural and Mechanical Properties of 430 Ferritic Stainless Steel Weld Joints. In *Materials* (Vol. 16, Issue 4, p. 1590). MDPI AG. <https://doi.org/10.3390/ma16041590>.
36. Shanmugasundar, G., Mahanta, T. K., Čep, R., & Kalita, K. (2022). Novel Fuzzy Measurement Alternatives and Ranking according to the Compromise Solution-Based Green Machining Optimization. In *Processes* (Vol. 10, Issue 12, p. 2645). MDPI AG. <https://doi.org/10.3390/pr10122645>.
37. G. Shanmugasundar, S. Gurudarshan, N. Kirubakaran, & M.S. Sundar. (2022). Design and Development of Tank Cleaning and Inspection Robot. *Journal of Pharmaceutical Negative Results*, 1009–1012. <https://doi.org/10.47750/pnr.2022.13.S03.156>.
38. G. Shanmugasundar, G. Manoj Kumar, S.E. Gouthem, & V. Surya Prakash. (2022). Design and Development of Solar Powered Autonomous Seed Sowing Robot. *Journal of Pharmaceutical Negative Results*, 1013–1016. <https://doi.org/10.47750/pnr.2022.13.S03.157>.

39. Shanmugasundar G, Sapkota G, Čep R, Kalita K. Application of MEREC in Multi-Criteria Selection of Optimal Spray-Painting Robot. *Processes*. 2022; 10(6):1172. <https://doi.org/10.3390/pr10061172>.
40. Shanmugasundar G, Fegade V, Mahdal M, Kalita K. Optimization of Variable Stiffness Joint in Robot Manipulator Using a Novel NSWOA-MARCOS Approach. *Processes*. 2022; 10(6):1074. <https://doi.org/10.3390/pr10061074>.
41. Shanmusundar, G., Krishana, A. A., Anand, S. M., Kanna, P. K., & Yamini, A. (2022). Design and development of voice controlled robotic wheel chair for handicapped people. In RECENT TRENDS IN SCIENCE AND ENGINEERING. RECENT TRENDS IN SCIENCE AND ENGINEERING. AIP Publishing. <https://doi.org/10.1063/5.0074458>.
42. Shanmugasundar, G., Dharanidharan, M., Vishwa, D., Gokul, P., & Manojkumar, L. (2022). A study on design of universal gripper for different part handling: Methods, mechanisms, and materials. In RECENT TRENDS IN SCIENCE AND ENGINEERING. RECENT TRENDS IN SCIENCE AND ENGINEERING. AIP Publishing. <https://doi.org/10.1063/5.0074452>.
43. Shanmugasundar, G., Gowtham, M., Aswin, E., Surya, S., & Arujun, D. (2022). Design and fabrication of multi utility agricultural vehicle for village farmers. In RECENT TRENDS IN SCIENCE AND ENGINEERING. RECENT TRENDS IN SCIENCE AND ENGINEERING. AIP Publishing. <https://doi.org/10.1063/5.0074457>.
44. Shanmugasundar G, Vanitha M, Čep R, Kumar V, Kalita K, Ramachandran M. A Comparative Study of Linear, Random Forest and AdaBoost Regressions for Modeling Non-Traditional Machining. *Processes*. 2021; 9(11):2015. <https://doi.org/10.3390/pr9112015>.
45. Pradhan, R., Shanmugasundar, G., Vanitha, M., Krishnan, G. S., & Sivam, S. P. S. S. (2021). A critical investigation on the performance of bael biodiesel in CI engine. *AIP Conference Proceedings*, 2417, 060001. AIP Publishing LLC. <https://doi.org/10.1063/5.0072637>
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49. G Shanmugasundar , M Vanitha , L Ganesh Babu , P Suresh , P Mathiyalagan , G Sai Krishnan and Mebratu Makos, 2020 , —Fabrication and analysis of mechanical properties of PVC/Glass fiber/graphene nano composite pipesl , *Material Research Express* , <https://doi.org/10.1088/2053-1591/abc277>
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53. G. Saikrishnan, S. Aravindh, G. Shanmugasundar, M. Vanitha (2020) , Investigation of Al₂O₃/Oryza Sativa Oil Biodiesel on Performance and Tribological Characteristics , *Test Engineering and management* , Vol .83. PP – 942-946 .
54. G Shanmugasundar, M Dharanidharan, D Vishwa, A Jayaprakash and P Abimanyu , 2020, Development and Performance Analysis of Wireless Operated Prosthetic Robotic Hand, *MuktShabd Journal – (UGC Approved)* , Vol IX (IV) , PP- 2101-2106 . DOI:09.0014.MSJ.2020.V9I4.0086781.610.
55. G Shanmugasundar, M Dharanidharan, D Vishwa, A Jayaprakash and P Abimanyu , 2020, Design and Development of Prosthetic Hand Controlled by Wireless Gestures for Differently- Able People, *International Journal of Engineering and Advanced Technology (IJEAT)* , Vol 09 (4) , PP- 1132-1135. , <http://www.doi.org/10.35940/ijeat.D8074.049420>
56. G. Shanmugasundar, S.E. Gouthem, G. Manoj Kumar, V. Surya Prakash (2020) , Design and Development of Solar Powered Smart Irrigation System using Sensors for Agriculture Applications, *Parishodh Journal, (UGC Approved)*, Volume IX, Issue III, pp- 5942-5947. DOI:09.0014.PARISHODH.2020.V9I3.0086781.57613.
57. G. Shanmugasundar, G. Fenneth Moses, S. Jayachandran, V.D. Rathnavel Subramanian and R. Rajagopalan, 2020 —Design and Fabrication of Solar Powered Multi-Purpose Agricultural Vehicle with IOT Controll , *Journal of Advanced Research in Dynamical and*

Control Systems, Volume 12, Pages: 1928-1933.

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60. G. Shanmugasundar, P. Jagadeeshwar, S. Adithya, V. Nagappan, and M. Bhaskar, —Design, fabrication and analysis of personal vacuum assisted climber,|| in Journal of Physics: Conference Series, 2019, vol. 1362, no. 1, doi: 10.1088/1742-6596/1362/1/012057.
61. G. Shanmugasundar, R. Sivaramakrishnan, S. Meganathan, and S. Balasubramani, —Structural optimization of an five degrees of freedom (T-3R-T) robot manipulator using finite element analysis,|| in Materials Today: Proceedings, 2019, vol. 16, pp. 1325–1332, doi: 10.1016/j.matpr.2019.05.231.
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73. G. Shanmugasundar and R. Sivaramakrishnan, —Design and analysis of a newly developed seven degree of freedom robot for inspection, Int. J. Control Theory Appl., vol. 9, no. 24, pp. 393–402, 2016.
74. G. Shanmugasundar and R. Sivaramakrishnan, —Computer aided modelling and simulation of a generic robot for inspection, Int. J. Appl. Eng. Res., vol. 10, no. 24, pp. 44049–44056, 2015.
75. G. Shanmugasundar, R. Sivaramakrishnan, R. Sridhar, and M. Rajmohan, —Computer Aided Modelling and Static Analysis of an Inspection Robot, in Applied Mechanics and Materials, 2015, vol. 766–767, doi: 10.4028/www.scientific.net/amm.766-767.1055.
76. G. Shanmugasundar, R. Sivaramakrishnan, and M. Rajmohan, —Computer aided simulation for workspace plot of a newly designed inspection robot, in 2014 IEEE International Conference on Computational Intelligence and Computing Research, IEEE ICCIC 2014, 2015, doi: 10.1109/ICCIC.2014.7238470.

Patents Details:

1. GRANTED PATENTS (8)

S. No.	Application No	Applicants	Title	Application Date	Application Status
1	202241051542	1 . G.Shanmugasundar 2 . A. Aravindha Krishna 3 . A. Yamini 4 . S. M. Anand 5 . P. Kishore kanna	NEURO SIGNAL AND VOICE DATA CONTROLLED TRAVELLING EQUIPMENT	09/09/2022	Granted On 22/02/2024
2	202241048098	1 . K. PALANIKUMAR 2 . A. ELAYAPERUMAL 3 . G. SHANMUGASUNDAR 4 . ASWIN. E 5 . DANESH. R 6 . PRABAGARAN. G 7 . YOHAPRAVEEN.M 8 . DHARANIDHARAN M	A WHEEL CHAIR CONVERTIBLE TO A TRANSPORTABLE STRETCHER BASED ON HUMAN INTERACTIONS	24/08/2022	Granted On 25/11/2024
3	202141048478	1 . K. PALANIKUMAR 2 . G. SHANMUGASUNDAR 3 . A. PONSHANMUGAKUMAR 4 . N. KIRUBAHARAN 5 . M.S. SUNDHAR 6 . T. DIVAKAR 7 . S. AKSHAYA 8 . K. KARTHIKEYAN 9 . D. HARISH	A ROBOTIC DEVICE TO CLEAN TANKS/DRUMS	25/10/2021	Granted On 20/02/2024
4	202141026318	1 . K. PALANIKUMAR 2 . G. SHANMUGASUNDAR 3 . V. BRINDHA DEVI 4 . S. MEGANATHAN 5 . G. FENNETH MOSES 6 . S. JAYACHANDRAN 7 . V.D. RATHNAVEL SUBRAMANIAN 8 . R. RAJAGOPALAN 9 . M. DHARANIDHARAN	AN INTEGRATED FARMING EQUIPMENT WITH IOT CONTROL&NBSP;MODULE AND PHOTOVOLTAIC ARRANGEMENT	14/06/2021	Granted On 21/06/2024
5	202041044652	1 . G. Shanmugasundar 2 . K. Palanikumar 3 . Anooj. M 4 . Maniponraja.H 5 . Jayant.M 6 . Yokeshkrishna.P	AN AUTOMATIZED LOAD CARRYING ELECTRIC VEHICLE WITH CUSTOM PATH NAVIGATION	14/10/2020	Granted On 26/12/2023
6	202041011372	1 . G. Shanmugasundar 2 . R. Sivaramakrishnan	"A SEVEN DEGREES OF FREEDOM SERIAL ROBOTIC MANIPULATOR FOR DETECTING AND RECTIFYING THE WELD DEFECT ON THE CIRCUMFERENCE OF THE STORAGE STEEL CYLINDRICAL CANISTER"	17/03/2020	Granted On 23/02/2024
7	201841025468	1 . K. PALANIKUMAR 2 . G. SHANMUGASUNDAR 3 . TANUSH.H.BHASKAR 4 . N.KISHORE 5 . S.A.VETRI GANESH 6 . ANISSH KHAAN.I	AN EXOARM FRAME STRUCTURE UTILIZING ELECTRICAL ACTUATORS FOR ARM REHABILITATION AND EFFORTLESS LOAD	09/07/2018	Granted On 07/03/2022
8	201741042997	1 . Dr. K. Palanikumar 2 . G.Shanmugasundar 3 . Tanush.H.Bhaskar 4 . N. Kishore 5 . ANISSH KHAAN.I 6 . S.A.VETRI GANESH	EXO SKELETON ARM USING BLOCK AND TACKLE MECHANISM	30/11/2017	Granted On 10/02/2023

2. PUBLISHED PATENTS (14)

S. No.	Application No	Applicants	Title	Application Date	Application Status
1.	202541018364	1 . Palanikumar K 2 . G. SHANMUGASUNDAR 3 . Su. SUGANTHI 4 . KAVIYA SANJAY . K 5 . SREEHARI . K 6 . NAFEES AHMED. B 7 . SHIVAMALAR . M 8 . POOJA MERCY .R 9 . PREETHI . R 10 . SORNAMALIYA . S 11 . HARI S K	ENHANCED AI-POWERED SECURITY SYSTEM FOR REAL-TIME FACE RECOGNITION AND MULTI-MODAL ALERTS	03/03/2025	Published 14/03/2025
2.	202541018352	1 . Palanikumar K 2 . G. SHANMUGASUNDAR 3 . Su. SUGANTHI 4 . DHANUSHKUMAR A 5 . SHANMUGA VADIVU PANDY S 6 . DHARUNKUMAR A 7 . JEEVANANDAM L 8 . THARANI L	Adaptive AI-Enabled Water Dispenser for Accessibility Using Voice Commands, Facial Gestures and Head Movement Control	03/03/2025	Published 14/03/2025
3	202441070421	1 . G. SHANMUGASUNDAR 2 . KAMALAKANNAN J 3 . ANAND P 4 . KIRTHAN J	SUSTAINABLE DUST COMPRESSION BY MIST SPRAY SAFETY SYSTEM FOR COAL YARD	18/09/2024	Published 04/10/2024
4	202441070416	1 . G.SHANMUGASUNDAR 2 . KIRTHAN J 3 . NACHIAPPAN N 4 . PREM KUMAR N 5 . JELIN G 6 . MAXIMUS FERNANDO D 7 . AJAY A 8 . SHAKTHIVEL M	A HYBRID AIR CIRCULATION SYSTEM (HACS) FOR ENHANCED COMFORT AND EFFICIENCY	18/09/2024	Published 04/10/2024
5	202441017278	1 . G.SHANMUGASUNDAR 2 . E.AJITHKUMAR	A DEVICE AND METHOD FOR REMOVING THE CHEMICAL AIR POLLUTANTS AND DETECTING FIRE IN THE INDUSTRIAL EN	11/03/2024	Published 22/03/2024
6	202441002150	1 . G SHANMUGASUNDAR 2 . BHARANI KRISHNA G.V 3 . J . KAMALAKANNAN 4 . S BHARATH GANESH 5 . KIRTHAN. J 6 . KEERTHIVANTH. M	A WEARABLE SYSTEM FOR CONTINUOUSLY MONITORING THE SLEEP ACTIVITY OF A DRIVER	11/01/2024	Published 09/02/2024
7	202341069070	1 . K.PalaniKumar 2 . G.Shanmugasundar 3 . S Bharath Ganesh 4 . P.Rathnavelu 5 . P.Rathnavelu 6 . S Sai Saran 7 . S Yuvaraj	DUAL MODE CONTROLLED AUTONOMOUS AMPHIBIOUS VEHICLE	13/10/2023	Published 27/10/2023

8	202341067596	1 . G SHANMUGASUNDAR 2 . R JASWANTH KUMAR 3 . S YUVARAJ 4 . P GOVARTHANAN 5 . E AKASH 6 . S BHARATH GANESH	PNEUMATIC ACTUATED ROBOTIC ARM WITH WIRELESS CONTROL	09/10/2023	Published 20/10/2023
9	202241077127	1 . SRI SAI RAM INSTITUTE OF TECHNOLOGY 2 . K. PALANIKUMAR 3 . G. SHANMUGASUNDAR 4 . R. ARUNKUMAR 5 . D. VISHAL 6 . S. YUVARAJ 7 . S. G. ABINESH	"MULTI-PURPOSE ORNITHOPTER FOR INDUSTRIAL SAFETY MONITORING"	30/12/2022	Published 27/01/2023
10	202241076703	1 . M. VANITHA 2 . G.SHANMUGASUNDAR 3 . S. SHANMUGAPRIYA 4 . G.DURGADEVI	BRAIN COMPUTER INTERFACED (BCI) SYSTEM FOR NON CONTACT CONTROLLING OF THE NAVIGATIONAL DEVICE TO ASSIST THE PHYSICALLY CHALLENGED USERS	29/12/2022	Published 06/01/2023
11	202241076700	1 . M. VANITHA 2 . G.SHANMUGASUNDAR 3 . S. SHANMUGAPRIYA 4 . G.DURGADEVI	BRAIN COMPUTER INTERFACED (BCI) SYSTEM FOR NON-TOUCH REMOTE CONTROLLING OF THS HOUSEHOLD ELECTRICAL DEVICES PROVIDING HOME AUTOMATION	29/12/2022	Published 06/01/2023
12	202241051513	1 . G.Shanmugasundar 2 . M.Gowtham	AN ARTIFICIAL INTELLIGENCE BASED INSPECTION DEVICE	09/09/2022	Published 16/09/2022
13	202241048098	1 . K. PALANIKUMAR 2 . A. ELAYAPERUMAL 3 . G. SHANMUGASUNDAR 4 . ASWIN. E 5 . DANESH. R	A WHEEL CHAIR CONVERTIBLE TO A TRANSPORTABLE STRETCHER BASED ON HUMAN INTERACTIONS	24/08/2022	Published 02/09/2022
14	202141046635	1 . G.Shanmugasundar 2 . R. Sangamaeswaran 3 . Prabhu Dass J.M 4 . Dharanidharan . M 5 . Vishwa.D	AN AUTOMATED GUIDED MOBILE ROBOT WITH IMAGE RECOGNITION	13/10/2021	Published 03/12/2021

National & International Conference (s) :

1. Presented a paper in national conference on “ Recent Innovations in mechanical Engineering on 18.11.2025 through online organized by Jai Shriram Engineering College .
2. Presented a paper in national conference on “ Design and Development of Artificial Intelligent based inspection machine on 18.11.2024 through online organized by Jai Shriram Engineering College .
3. Presented a paper in International Conference on Informatics, robotics and Communication on 7/02/2020 & 08/02/2020 at PERI institute of technology.

4. Presented a paper in International Conference on Science and Innovative engineering 2019 on 24/03/2019 held at Jawahar engineering College.
5. Presented a paper & Awarded as a best research Paper in 8th International Conference on Innovation, Entrepreneurship And Economy For Sustainable Development on 10/08/2018 & 11/08/2018 at Sri Sairam institute Management Studies .
6. Presented a paper in International Conference on Innovations & Discoveries in Science, engineering & technology (ICIDSET- 18) on 17 /04/2018 & 18/04/2018 at KCG College of Technology .
7. Presented a paper in International Conference on Advances in Materials, Manufacturing and Applied Sciences (ICAMMAS'17) on 30th and 31st March, 2017 at Sri Sairam Institute of Technology.
8. Presented a paper in International Conference on Mechanical, Materials and Manufacturing Systems – ICMMMS'16 held at Sri Sairam Engineering College on Feb,2016.
9. Presented a paper in International Conference on “Advances in materials and Manufacturing engineering” held in Sri Sairam Institute of Technology, Chennai during 19th & 20th Dec 2014.
10. Presented a paper in thirteenth Biennial Conference on Entrepreneurship held at EDI Gujarat on 20/02/2019 to 22/02/2019.

Programs Organized :

1. Total no of online programs organized (related to innovation , Entrepreneurship & technology development) = 09 (Year 2021- 2022)
2. Total no of online programs organized (related to innovation , Entrepreneurship & technology development) = 16 (year 2020 -2021)
3. Organised a one day IPR awareness program for students and faculty under MHRD IIC on 19.02.2020.
4. Organised a First Annual Innovation Festival of MHRD's Innovation Cell (to celebrate Innovation Day on 15th October 2019 to mark Dr. A. P. J. Abdul Kalam's Birth Anniversary).
5. Served in the part of organizing committee for the One day Workshop on “ Women Entrepreneurship “ at CEG , Anna university, Chennai On 20/03/2019 .
6. Organised A Three Days Entrepreneurship Awareness Camp (EAC) Funded By Entrepreneurship Institute Of India Gujarat, Govt.of. India , under DST NIMAT Project Schemes from 10/09/2018 to 12/09/2018.
7. Served in the part of organizing committee for the One day Workshop on “ Women Entrepreneurship “ at CEG , Anna university, Chennai On 10/03/2018 .
8. Serviced as Organizing Co-Secretary in AICTE ISTE sponsored refreshed Induction program on

- “ Modern Pedagogy for Engineering teachers in Making digital India ” from 21.05.2018 to 26.05.2018 .
9. Serviced as Organizing Co-Secretary in AICTE sponsored two weeks Faculty Development Programme on BioDegradable, Green and Nano Composites for Industrial Applications: Manufacturing Methodologies and Properties from 20 th October to 02nd November, 2017 at Sri SaiRam Institute of Technology, Chennai-44.
 10. Serviced as a coordinator for “ Technology Based Entrepreneurship Training Program On Computer Numerical Controlled Machines And Operations (TEDP) “ from DST NIMAT – EDI INDIA from 05.09.2016 to 15.10.2016.
 11. Organised A Three Days Entrepreneurship Awareness Camp (EAC) Funded By Entrepreneurship Institute Of India Gujarat, Govt.of. India , under DST NIMAT Project Schemes from 06/07/2016 to 09/07/2016.
 12. Organised A Three Days Entrepreneurship Awareness Camp (EAC) Funded By Entrepreneurship Institute Of India Gujarat, Govt.of. India , under DST NIMAT Project Schemes from 20/10/2016 to 22/10/2016.
 13. Anna University approved seven days Faculty Development Program on “Kinematics of machinery “from 5-12th December 2016, at Sri Sai Ram Institute of Technology, Chennai- 44.
 14. Serviced as a co-coordinator in DST –NIMAT sponsored 6 weeks Technology Based Entrepreneurship Development Program(TEDP) “CNC Machining Technology and Practices for Automobile Part Manufacturing” from 05.09.2016 to 15.10.2016 at Sri Sai Ram Institute of Technology, Chennai-44.
 15. Serviced as Organizing Co-Secretary in AICTE sponsored two weeks Faculty Development Programme on Processing and Characterization of Composite Materials including Natural Fibre Reinforced Composites from 18 th March to 31 st March, 2015 at Sri Sai Ram Institute of Technology.

Programs Attended:

1. Total no of online programs/ Webinars attended (2021 -2025) = 38
2. Total no of online programs/ Webinars attended (2020 -2025) = 22
3. Participated in two days campus ambassador training program on entrepreneurship Development organised by MHRD IIC at RMK engineering college on 08.01.2020 & 09.01.2020.
4. Participated in First Annual Innovation festival of MHRD IIC on 11/09/2019 at AICTE head quarters, New Delhi.
5. Participated in Regional orientation Session on IIC 2.0 and ARIIA 2020 organised by MHRD IIC at VelTech Ranarajan Dr. Sagunthala R and D Institute of Science & Technology on 31/07/2019 .
6. Participated in Anna University Faculty development training program on Finite element analysis from 18.09.2019 to 23.09.2019 at Sri Sairam Institute Of technology Chennai.

7. Participated in ACITE Sponsored two weeks Faculty development Program on The role of Smart Materials in digital Manufacturing and fourth industrial revolution (factors for Future) at KCG College of Technology from 10/10/2019 to 23/10/2019.
8. Participated in SERB Sponsored Five days National level workshop on Advanced welding Techniques for joining Dissimilar high strength alloys for aerospace applications (AWT 2019) on 29/04/2019 to 03/05/2019 at IITD&M kancheepuram.
9. Participated in ACITE Sponsored Five days Faculty development Program on Entrepreneurship Career Development program at sri Sairam Institute of Management studies from 08.04.2019 to 12.04.2019.
10. Participated & Guided a project in NIOT SAV under water competition held at IIT madras on 24/01/2019.
11. Participated in AICTE sponsored two weeks Faculty Development Programme on Processing and Characterization of Composite Materials including Natural Fibre Reinforced Composites from 18 th March to 31 st March, 2015 at Sri Sai Ram Institute of Technology.
12. Participated in seven days Faculty Development Programme on Engineering Mechanics Sponsored by Anna University 2/12/14 to 8/12/14 at KarpagaVinayaga college of engineering. Participated in seven days Faculty Development Programme on “Kinematics of Machinery” at GKM College of Engineering & Technology from 1st to 8th June 2012.

Funds Received from AICTE, / UGC / DST/ TNSCST, etc:

1. Served as a Co- Coordinator and received Rs 3,00,000/- for “ Technology Based Entrepreneurship Training Program On Computer Numerical Controlled Machines And Operations (TEDP) “ from DST NIMAT – EDI INDIA.
2. Served as a program coordinator and received Rs 2,50,000/- for PMKVY course on CNC technology from AICTE .
3. Served as a Co- PI and received Rs 4,80,000/- for “ Technology Based Entrepreneurship Training Program “ funded by DST NSTEDB, Govt.of India , Delhi .
4. Served as a coordinator for MOE – IIC Funded (Rs 2,50,000/-) mentor mentee scheme.
5. Project funding of Rs 7500/- sanctioned by Tamilnadu state council for science & Technology in the year 2019-2020.
Title of the Project : Design and fabrication of solar powered surveillance drone for women safety.
6. Project funding of Rs 7500/- sanctioned by Tamilnadu state council for science & Technology in the year 2021-2022.
Title of the Project : Design and fabrication of smart voice controlled robotic wheel chair (VCR BOT-V1) for disabled people.
7. Served as a coordinator and Received Rs 90,00,000/- for Implementation AICTE IDEA LAB at instution level funded by AICTE in the year 2024 -2025.