

SRI SAI RAM ENGINEERING COLLEGE
DEPARTMENT OF MECHANICAL ENGINEERING

Name: R. Senthil Kumar	
Designation:	Assistant Professor
Qualification:	M.E. (P.hD)
Area of Specialization:	Manufacturing Engineering
Experience:	Teaching – 17 Years 3 Months
	Industry- Nil
Number of Workshops/ Conferences/ FDP Attended:	WORKSHOP- 15 NATIONAL/INT. CONFERENCE- 05
Publication:	Journal: National:06 International:10
	Conference: National: International: 05
General:	
Staff Achievement	IEDC Funded Project – ISIS Headgear IEDC Funded Project – RA Solar Decoction Maker

Educational Qualification:

Category	Name of the Degree	Specialization	Year of Passing	Name of the College	Name of the University	% of Marks / Grades obtained	Class obtained
PG	M.E.	Manufacturing	2008	Anna University, MIT Campus	Anna University	8.6	I / Distinction
UG	B.E.	Mechanical	2006	Sri Sai Ram Engineering College	Anna University	75	I
HSC			2002	Madras Christian College Hr. Sec. School	Tamil Nadu State Board	89.33	I
SSLC			2000	Madras Christian College Hr. Sec. School	Tamil Nadu State Board	80.2	I

Professional Experience:

Sl. No	College/Organization	Designation	Period		Total Period	Nature of work
			From	To		
1	Sri Sai Ram Engineering Collge	Assistant Professor	June 2010	Till Date	15 Years 8 Month	Teaching
2	GKM College of Engineering & Technology	Lecturer	December 2008	June 2010	1 Year 7 Months	Teaching

Achievements

➤ **Patents**

- Registration of Design “**Tablet Pouches for Hassle Free Unwrapping of Tablets**”
Dr. T. Subathra, Dr. B. Vijaya Ramnath, **R. Senthil Kumar**, S. Krishnaraj, Design No. **373993-001 (11/11/2022)**
- Registration of Design “**Optimized Valvular Conduit for Intravenous Infusion System**” Hari Krishnan V, Aswath Narayanan D, Ajaykumar K, .Murali B, **Senthil Kumar R**, S Krishnaraj, Subathra T, **R. Senthil Kumar**, S. Krishnaraj, Design No. **342839-001 (28/04/2021)**

- Published a Patent **“Ergonomically Designed Multipurpose Foldable Trolley”** Application No. **202341060155 A (27/10/2023)**.
- Published a Patent **“Linkage Based Wheelchair cum Bed”** Application No. **202341019323 A (14/04/2023)**.
- Published a Patent **“Smart Robotic Based for Total Quantity and Quality Management of Products in Manufacturing Units”** Application No. **202241054863A (07/10/2022)**.
- Published a Patent **“Design of Solar Thermal Power Integration Systems to Increase the Efficiency of Renewable Energy Resources”** Application No. **202241025379A (13/05/2022)**.
- Published a Patent **“Experimental Research on Metal Matrix Composite to be used in Hydraulic Turbine Bush”** Application No. **202121035723A (27/08/2021)**.
- Published a Patent **“System and Method of Biogas Production- A Household Biogas Digesters”** Application No. **202141031206A (16/07/2021)**.

➤ **Funded Projects**

- **“RA - Solar Decoction Extractor”** Rs. 1,00,000/- funded by DST – IEDC, Sri Sai Ram Engineering College (2018 – 2019).
- **“ISIS Head Gears”** Rs. 1,00,000/- funded by DST – IEDC, Sri Sai Ram Engineering College (2016 – 2017).

➤ **Journals**

- **R. Senthil Kumar, B. Vijaya Ramnath & K. Palanikumar, “Fiber Orientation Influence on Mechanical Properties of SiC Particles Filled Epoxy Based Composites Reinforced with Al mesh and Unidirectional Basalt Fibers”** Silicon (2022). <https://doi.org/10.1007/s12633-022-02183-8>.

- **Senthil Kumar R**, S Krishnaraj, Aswath Narayanan D, Ajay Kumar K, Hari Krishnan V, Murali B, Subathra T, “**Optimization of One Way Tesla Valve**” SAE Technical Paper (2021), 2021-28-0250, <https://doi.org/10.4271/2021-28-0250>.
- S. Sathish, Mubeen Shaikh, L. Girisha, **R. Senthil Kumar**, M. Ramesh Kumar, Ram Subbiah, “**Evaluation of hardness and analysis of parameters on reinforced Al-MMC**” Materials Today Proceedings (2021), [Volume 47, Part 14](https://doi.org/10.1016/j.matpr.2021.04.631), Pages 4341-4344, <https://doi.org/10.1016/j.matpr.2021.04.631>
- S Krishnaraj, **R Senthil Kumar**, A Gokula Krishnan, G Ganeshkumar, M. Mohan, M Nirmal “**Aerodynamic Analysis of Hybrid Drone**” IOP Conference Series: Materials Science and Engineering (2021), <https://doi.org/10.1088/1757-899X/1012/1/012023>
- **Senthil Kumar R**, S Krishnaraj, Nidhish V, Citha Ranjith M, Jothishankar D, Aravinth TV, Subathra T, “**RA-Solar Herbal Decoction Extractor**” SAE Technical Paper (2020), 2020-28-0448, <https://doi.org/10.4271/2020-28-0448>.
- **R. Senthil Kumar**, S. Gajendran, R. Kesavan, “**Evaluation of Optimum Machining Parameters by AWJM for Granite through Multi Response Methods**” Materials Today: Proceedings(2020) [Volume 22, Part 4](https://doi.org/10.1016/j.matpr.2020.03.441), 2020, Pages 3056-3066. <https://doi.org/10.1016/j.matpr.2020.03.441>
- **R. Senthil Kumar**, Krishnaraj.S Vijaya Ramnath.B, Adhitya.R.M, Anand.R.Iyer, “**Impact and Hardness Characteristics of Cfrp-Kenaf-Abaca Fiber Composites**” International Journal of Recent Technology and Engineering (IJRTE), ISSN: 2277-3878, Volume-8 Issue-4, November 2019.
- **R Senthil Kumar**, S.Krishnaraj, D Jothishankar, V Nidhish, M Citha Ranjith, B Navin, “**Compact Foritos Portable Staircase**” Journal of the Gujarat Research Society (2019), Vol. 21 No. 17(2019): <http://gujaratresearchsociety.in/index.php/JGRS/article/view/3789>
- S. Krishnaraj, **R Senthil Kumar**, S. Siva Chandran, M. Sudhakar, Ravishankar sathyamurthy , K. Karan “**Design and Analysis of Automatic Solar Panel**

- Cleaning System**” Journal of the Gujarat Research Society (2019), Vol. 21 No. 17(2019): <http://gujaratresearchsociety.in/index.php/JGRS/article/view/3790>
- Aadeshwaran K, Jaya Suriya S, Tamizharasan V, Vignesh K, **Senthil Kumar R**, **“Economic Harvester”** International Journal of Research and Analytical Reviews (IJRAR), (E-ISSN 2348-1269, P- ISSN 2349- 5138), July 2019, Volume 6, Issue 3. <https://www.ijrar.org/papers/IJRAR1AVP022.pdf>
 - **R. Senthil Kumar**, S. Gajendran, R. Kesavan, **“Estimation of Optimal Process Parameters for Abrasive Water Jet Machining Of Marble Using Multi Response Techniques”** Materials Today: Proceedings (2018), [Volume 5, Issue 5, Part 2](#), 2018, Pages 11208-11218, <https://doi.org/10.1016/j.matpr.2018.01.145>
 - T. Prithivi, R. Premkumar, **R. Senthil Kumar**, **“Abrasive Waterjet Machining of Various Materials: A Review”** Advances in Natural and Applied Sciences (2017). 11(6) Special 2017, Pages: 445-453. <http://www.aensiweb.net/AENSIWEB/anas/anas/2017/Special%202/445-453.pdf>
 - **R. Senthil Kumar**, S. Gajendran, L. Lingaraj, R. Kesavan, **“Optimization of process parameters for machining marble using abrasive water jet machining through multi response techniques”** Indian Journal of Science and Technology (2016), Vol 9 (S1) <https://dx.doi.org/10.17485/ijst/2016/v9iS1/108477>
 - V. Pandyaraj, S. Ravindran, **R. Senthil Kumar** and V. Aiswarya, **“Investigation of Pump Impeller Performance using CFD”** Indian Journal of Science and Technology (2016), Vol 9 (S1) [https://dx.doi.org/10.17485/ijst/2016/v9iS\(1\)/108472](https://dx.doi.org/10.17485/ijst/2016/v9iS(1)/108472)
 - M. Arunachalam, Kailash Padmanaban, K. Asvin, **R. Senthil Kumar**, B. Vijaya Ramnath, **“Design and Fabrication of 3D Syskevis Metrisis”** Applied Mechanics and Materials (2012), Vols. 110-116 pp 4744-4747, <https://doi.org/10.4028/www.scientific.net/AMM.110-116.4744>

➤ Conferences Attended

- International conference, 6th Edition “**Advances in Design, Materials, Manufacturing and Surface Engineering for Mobility- ADMMS 2022**” SAEINDIA Southern Section jointly with SAE International and hosted by SRM Institute of Science and Technology, Kattankulathur, Chennai, 25th & 26th November 2022.
- Krishnaraj S, **Senthil Kumar R**, Gokula Krishnan A, Ganeshkumar G, Mohan M, Nirmal M, “**Aerodynamic Analysis of Hybrid Drone**” in First International Conference on Robotics, Intelligent Automation and Control Technologies (RIACT 2020), VIT, Vellore.
- **R. Senthil Kumar**, S. Gajendran, R. Kesavan, “**Evaluation of Optimum Machining Parameters by AWJM for Granite through Multi Response Methods**” in 2nd International Conference on Materials Manufacturing and Modelling, ICMMM – 2019, VIT, Vellore.
- International Conference on “**Future of Advanced Manufacturing (ICFAM)**”, IIT Madras Research Park Auditorium, 15th March, 2019.
- T. Prithivi, R. Premkumar, **R. Senthil Kumar**, “**Abrasive Waterjet Machining of Various Materials: A Review**” in ICETS’17, 4th International Conference on Engineering Technology & Science, Muthayammal Engineering Institutions, Rasipuram.
- **R. Senthil Kumar**, S. Gajendran, L. Lingaraj, R. Kesavan, “**Optimization of process parameters for machining marble using abrasive water jet machining through multi response techniques**” in ICMMMS 2016, International Conference on Mechanical, Materials and Manufacturing Systems. Department of Mechanical Engineering, Sri Sai Ram Engineering College, Chennai.
- M.Arunachalam, Kailash Padmanaban, K. Asvin, **R. Senthil Kumar**, B.Vijaya Ramnath, “**Design and Fabrication of 3D Syskevis Metrisis**” in ICMAE 2011, **International Conference on Mechanical and Aerospace Engineering – 2011 IACSIT Bangkok Conferences.**

- **Senthil Kumar. R**, Gajendran. S, Sampath Kumar S, “**Productivity Enhancement Through Lean Manufacturing**”, AIRPAM – 2008, National Conference on Advances in Robotics, precision Engineering & Manufacturing Techniques, Department of Production Technology, Anna University, M.I.T. Campus, Chennai, Proc. pp.292 - 298, 2008.
- **R. Senthil Kumar**, B. Vijaya Ramnath, S. Gajendran, S. Sampath Kumar, “**Optimization of steering system assembly through lean manufacturing**”, AIMMS’08, National Conference on Advancements in Manufacturing and Management Systems, organized by Department of Mechanical Engineering, Sri Sairam Engineering College, Chennai. Proc. pp. 9, 2008.

➤ **FDP’s / STTP’s Attended**

- Attended an Online Faculty Development Program on “**Testing of Materials for Engineering Applications**”, (22nd to 26th) June 2020, Department of Mechanical Engineering, Meenakshi Sundararajan Engineering College Chennai.
- Attended an Online Faculty Development Program on “**Research Methodologies, Tools and Techniques**”, (8th to 12th) June 2020, Department of Electrical and Electronics Engineering, QIS College of Engineering and Technology, Ongole Andhra Pradesh.
- Attended an Online Faculty Development Program on “**Introduction to Soft Computing**”, (8th to 12th) June 2020, Department of Mechatronics Engineering, Rajalakshmi Engineering College (Autonomous), Thandalam, Chennai 602 105.
- Attended Online AICTE Recognized Faculty Development Program on “**Computer Integrated Manufacturing & CNC (CIM/CNC)**”, (25th to 29th) May 2020, Mechanical Engineering Department, National Institute of Technical Teachers Training and Research (NITTTR) Chandigarh.
- Attended Online AICTE Recognized Faculty Development Program on “**Modeling and Simulation using MATLAB**”, (18th to 22nd) May 2020, Mechanical

Engineering Department, National Institute of Technical Teachers Training and Research (NITTTR) Chandigarh.

- Attended Online AICTE Recognized Faculty Development Program on “**MATLAB Programming**”, (11th to 15th) May 2020, Electrical Engineering Department, National Institute of Technical Teachers Training and Research (NITTTR) Chandigarh.
- Attended an Online Faculty Development Program on “**An Approach for Technical Skill Enhancement (FDPTSE-2020)**”, (5th to 10th) May 2020, IQAC, Toshniwal Arts, Commerce and Science College, Sengaon, Dist. Hingoli, Maharashtra, India.
- Attended Online AICTE Recognized Faculty Development Program on “**Computer Aided Design and Manufacturing (CAD/CAM)**”, (27th April 2020 to 01st May 2020), Mechanical Engineering Department, National Institute of Technical Teachers Training and Research (NITTTR) Chandigarh.
- Attended Online AICTE Recognized Faculty Development Program on “**Operational Research – An Introduction**”, (20th to 24th) April 2020, Applied Science Department, National Institute of Technical Teachers Training and Research (NITTTR) Chandigarh.
- Attended Online AICTE Recognized Faculty Development Program on “**Internet of Things**”, (15th to 19th) April 2020, Computer Science and Engineering Department, National Institute of Technical Teachers Training and Research (NITTTR) Chandigarh.
- Attended AICTE Sponsored Faculty Development Program on “**IoT and Advanced Technologies in Manufacturing**”, (11th to 23rd) November 2019, Department of Mechanical Engineering, Panimalar Engineering College, Chennai 600 123.
- Attended a Short Term Training Program on “**Natural Fiber Composites - Recent Technology for Sustainability and Eco - Friendly Environment**”, (24th to 29th) June 2019, Department of Mechanical Engineering, Sri Sairam Engineering College, Chennai

- Attended a Faculty Development Program on “**Processing and Characterization of Composite Materials including Fiber Re-inforced Composites**”, (18th to 31st) March 2015, Department of Mechanical Engineering, Sri Sai Ram Institute of Technology, Chennai.
- Attended a Faculty Development Program on “**Unconventional Machining Processes**”, (3rd to 10th) December 2013, Department of Production Technology, Anna University, MIT Campus, Chennai.
- Attended a Faculty Development Program on “**Advancements in Materials, Manufacturing Processes & Management Systems**”, (4th to 16th) November 2013, Department of Mechanical Engineering, Sri Sai Ram Engineering College, Chennai.
- Attended a Faculty Development Program on “**Recent Developments in Manufacturing & Management**”, (25th to 30th) July 2011, Department of Mechanical Engineering, Sri Sai Ram Engineering College, Chennai.

➤ **Workshops Attended**

- Attended Two days Online Workshop on “**Additive Manufacturing**”, 15th & 16th May 2020, Department of Mechanical Engineering, S.A. Engineering College (Autonomous) Chennai.
- Attended Two days Online Workshop on “**Patent Drafting and Processing with Importance of Trademark & Copyright**”, 6th & 7th May 2020, Hexacube & IJER.
- Attended Two days Online Workshop on “**Fuzzy Logic and Neural Network Approaches for Engineering Solutions**”, 29th & 30th April 2020, Hexacube & IJER.
- Attended a Three days Online Workshop on “**Design of Experiments: An Engineering Perspective**”, 25th 26th & 27th April 2020, Hexacube & IJER.
- Attended a Two days National Seminar on “**Role of Smart Materials in Aerospace and Engineering Applications**”, 16th & 17th December 2019, St. Joseph's College of Engineering, Chennai.

- Attended a one day workshop on “**Magnetically Impelled Arc Butt (MIAB) Welding**”, 13th April 2019, Department of Metallurgical and Materials Engineering, IIT Madras.
- Attended a one day National Seminar on “**3D printing of composite materials - A digital additive manufacturing - (PRICOM'2019)**”, 20th March 2019, AMET University, Chennai.
- Attended a one day workshop on “**Advanced Automotive Research**”, 3rd December 2019, IC & SR Auditorium, IIT Madras.
- Attended a one day workshop on “**Wiley Author Workshop**”, 19th November 2018, University Library, College of Engineering, Guindy, Chennai.
- Attended a one day workshop on “**Recent Trends in Optimization Techniques – RTOT 2017**”, 21st April 2017, Department of Mechanical Engineering, Velammal Engineering College, Chennai.
- Attended a one day National Level workshop on “**Advances in Design of Experiments (DOE)**”, 21st October 2016, Department of Manufacturing, School of Mechanical Engineering, VIT University, Vellore.
- Attended a one day workshop on “**Recent Trends in AWJM**”, 19th February 2016, Department of Production Technology, Anna University, MIT Campus, Chennai.
- Attended a one day workshop on “**Development, Manufacturing and Analysis of Advanced Composites**”, 19th December 2015, Department of Mechanical Engineering, SRM University, Chennai.
- Attended a Two day National Level workshop on “**Design of Experiments**”, 24th & 25th August 2014, Department of Mechanical Engineering, Sri Sairam Institute of Technology, Chennai.
- Attended a one day workshop on “**Role of Lean Manufacturing on Organization Competitiveness**”, 28th August 2014, Department of Mechanical Engineering, Sri Sairam Engineering College, Chennai.

- Attended a one day workshop on “**Renewable Energy**”, 24th February 2012, Department of Mechanical Engineering, Sri Sairam Engineering College, Chennai.
- Attended a one day workshop on “**Art of Journal & Thesis Writing**” 19th January 2012, Department of Mechanical Engineering, Sri Sairam Engineering College, Chennai.

➤ **Online Courses**

- Completed a self paced training course “**MATLAB Onramp**”, Mathworks Training Services
- Completed a four weeks online training on “**Advanced Excel**” from 23rd May, 2020 to 22nd June, 2020, Internshala Trainings
- Completed 20 Online Courses, Coursera Platform
- Completed 7 Online Courses, Capability Development, TATA
- Completed 7 Online Courses, UDEMY

➤ **NPTEL Courses**

- **Domain Certification in Product Design**
- Introduction To Professional Scientific Communication
- Ergonomics Workplace Analysis
- Product Design and Development
- Product Design and Manufacturing
- Design Practice
- Manufacturing Guidelines For Product Design
- Design Thinking - A Primer
- Education for Sustainable Development
- Accreditation and Outcome based Learning
- Introduction on Intellectual Property to Engineers and Technologists

- Patent Drafting for Beginners
- Cost Accounting
- Effective Engineering Teaching in Practice
- Engineering Economic Analysis
- Strength of Materials

Project Work (Post Graduation):

Name of the Industry: Rane TRW Steering Systems Limited, Guduvanchery, Chennai

Title: Implementation of lean manufacturing in the assembly of rack and housing for steering systems

As a result of implementation of this project various benefits such as increased productivity, reduction in rejection rate, reduction in walking distance & space occupied by machines and reduction in work in process inventory was achieved.

Mini Project Work (Post Graduation):

Title: Measurement of distance traveled by a robot wheel

In this project the number of rotations made by a robot wheel was measured using an IR sensor. The distance traveled was calculated by multiplying the number of rotations with a constant.

Project Work (Graduation):

Title: Design, Analysis, Optimization and Fabrication of PLC based LMD multipurpose machine centre

In this project the three conventional machines (Lathe, Mill, and Drill) were amalgamated into a single module. The operations of these machines were automated using PLC program.