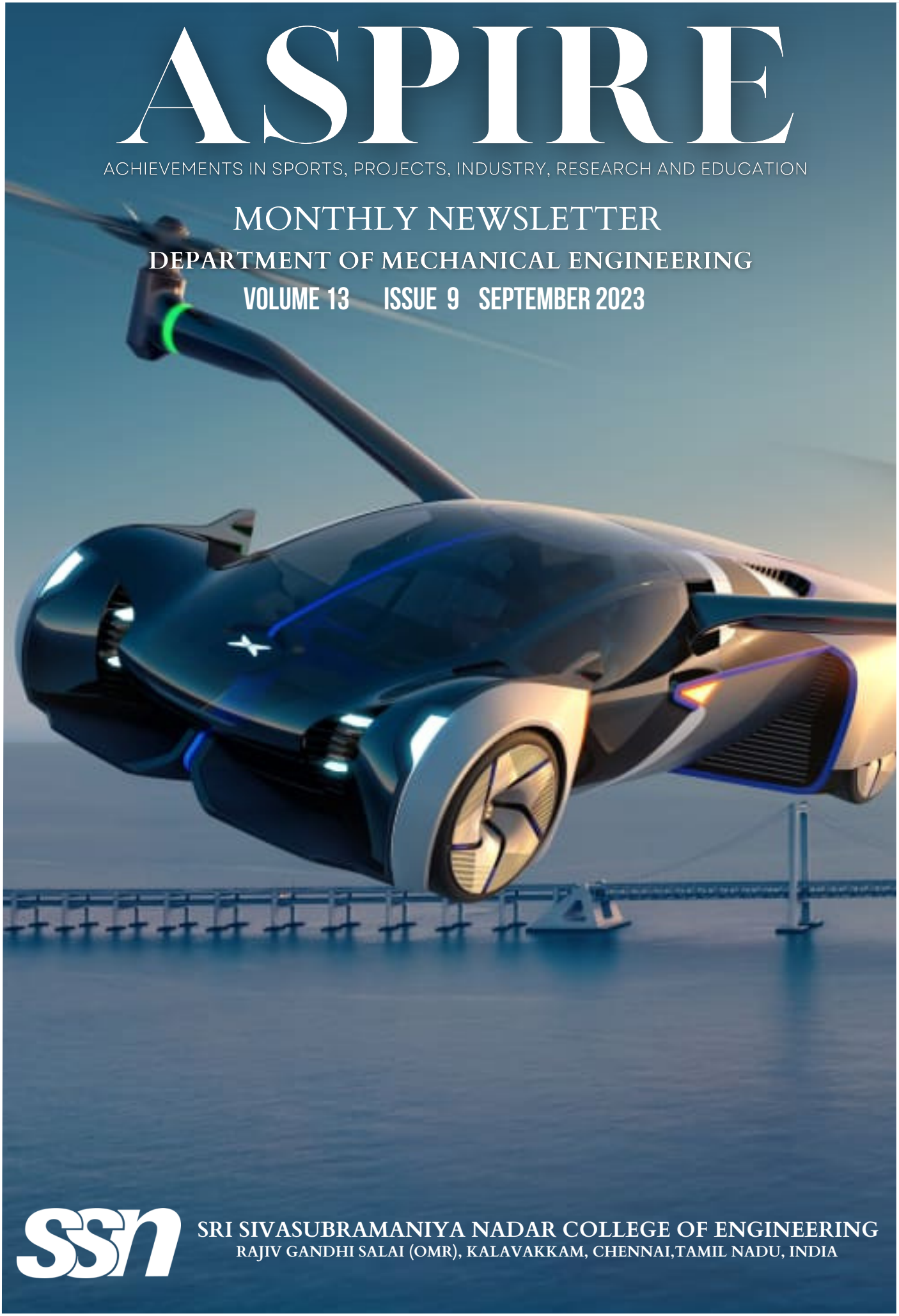
ASPIRE

ACHIEVEMENTS IN SPORTS, PROJECTS, INDUSTRY, RESEARCH AND EDUCATION

MONTHLY NEWSLETTER

DEPARTMENT OF MECHANICAL ENGINEERING

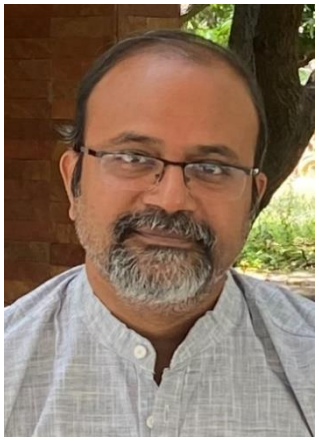
VOLUME 13 ISSUE 9 SEPTEMBER 2023



SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING
RAJIV GANDHI SALAI (OMR), KALAVAKKAM, CHENNAI,TAMIL NADU, INDIA

FROM THE HOD'S DESK...

We are elated to bring out the September edition of Aspire!!



We profile Artturi Ilmari Virtanen, a Finnish chemist, who was awarded the Nobel Prize in Chemistry in 1945, for his path breaking research and inventions in agricultural and nutritional chemistry.

It is heartening to note that our founder Shiv Nadar leads, with his philanthropic contributions, a true inspiration for every Indian.

The fresher's orientation day was conducted with vigour and enthusiasm, here's wishing each twinkling eye, the very best in their SSN journey.

The placement of the outgoing batch started on a good note with Caterpillar recruiting seven of our students. Faculty continue their research sojourn with high impact research paper publications and attending FDP's and viva voce examinations as subject experts.

Our student shares the experience of the Caterpillar placements and one of our sports students shares his experience of playing in the Abu Dhabi chess tournament. Our alumni share their experiences pursuing a master's course in robotics in Australia and also getting to work as a manager in Amazon.

Best wishes for a heartwarming September.

KSV

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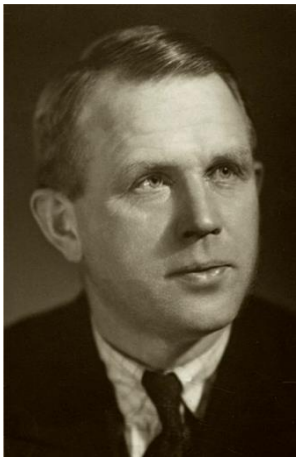
ARTTURI ILMARI VIRTANEN



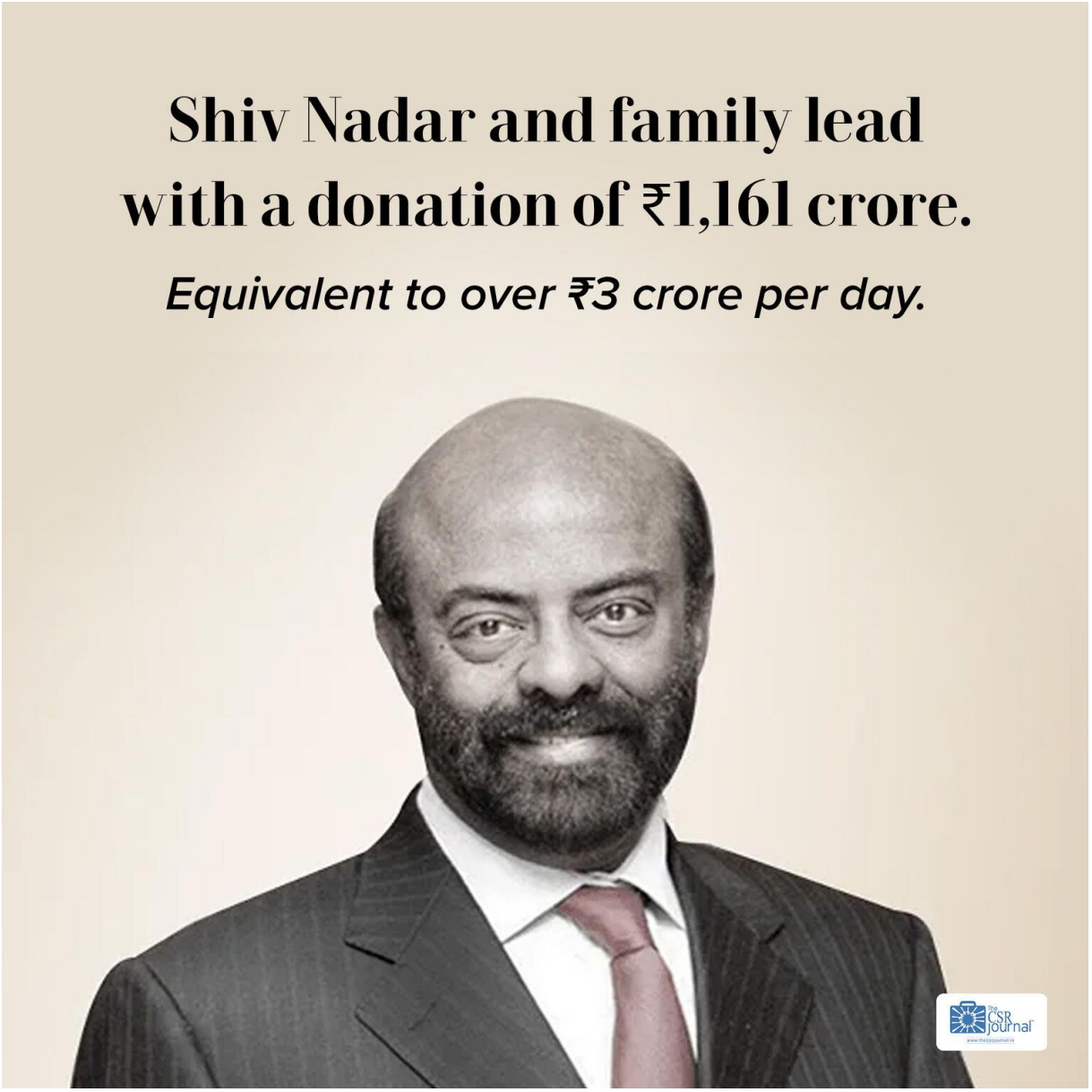
Artturi Ilmari Virtanen (15 January 1895 – 11 November 1973) was a Finnish chemist and recipient of the 1945 Nobel Prize in Chemistry "for his research and inventions in agricultural and nutrition chemistry, especially for his fodder preservation method".He invented AIV silage which improved milk production and a method of preserving butter, the AIV salt, which led to increased Finnish butter exports.

His research started with work on the phosphorylation of hexoses in 1924. He was able to show that phosphorylation is the first step in many fermentation reactions, which was the foundation of the pathway. In 1925 his interests shifted to the nitrogen-fixing bacteria in the root nodules of leguminous plants. The improved methods of butter preservation, by adding disodium phosphate to prevent acidic hydrolysis. This method was in use for several decades in Finland. His research from 1925 till 1932 included the invention of a fodder preservation method (AIV fodder). The method, patented in 1932, was basically a kind of silage that improved the storage of green fodder, which is important during long winters. The process includes adding dilute hydrochloric or sulfuric acid to newly stored grain. Increased acidity stops harmful fermentation and has no adverse effect on the nutritive value of the fodder or the animals it is fed to. In 1945, Virtanen received the Nobel Prize in chemistry "for his research and inventions in agricultural and nutrition chemistry".

His later years studies included the development of partially synthetic cattle feeds. The nitrogen for the synthesis of amino acids normally comes from proteins in the fodder. A special bacterial environment in the rumen of cattle allows them to use urea and ammonium salts as source for the nitrogen instead of plant proteins like soybean or meat and bone meal. He also headed the Valio Laboratory from 1921 to 1969.

The prestige conferred by the Nobel Prize brought Virtanen invitations, honorary doctorates, and membership in foreign academies of science. He was a member of the Finnish, Norwegian, Swedish, Flemish, Bavarian, and Pontifical Academies of Science, and of the Swedish and Danish Academies of Engineering Sciences.

CAMPUS UPDATE



BATCH '27 ORIENTATION PROGRAMME

The fresher's orientation programme for the batch of 2027 happened on the 25th of August. The fresher's were given an insight into the life at SSN. Various club heads gave an introduction of the activities conducted by the same. The president and the principal also shared their priceless thoughts and advice for the future minds. Commander Easan Sir was a chief guest for this event, who had his own experience and ideology of life that he shared with our college students. Apart from this the students along with their parents were also taken for a campus tour.

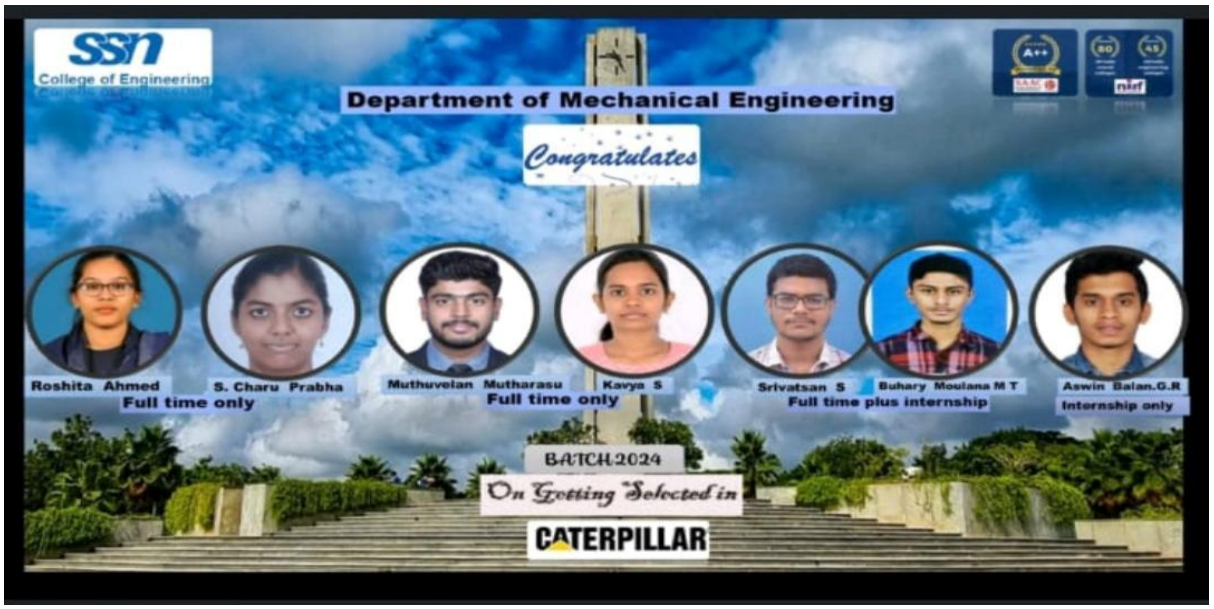
In addition, N2k and SMC- The official dance and music club of our college kept the students hooked to their seats with their performances.

CAMPUS UPDATE

CATERPILLAR PLACEMENTS

"It takes determination to see a dream come to pass. The question is not will you start, but will you finish."

7 students from our department have been placed in CATERPILLAR organization for both internships and full-time jobs. All these 6 students belong to the batch of 2024. They all will now be contributing their skills under mechanical design, analysis and simulation for one of the market giants, Caterpillar Inc. which is also a global leader. It was the sheer determination and knowledge of their subject which has gotten them here. We take immense pride in wishing them many more success and best of luck for all their future endeavors.



TNCA FIRST DIVISION CRICKET LEAGUE

The TNCA first division cricket league happened at our college from August 3rd to August 5th. Ravichandran Ashwin, a notable alumni of our college was also seen playing this tournament apart from all the other notable cricket players. This cricket league was also televised.

CAMPUS UPDATE

ADMISSION TO PHD/ M.S PROGRAM – JANUARY 2024 SESSION – LAST DATE 23 SEPTEMBER 2023

Applications are invited for admission to the Ph.D./ M.S (By Research) at SSN research Centres Under Anna University, Chennai for January 2024 session on or before 23.09.2023.

DEPARTMENT UPDATE

PLACEMENT UPDATE -MECH 2024 BATCH

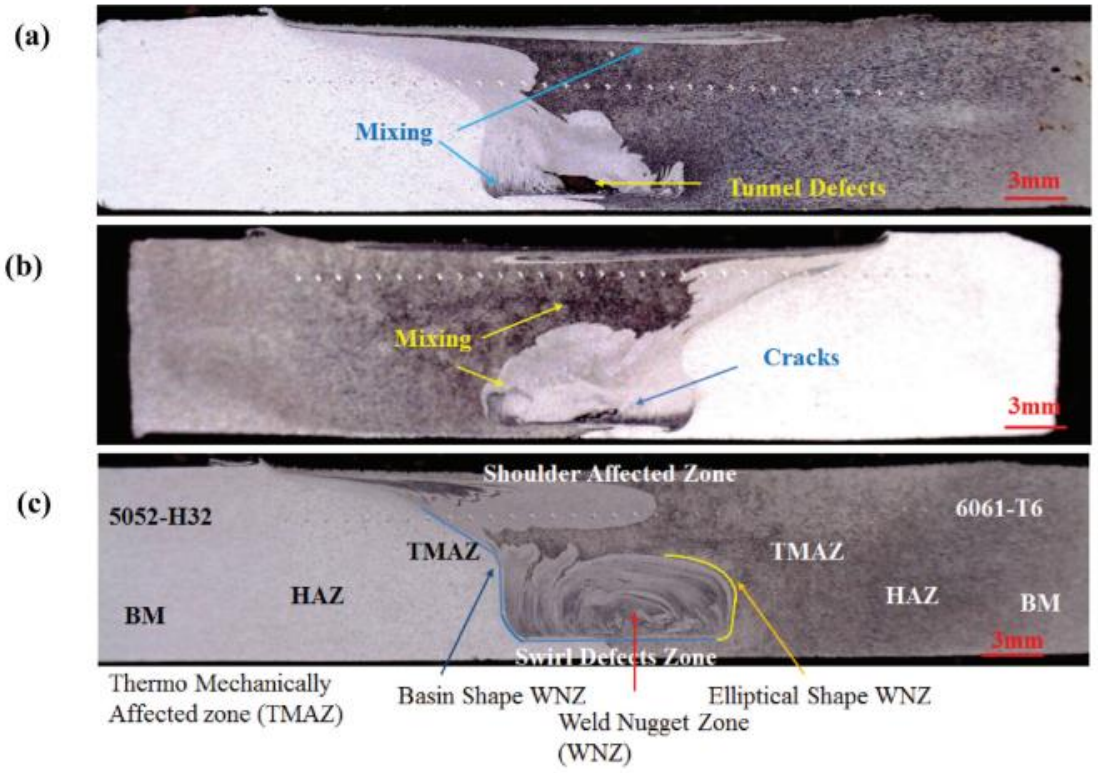
6 GOT PLACED IN SUPER DREAM OFFER IN THE FIRST MONTH OF PLACEMENT DRIVE.

Caterpillar is the world's leading manufacturer of construction and mining equipment, diesel and natural gas engines, industrial gas turbines, and diesel-electric locomotives.

DEPARTMENT UPDATE

International Journal Publication - SCI /Clarivate Indexed

Balamurugan, S., K. Jayakumar, and C. Nandakumar. "Investigation of mechanical, metallurgical and corrosion characteristics of friction stir welded dissimilar AA 5052-H32 and AA 6061-T6 joints." *Journal of the Chinese Institute of Engineers* 46.6 (2023): 601-614. Clarivate Impact Factor: 1.1



Macrostructure at (a) 800 rpm; (b) 1100 rpm; (c) 950 rpm on material flow in dissimilar FSW.

DEPARTMENT UPDATE

International Journal Publication - SCI /Clarivate Indexed

Sekar, Annamalai, and Anand Ronald Bennet. "A comprehensive review on synergistic and individual effects of erosion–corrosion in ferrous piping materials." *Corrosion Reviews* 0 (2023). Clarivate Impact Factor: 3.2

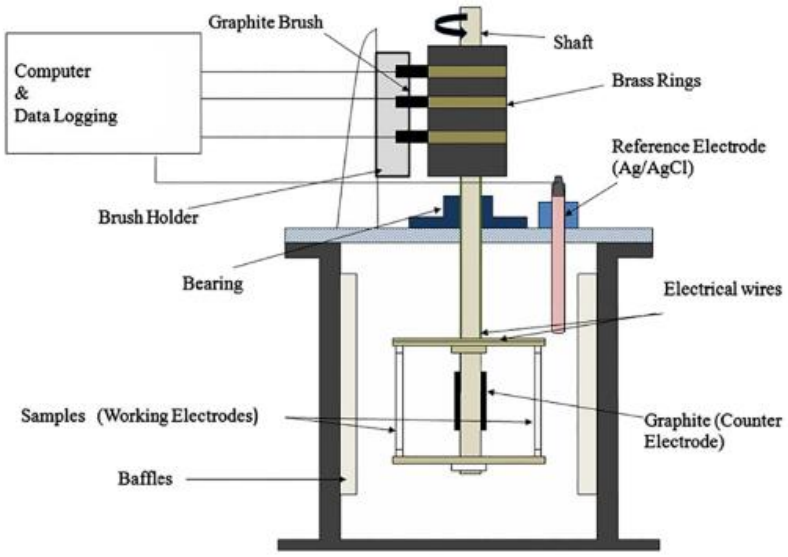


Figure 2: Illustration of slurry pot erosion–corrosion test rig. (Reprinted from Rajahram et al. (2011), Copyright (2010), with permission from Elsevier Ltd.)

DEPARTMENT UPDATE

International Journal Publication - SCI /Clarivate Indexed

Karthikeyan, C., K. L. Harikrishna, and N. Nallusamy. "Experimental investigation of TBC coated piston with various blends of biodiesel." *Environmental Progress & Sustainable Energy* (2023): e14065. Clarivate Impact Factor: 2.8

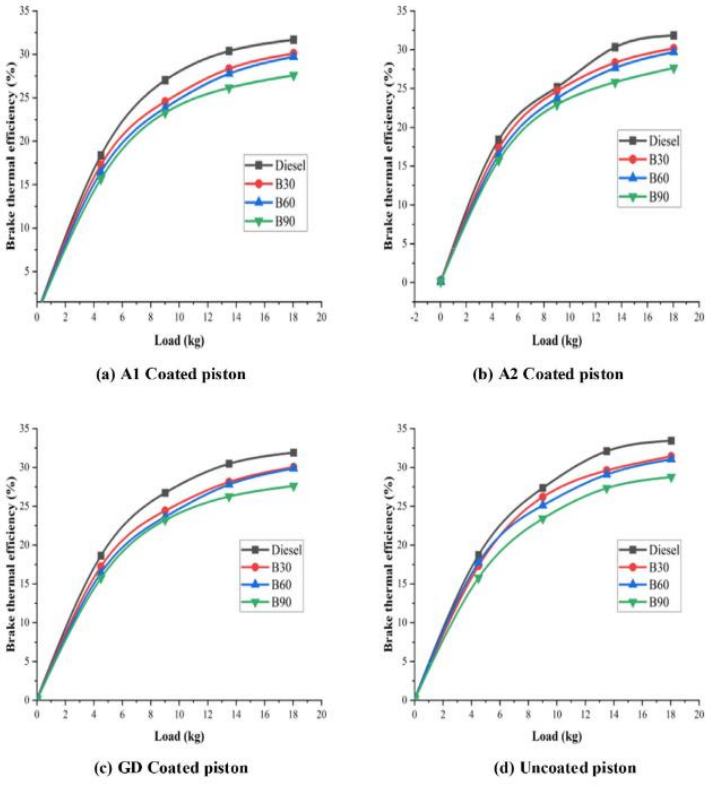


FIGURE 5 Load versus brake thermal efficiency with A1, A2, GD coated, and uncoated piston

DEPARTMENT UPDATE

International Journal Publication - SCI /Clarivate Indexed

Naveenkumar, P., R. Prakash, and P. Sangeetha. "Analytical and Experimental Comparison of the Composite Space Truss with Plain and Profiled Decking Sheets Employing Headed-Stud and Channel-Stud Shear Connector." *Arabian Journal for Science and Engineering* (2023): 1-16. Clarivate Impact Factor: 2.9

Fig. 1 Headed-stud shear connector

Fig. 2 Channel-stud shear connector

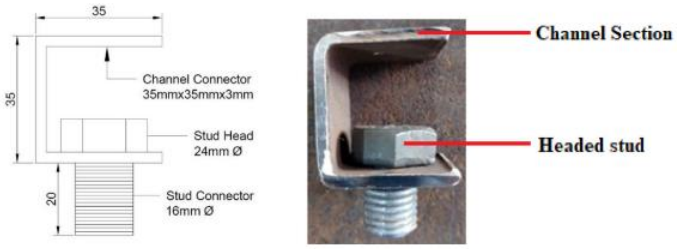
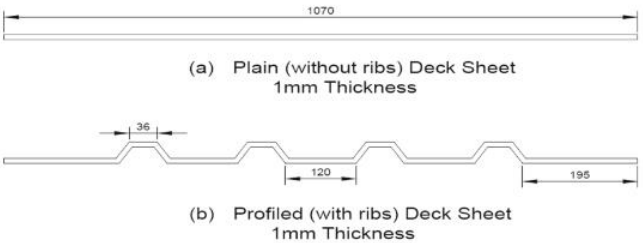


Fig. 3 Plain and profile decking sheet



DEPARTMENT UPDATE

International Journal Publication - SCI /Clarivate Indexed

Surya, A., R. Prakash, and N. Nallusamy. "Heat transfer enhancement and performance study on latent heat thermal energy storage system using different configurations of spherical PCM balls." *Journal of Energy Storage* 72 (2023): 108643. Clarivate Impact Factor: 9.4

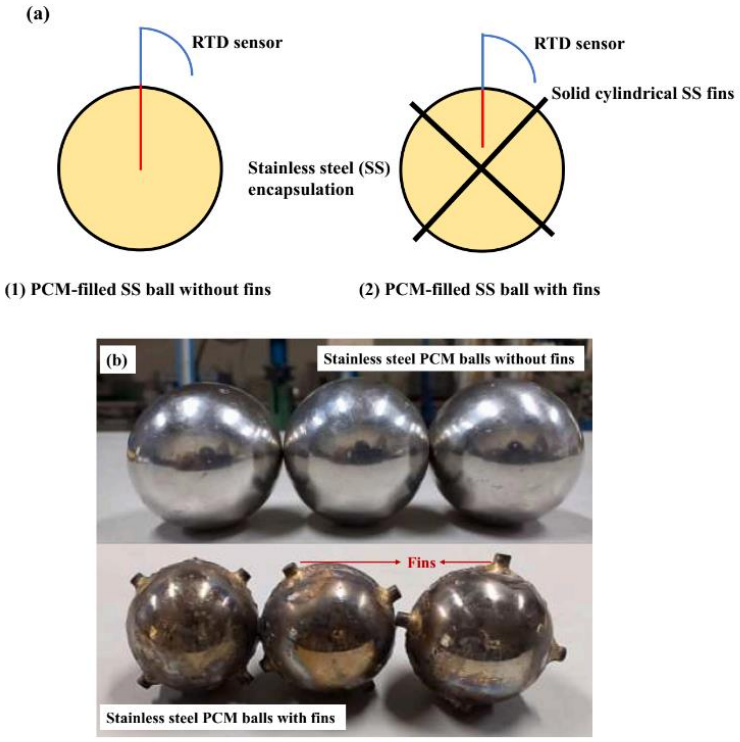


Fig. 1. (a) Graphical layout of PCM-filled balls. (b) Actual layout of PCM-filled balls.

DEPARTMENT UPDATE

International Journal Publication - SCI /Clarivate Indexed

Santosh, S., WB Jefrin Harris, and T. S. Srivatsan. "Environment-Induced Degradation of Shape Memory Alloys: Role of Alloying and Nature of Environment." *Materials* 16. (2023): 5660. Clarivate Impact Factor: 3.4

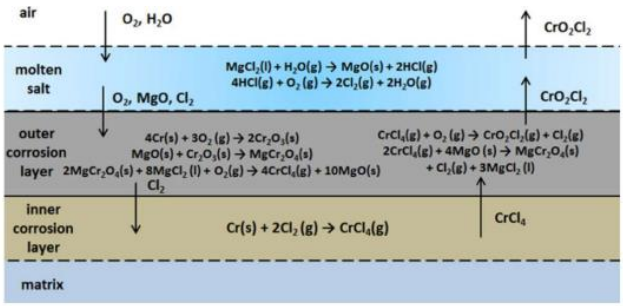


Figure 2. Corrosion mechanism of Ni-based alloy in NaCl-$CaCl_2$-$MgCl_2$. Environment [5] (reused with permission from Elsevier).

Figure 3. Depiction of the corrosion test and its procedure.

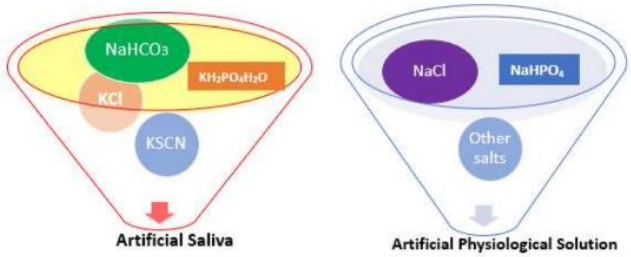


Figure 4. Schematic composition of the solutions used.

SCOPUS PUBLICATION

Sharun, V., and B. Anand Ronald. "Traditional machining of austempered ductile iron (ADI): a review." *Materials Today: Proceedings* 72 (2023): 2027-2031.Scopus Impact factor: 2.586.

Krishnan, Anirudh Venkatraman, and C. Y. H. Lim. "Evaluating the slurry erosion rates of uniaxially stressed stainless steel 304." *Materials Today: Proceedings* 72 (2023): 2221-2224. Scopus Impact factor: 0.45.

Ramesh, Akshaya, S. Anush Lakshman, Anushka Prasad, Arihanth Jayavijayan, Divya Zindani, and Anirudh Venkatraman Krishnan. "Design analysis of fog removal system using ANSYS fluent." *Materials Today: Proceedings* 72 (2023): 2443-2449. Scopus Impact factor: 0.45.

FACULTY EVENTS

DR. M S ALPHIN SERVED AS RESOURCE PERSON FOR FDP: REVITALIZING ACADEMIC CAREER- FOCUS ON NBA

The experience of being a guest speaker at Jeppiar Engineering College was deeply enriching, and we were reminded of the power of knowledge-sharing in transforming lives. we left with a sense of fulfillment, knowing that I had played a small part in igniting the flames of passion and ambition among the faculty.

FACULTY EVENTS

DR. G SELVAKUMAR NOMINATED AS A SUBJECT EXPERT TO CONDUCT VIVA-VOICE EXAMINATION FOR PHD SCHOLAR IN VELTECH

Dr. G Selvakumar, Associate Professor in the Department of Mechanical Engineering of SSNCE was nominated by Dr. Sagunthala Rangarajan, Vice Chancellor of Vel Tech R&D Institute of Science and Technology as subject expert to conduct Ph.D. viva-voce examination for Mr. J Bharani Chandar (Reg. No: 18REME1009), an internal part-time scholar of Vel-tech University. Dr. Jeetendrakumar Vadhere, Professor in Mechanical Engineering Department of Gujarat Engineering college, was nominated as Indian examiner. The scholar has defended his Ph.D. thesis work titled '**EXPERIMENTAL INVESTIGATION AND CHARACTERIZATION OF ABRASIVE WATERJET DEEP HOLE DRILLING ON STAINLESS STEEL 316L**' on 18.8.2023 (Friday) at Video Conference Hall (Room No. 4101) of Vel Tech University. This Ph.D. thesis work was carried out under the supervision of Dr N Lenin, Professor & Dean of School of Mechanical and Construction, Vel Tech University.

From Left to Right: Dr. Ravichandran A T, Prof & Dean (Academic); Dr G Selvakumar, Associate Prof & subject expert, SSNCE; Dr Jeetendrakumar Vadhere, Professor & Indian Examiner; Dr N Lenin, Professor & Thesis Supervisor; Mr J. Bharani Chandar, Asst. Prof & Ph.D. candidate.

FACULTY EVENTS

ENGAGEMENT WITH OMNI ACTIVE TECHNOLOGIES

The Department of Mechanical Engineering collaborated with SSN ifound to develop solutions for companies in the realm of Industrial Automation and Industry 4.0. Dr. K. S. Vijay Sekar and Mr. Girish, CEO of SSN ifound, held discussions with OmniActive Healthcare Technologies, a pioneering medical company from Hyderabad. OmniActive specializes in creating environmentally friendly products aimed at improving people's lives. As an initial step, Dr. G. Satheeshkumar and Dr. Vimal Samsingh from the department visited Marigold farms in Andhra Pradesh. Their objective was to explore the potential for automating the sourcing process of marigold flowers. The team conducted a thorough on-site assessment to determine the feasibility of implementing the solution. This involved examining the terrain of the farms and gaining insights into the challenges by engaging with local farmers.

FACULTY EVENTS

NON-TEACHING STAFF ACTIVITIES

21/09/2023	Mr. Balasundaram P / Asst lab Instructor / Mechanical / Joined Master of Engineering, ME Manufacturing Engineering (Part -Time) 3 years in Aarupadai Veedu Institute of Technology (Vinayaka Mission Research Foundation) located in Paiyanoor, Chennai.

SEMINARS ORGANIZED

26/08/2023	A Surya, a full-time research scholar under DR. R Prakash, Associate professor, delivered a seminar on "Performance Studies on Packed Bed Thermal Energy Storage System using Nano-Enhanced Phase Change Materials" at SSN CE on the 25th of August 2023.

SCHOLAR INFO

26/08/2023	Dr. R Prakash, ASP/Mech., conducted the confirmation DC Meeting for his full-time research scholar, Mr. A. Surya on the 25th of August 2023.

PROJECTS APPLIED

11/08/2023	Dr A S Ramana/ASP/Mech applied for the project "Experimental Investigations on Novel Solar Drying of Agricultural Produce" with the Tamil Nadu State Council for Science and Technology. The project amount is roughly 3.72 lakhs.

BOOK CHAPTERS PUBLISHED

09/08/2023	Dr. Anirudh Venkatraman Krishnan, S Anush Lakshman, Aishwarya Bhargav published a book chapter titled "3D & 4D Printing Methods for Pharmaceutical Manufacturing and Personalized Drug Delivery / 3D Printing and Regulatory Consideration" published by Springer.

FACULTY EVENTS

EVENTS ATTENDED

14/08/2023	Dr. D Ananthapadmanaban, Associate Professor attended a 2-day workshop on High vacuum active brazing at IIT Madras.
21/08/2023	Dr. Koteswara Rao attended a 1-day workshop on " Welding of armor steels and allied metallurgy".
23/09/2023	Dr. Cyril Joseph Daniels attended a Hands-On Training Workshop on Metal Additive Manufacturing Technologies" (Under the KARYASHALA Scheme - A SERB initiative) from the 24th to the 30th of July 2023.
25/08/2023	Dr. Cyril Joseph Daniels attended a Hands-On Training Workshop on Metal Additive Manufacturing Technologies - (certificate).
26/08/2023	Dr G Selvakumar, Associate Professor attended a 2- day technical workshop on 'High vacuum Active brazing: A precision joining technology' at IIT Madras during the 12th and 13th of August 2023.

OTHER

14/08/2023	Dr KS Vijay Sekar, Prof and Head and Mr. Giridharan, Lab Asst., from Mechanical department, were part of a team that won the Game show event organized as a part of the SSN - SNU teacher's day celebrations on the 12th of August 2023.
14/08/2023	Dr K.S. Vijay Sekar, Prof and Head, was invited to grace the 25th year alumni silver jubilee celebrations of the 1994 - 98 batch of mechanical engineering students at Hindustan University on the 12th of August 2023.

STUDENT WRITE-UP

KAVYA S FROM FINAL YEAR MECH WRITES....

Hey everyone! I hope you all are doing good.

I would like to share information about Caterpillar's placement process.

We had three rounds: an online test, a group discussion, and an interview.

Round 1: Online Test

Date: 17/8/23

Aptitude- 12 Qns 15 mins

Verbal- 12 Qns 15 mins

Logical Reasoning- 12 Qns 15 mins

Technical- 40 Qns 50 mins

The first three categories included easy-to-solve questions. In technical, the question set was a mix of mechanics, SOM, machine design, manufacturing technology, thermodynamics, aerodynamics, operations research, etc. It wasn't just theoretical questions; there were problems related to the Carnot cycle, COP, Merchant's theory, bearing-related problems, etc.

No. of students applied= 53

No. of students who got selected for Round 2= 43

STUDENT WRITE-UP

Round 2: GD

Date: 21/8/23

Before GD, we were given a pre-placement talk in which they briefed us about the company and our roles. Try making notes during this and asking relevant questions, as this will create a good impression on our college.

For GD, we were divided into 5 groups, with each group having roughly 8 members. And we were sent to our respective panels. A panel consisted of 3 members from Caterpillar.

Panel 1: Is EV the solution for pollution.

Panel 2: AI in automobiles (I was in this GD)

Panel 3 & 5: How can we make the internet safer.

Panel 4: What do you prefer: a virtual product development (like using SolidWorks, CATIA) or by using books (theoretical way)

Initially 5 minutes was given for us to think about the topic and jot down the points, then the GD went on for 20-30 mins.

Few tips:

1. GD is basically a round of elimination, not selection.
2. It is not mandatory for you to start or finish the GD, even though it fetches you some points.
3. Make sure you give some valid points confidently and try to build on others points.
4. Also, don't just focus on giving out your points; listen to others and try to understand their perspective.

5. If someone is missing out on speaking, give that person a chance and don't interrupt when someone else is talking.
6. Along with your points, your attitude matters a lot.
7. Be polite and respect everyone's view. You will easily clear this round.

Round 3: Interview

Date: 21/8/23

Roughly 6 students from each GD were selected for the final interview.

Be thorough on your resume.

Be strong in your favorite subject's basics. Try to remember the formulas, because they asked me to write down the formula while explaining the concepts.

I've mentioned the subjects and the topics covered in each subject. This was from my own experience and from my friends.

HMT & Thermodynamics- Laws of thermodynamics, HT laws, fins, Carnot cycle, Rankine cycle, Brayton cycle, questions related to practical applications, COP, Enthalpy, Entropy, Gas turbine power plants, Nozzle & Diffusor, Assertion & reason-based questions.

IC Engines- Otto cycle and diesel cycle, 2 stroke vs 4 stroke, CI vs SI, Assertion & Reason types.

SOM- Stress-Strain diagram, BMD, SFD, Mohr's circle, Section modulus, Moment of inertia, Theories of Failure, SN curve, Principal stresses & planes, torsion, FOS.

STUDENT WRITE-UP

Fluid mechanics- Newtons law of viscosity, Pumps, Newtons law of viscosity, Types of Viscosity, Shear stress of fluid, Pumps, Laws of FM- Bernoulli equation, pascal law, Euler. Types of fluid flow- Newtonian & Non-Newtonian, laminar, streamline, turbulent, Assertion & Reason questions, Numbers, and their significance (Reynold No, Mach no, Nusselt no, Biot no, Prandtl no, Grashoff No)

Manufacturing Technology-Welding, Casting Process, Questions related to process used in day to day used objects (Pen Cap).

Engineering Graphics-Projections

Machine Design & Theory of Machines: Inversions

Aerodynamics: Vortex Flow, Boundary layer separation, Drag & Lift, Navier stokes equation, La Grange equation, Eulers equation.

They also asked me to explain the steps in performing ANSYS stress analysis for a given model.

I was called for 2 rounds of technical interviews, and both had different panel members. Each interview lasted around 30–40 minutes.

After all the process was over, the results were announced around 5 p.m.

On behalf of all those who got selected, I would like to thank all the faculty members for equipping us with the necessary knowledge and Dr. N. Lakshmi Narasimhan and Dr. Divya Zindani along with Placecom members, for making sure the process happened in a smooth manner.

STUDENT WRITE-UP

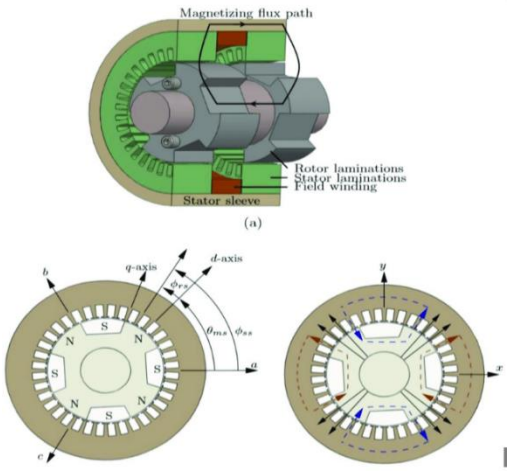
HARI MADHAVAN FROM SECOND YEAR WRITES...

I had the incredible opportunity to take part in the 29th Abu Dhabi International Chess Festival, a renowned annual event that hosts a variety of FIDE registered tournaments which was held from August 14th to 25th of this year. Among the array of tournaments, I chose to participate in the Masters Tournament. Participation in the Masters Tournament was reserved for FIDE-rated players boasting a standard rating of at least 2300 ELO. The tournament format encompassed 9 rounds; each player allotted 90 minutes with a 30-second increment per move. Over the course of the tournament, I engaged in a series of 9 enthralling chess encounters, each presenting a fresh opponent hailing from a different cultural background. The results proved a testament to my dedication and skill—I secured victory in 4 games, played to a draw in 2, and faced defeat in 3. Those losses, however, transformed into invaluable learning experiences that further fueled my passion for the game. The lessons I extracted from both my victories and setbacks serve as a rich source of growth as I continue to navigate the intricate world of chess.

MECH MARVEL

Amazing Innovation 233

Dual Rotor Homopolar AC Machine



Researchers at Purdue University have developed dual rotor homopolar alternating current machines (DHAMs) that can operate either as a motor or a generator. To date, permanent magnet alternating current (PMAC) machines have been the dominant source of motors in the car market or other markets that use power dense AC machines. However, these machines typically utilize rare earth materials for their construction and are expensive to manufacture. Non-rare earth PM machines have been realized; however, they suffer from lower power densities. The Purdue researchers' DHAMs can be constructed without rare-earth materials while meeting the torque requirements of the vehicular market. The magnets in the researchers' DHAMs need not be constructed from rare earth materials due to the superior cooling qualities of their machines. The researchers disclose 6 different forms of DHAMs, each of which has a novel dual rotor topology, DC flux source in the form of stationary or rotating permanent magnets or a field winding, and a segmented stator. The DHAM utilizes both radial and axial flux paths. Stationary magnets or field winding facilitate cooling and electric connections to the field and eliminate mechanical stresses in high-speed machines. The rotors themselves are nominally lossless, which also facilitates high-speed applications. The segmented nature of the stator facilitates manufacturing, leads to a high packing factor, and facilitates the construction of large machines. The researchers' DHAMs also have a wide constant power speed range, making them ideal for applications such as motors for flywheel energy storage systems or electric vehicles.

Applications:

- Motors for hybrid, plug-in hybrid, and electric vehicles
- Motor-generators for energy storage systems.

ALUMINI WRITE-UP

RITHVIK JAYAPRAKASH OF MECH'2023 SHARES...

Hey guys! This is Rithvik. I would like to thank all my professors and friends at SSN. I really had a great experience and learning during my bachelor's degree of Mechanical Engineering. Currently, I am pursuing Masters in Robotics at UNSW, Sydney. I have joined robotics program at UNSW because of my interest to acquire strong mathematical skills, good analytical thinking and knowledge of practical application of engineering science and technology.

In my course, I have Artificial Intelligence, Continuous Time Control System Design, Advanced Autonomous Systems, Python Programming, Systems Engineering, Data Structures and etc, as my pre-requisites. The dynamically advancing world of automation has always attracted me. I naturally took up a B. Eng course in Mechanical Engineering and graduated with flying colours from SSN. I have successfully completed the Engineering Skill Enhancement Industrial training on Robotics Element and Architecture. I have participated in the World's biggest international hands-on IoT and Ethical Hacking Workshop. CATIA training in Kaashiv Infotech has made me interested in 3d-modelling. I took part in some of the robotics and mechatronics workshops at IIT Madras.

I have been awarded Merit Scholarship for the year 2022-2023 as one of the 6 rank holders in my 2nd year as well as in my 3rd year of study. I have done Solar Panel Cooling System as my design and fabrication project in my 6th semester of Mechanical Engineering. In my 8th semester, I have worked on a discontinuity capture of shock tube project. Pursuing an MSc in Robotics, I would like to go deeper into the field and gather more advanced skills while building up my research skills simultaneously. I am interested in designing and developing electro-mechanical systems.

Thanks to SSN for this wonderful journey and making my dream come true.

ALUMINI WRITE-UP

BHAVISH ATHREYA OF BATCH MECH'2023 SHARES...

I am excited to share that, after an enriching internship journey, I am taking the next big step in my career by joining Amazon as an Area Manager!

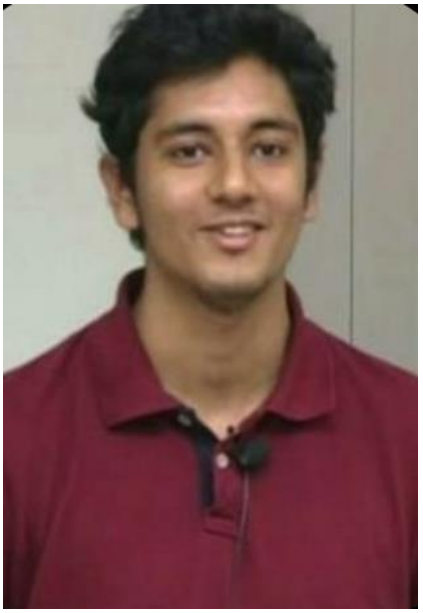
I want to express my heartfelt gratitude to the incredible team at Amazon for providing me with an exceptional internship experience. The mentorship, hands-on projects, and exposure to the E-commerce industry have been invaluable. I have not only honed my skills but also forged lasting connections with amazing colleagues.

Thank you to all the people who were involved in my evolution to the professional space of the globe, especially SSN College of Engineering.

ALUMINI WRITE-UP

SHARAN SRINIVASAN OF MECH'2013 SHARES...

JOURNEY FROM MECH TO MACHINE LEARNING



Mechanical engineering to Machine learning seems like quite a jump for anyone involved. It was quite the same for me too. In fact, in all honesty, my conscience would say that the field stuck to me than the other way around. Machine learning/AI is all about finding patterns, trends and creating products that help with decision making. There is a school of thought that machine learning isn't all that useful in and of itself. It's only when you apply machine learning to a field of context that reveals its utility. That utility can be anything from optimizing hospital bed utility to self-driving systems. In this article, I do not what to go into what ML is or why it is different from Mechanical Engineering. They are different. But they are more similar than they are different, and I'd like to share my thoughts on why I think so.

Machine learning is a dynamic field of artificial intelligence that empowers computers to learn from data and improve their performance over time without being explicitly programmed. This technology finds a significant application in mechanical engineering, where complex systems and designs can benefit immensely from its capabilities. By harnessing machine learning algorithms, mechanical engineers can analyze vast amounts of data from simulations, tests, and sensors to extract valuable insights and patterns. These insights aid in optimizing product designs, predicting equipment failures, and enhancing overall system efficiency. From predictive maintenance of industrial machinery to the optimization of aerodynamic profiles, machine learning's integration with mechanical engineering is ushering in a new era of innovation and problem-solving.

ALUMINI WRITE-UP

Shifting your field of study from mechanical engineering to machine learning was accidental for me. If I were to go back in time, I would begin with these areas:

- Educational Foundation: Begin by building a strong foundation in machine learning. Enroll in relevant courses or pursue a formal degree in computer science, data science, or machine learning. Familiarize yourself with key concepts such as algorithms, data preprocessing, model training, and evaluation. Utilize online resources like Coursera, Udacity, edX, and Khan Academy to access tutorials, courses, and learning materials related to machine learning.
- Hands-on Projects: Start building your portfolio by working on machine learning projects. Apply your mechanical engineering knowledge to solve real-world problems using machine learning techniques. This will demonstrate your abilities to potential employers or academic programs. Platforms like Kaggle offer hands-on projects that can help you gain practical experience.

Speaking to professors helped a lot of students in my class understand the possibilities out there. In fact, expanding boundaries and speaking to students in the math department, computer science helps open new avenues that you can expand your interests to. Wishing my fellow mechanical engineers, the very best!

COMPETITION UPDATE

"NO COMPETITION, NO PROGRESS"

ACCENTURE INNOVATION CHALLENGE 2023:

Link: REGISTER HERE

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COMPETITION UPDATE

SSN INNOVATION DAY

CORPORATE WISDOM

From the desk of Ramki -– Aspire to Inspire

From Ramki

Happy Morning – Aspire to Inspire

We make the decision to wake up at such and such a time the next morning. We set up the wake-up call. The little gizmo simply responds to our settings by ringing the wake-up tone. But waking up is a mental phenomenon and getting up is a physical phenomenon. Between these two phenomena there is a gap, and that gap lies the first psychological defeat of the day. In the gap between waking up and getting up, the body prevails over the mind. The body supposedly the lower convinces the mind supposedly the higher; to either overlook the wake-up call or snooze it and sleep a little longer. Instead of mind over body, the scenario becomes body over mind. By surrendering to that gap, we begin our day with a defeat of not obeying our own decision.

The very first experience of the day is negative. The very first impression we create every day is that we do not even have control over our own body. Then, where is the question of gaining control over life & others?

Attitudes don't care where we shape them, but once shaped they express themselves in all quarters of our life, either by creating us or destroying us. By postponing and not getting up at the pre-decided time, we develop the attitude of procrastinating. And this attitude to procrastinate hurts us in all aspects of life.

So, let every day of ours in the year 2023 begin only on a winning note. Let us conquer the gap between waking up and getting up. Let our waking and getting up be simultaneous in 2023.

#WishingMostAndMore

Have a wonderful day & great weekend!

R. Ramakrishnan

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