



Dayananda Sagar University

Bengaluru

SOE-BULLETIN

The Official Newsletter of **School of Engineering**



SCHOOL OF ENGINEERING

Vision

To Transform life through Excellence and Innovation in Engineering Education and Research with an emphasis on Sustainable, Inclusive Technology and Global needs.

Mission

To Develop School of Engineering at Dayananda Sagar University, as Center of Excellence by imparting Quality Education and Research to generate highly Competent, Skilled and Humane manpower to face emerging Technological, Scientific and Social challenges with Ethics, Integrity, Credibility and Social concern.

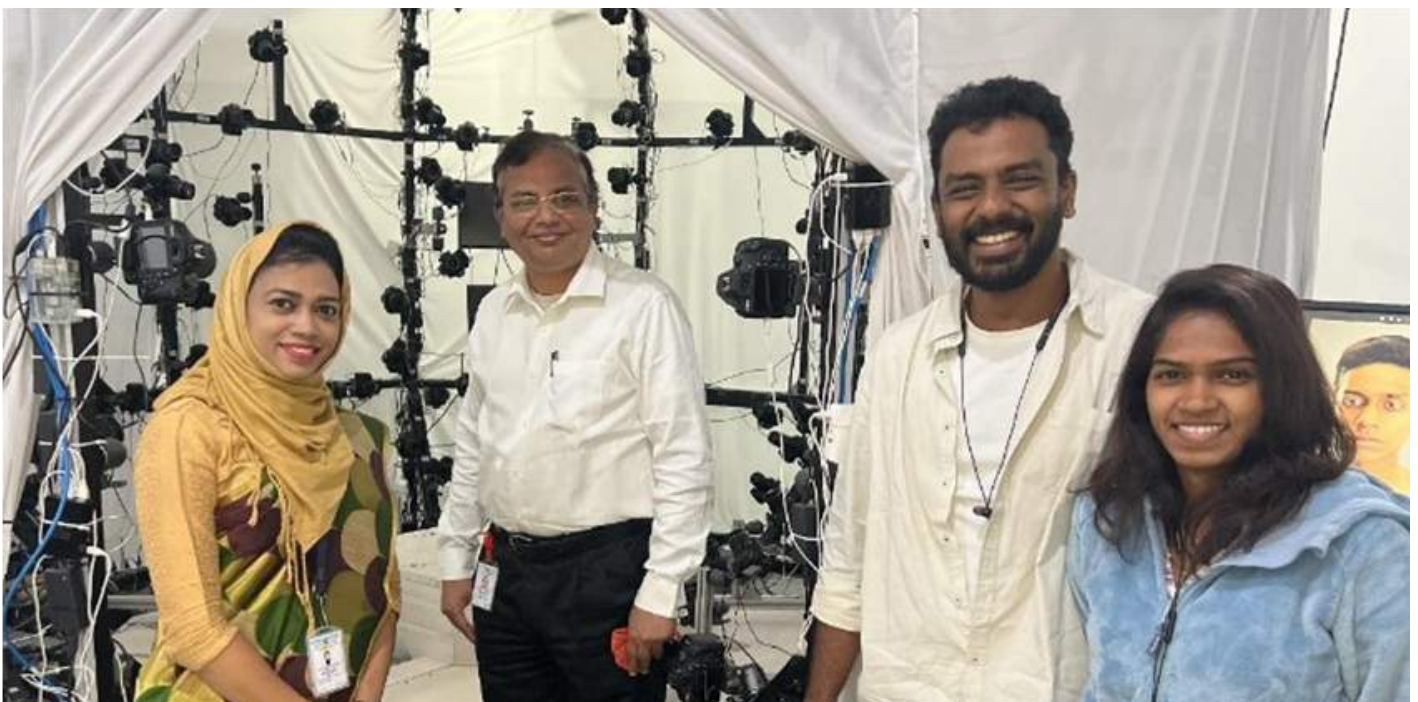


Department of Computer Science & Technology

Industrial Visit

Dr.M.Shahina Parveen, Chairperson CST, and Prof. Bhaskar Venugopalan faculty of Department of CS&T at Dayananda Sagar University visited the ABAI-AVGA on 31st October 2022. (Date / Time – Monday 31 Oct 2022, 10.30 am). The webinar started with the introduction of the ABAI AVGC Centre of Excellence (CEO) has state-of-the-art facilities that will give the Creative Production a holistic technological boost. The Coe has the most highly equipped AVGC Post- production infrastructure, providing the audio-visual industry with talent and tools to produce high quality content that was hitherto not possible to automate – ABAI – AVGC Centre of Excellence, Nalapad Brigade Centre//Ground Floor, Whitefield Main Road/Mahadevapura Post, GarudachaPalya, Bengaluru 560048.

The CoE has a Digital Production and Post-production lab with technologies such as motion capture, body Scan, 2D and 3D Animation, Green Screen and high-speed rendering, which is available on an affordable pay-per-use basis. AVGC partner us across the value are engaged in the business of conception, production, post-production, media and intellectual property rights, publishing and marketing of animation, Visual effects, special effects, editing, digital gaming, including mobile console-desktop games and comics content.



Student Development Program

The Department of Computer Science & Technology successfully conducted the Student Development Program "Developing a Jugaad Mindset" held on 19-Oct -2022 in association with ICAI Business school, Bangalore.

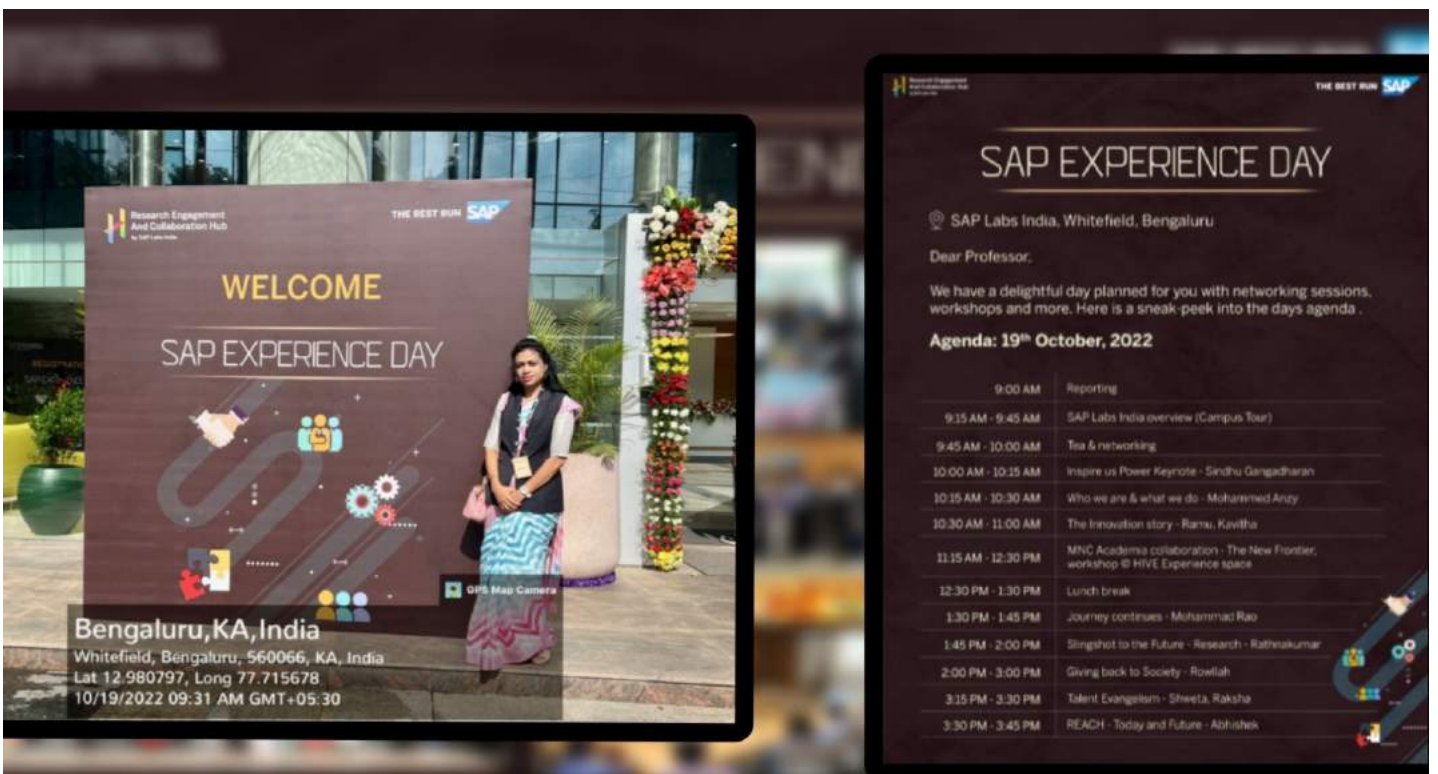
Students were encouraged to take a free IBSAT National Level MOCK aptitude test for management aspirants. All students received E-certificates of participation Prof. Baskar Venugopalan, Professor, CST, and Prof. Ramandeep Kaur, Assistant Professors organized this event successfully. Around 46 CST students attended this seminar. This seminar helped students to think out-of-the-box ideas and gave them decision-making skills in their professional/personal life. Students have given very good feedback for this event.



Industry-academia connection "Visit to SAP Experience Day"

Dr. M Shahina Parveen, Chairperson CST was invited to SAP Experience Day on October 19, Wednesday at their headquarters in Bangalore.

SAP has been actively engaging with our institution over the last many years. They would now like to take his relationship a step further with SAP Experience Day where they wanted to offer us an insider's view on the emerging technologies and the related impact opportunities.



SAP EXPERIENCE DAY



STAFF ACHIEVEMENT



Prof. M. Chithambarathanu

Assistant Professor

Prof. M. Chithambarathanu filed a patent (202241061041) titled "Data storage of IoT device based on blockchain"

Abstract:

"The present invention relates to the field of the network information security, with the data for having a Third-Party Authentication based on block chain-based storage method. The invention more particularly relates to an artificial intelligence-based data management for IoT devices using blockchain technique and working method thereof"

STUDENT ACHIEVEMENTS

- 1) **Miss. M S Shashikala (ENG20CT0025)** had participated Protothon and was guided by Dr. M. Shahina Parveen, Chairperson & Professor, CST.
- 2) **Mr. Sohan R V (ENG21CT0037)** had participated Hackathon and was guided by Prof. Bhavani G
- 3) **Mr. Sohan R V (ENG21CT0037)** had awarded with Best Working Model by DERBI and was guided by \ Prof. Bhavani G.
- 4) **Mr. ANSH GUPTA (ENG20CT0005)** had secured 1st place in Intercollege badminton competition.
- 5) **Mr. Sohan R V (ENG21CT0037)** had secured 3rd place in Intercollege volleyball competition.



Department of Computer Science & Engineering

SEMINAR ON HIGHER STUDIES

Department of the Computer Science & Engineering conducted a seminar on Top 3 Careers to pursue after Engineering on 14th October 2022. The event was conducted by Dr. Revathi V, Associate Professor, CSE. The first speaker of the event was Mr. Sandeep Andari,

The Gate Academy having experience in GATE exam teaching focused on how there are abundant opportunities for engineers with GATE. The second speaker Mr Sameer, Expertise in Abroad & Management education focused on Management Education and discussed about competitive exam like GRE, GMAT.

The students were encouraged to start their preparations for GATE, GRE and GMAT as they would only benefit them in the future and provide a different direction from the ones they were focusing on. It also adds more weight if the GATE rank and score is added in one's resume in the corporate world. There were about 90 attendees in attendance for the event and it was an interactive session where many students raised their questions and cleared their doubts regarding the talk. This entire event was deemed successful with majority participation from the attendees.



WORKSHOP ON QUANTUM COMPUTING

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STUDENT ACHIEVEMENTS

Ms. Shubhashree P, 7th Sem, CSE was invited as the Guest Speaker for Inauguration of Cysec Club, DSU-SOE on 12th October 2022.



Students Of CSE – **Ms. Shishira S & Ms. Shubhashree P**, 7th Sem, CSE from Team Venera are the global nominees of NASA Space Apps Challenge 2022 and were felicitated at T-hub & T-works, Government of Telangana on 18th October 2022.



Ms. Shubhashree P, 7th Sem, CSE has won the 'Research Warriors Award Champ' for the research paper- 'Paradigm of International Relations – Netaji till Date' organized by Bhartiya Shikshan Mandel



Ms. Anmol, 5th Sem, CSE has won the Miss Karnataka Crown 2022.



STAFF ACHIEVEMENT

Dr. Sindhu P.Menon, completed MOOC courser “**Deep Learning for Computer Vision**” in October 2022 awarded by NPTEL.



Department of Computer Science & Engineering

(Artificial Intelligence and Machine Learning)

INDUSTRIAL VISIT

The students of Semester 5 AIML visited Continental AG, a German multinational company automotive parts manufacturing company specializing in brake systems, interior electronics, automotive safety, powertrain and chassis components, tachographs, tires and other parts for the automotive and transportation industries.

The objective of the visit was to understand how Artificial Intelligence and computer vision is being leveraged to the automotive section.

The first part of the visit began with Mr. Vishal Muralidharan giving an overview of Continental, their plans for collaboration with universities, and their plans for expansion. He also explained how they are using artificial intelligence in projects like self-driving cars. There was also a brief discussion on the various object detection algorithms used in the industry. The visit was concluded with a presentation on machine learning and their applications in the automotive industry. The team members demonstrated how they use machine learning to detect anomalies in the braking system, and how they use machine learning to detect the quality of the brake pads.



AI AWARENESS

The students of Semester 3 along with Prof Roshni conducted an AI Drive which focused on creating an awareness in the budding youth about the pros and cons of AI and ML. The drive was held in two sessions in St Francis School focusing 10,11th and 12th students on 10th of October 2022 and other session in Dayananda Sagar ICSE School focusing 10th students on 22nd of October 2022.

The sessions were handled by the students of 3rd Semester AIML. The session was interactive and our students got very good feedback from both the schools.



STUDENT ACHIEVEMENTS

Prof Roshni M got her paper titled “Rat Swarm Optimizer Based Transform for Performance Improvement of Machine Learning Classifiers in Diagnosis of lung cancer” accepted in Second International Conference on Smart Technologies, Communication and Robotics IEEE-STCR-2022.

STAFF ACHIEVEMENT

Ms. S Nivedha under the guidance of Dr Rajesh got her paper titled “**Secure Remote Health Monitoring System and Assessment using IOT**” accepted in IEEE International Conference on Artificial Intelligence and Data Engineering.

Mr. Karthik Pai of Semester 5 AIML, Conducted a seminar and hands on session for the students of CSE, on YOLO Technology.



Department of Computer Science & Engineering

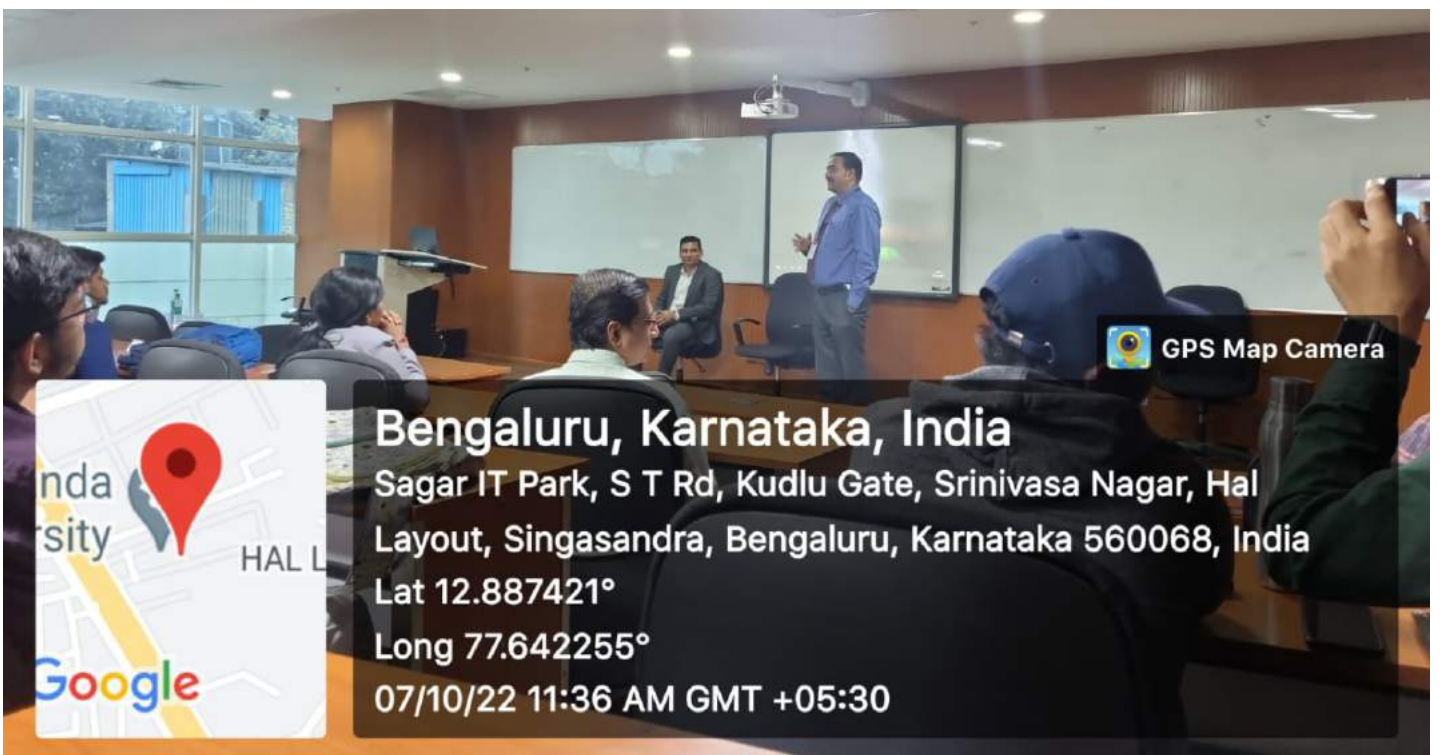
(Cyber Security)

SEMINAR ON INFORMATION SECURITY

The speaker Mr. Ajay Ganapule was welcomed by Department Chairman Dr. Kiran B. Malagi. Session was turned over the speaker Mr. Ajay Ganapule, there are some important key-points shared by sir which are as follows:

- Introduction on Cyber Security.
- Introduction on information technology.
- Definition on data and information and difference between them.
- The types of cyber-attacks occurred
- The three pillars of Information Security: Confidentiality, Integrity, Availability
- Protection layer

Mr. Ajay Ganapule also discussed career building path in cyber security. Prof. Naveen Kulkarni, Prof. Manjula coordinated the event. All 2nd year and 3rd year students of department of Computer Science and Engineering (Cyber Security) attended the resourceful seminar.



SEMINAR ON INFORMATION SECURITY

On 13th October 2022, students of club of department of Computer Science and Engineering (Cyber Security) named CYSEC CLUB was inaugurated by Dean, SoE, Dr. Udaya Kumar Reddy K.R. All the office bearers of the club were nominated and taken oath of their responsibilities. Office bearers presented the year plan of conducting different student activities for over all growth of department students.

Invited final year student of CSE, Ms. Shubhashree P. was honored for winning first place in National Debate on Constitutional Issues. She shared her experience and motivated juniors to be more proactive. Chief guest of the function Dean, SoE, addressed the students on benefits of having student club and possible activities to be conducted for career growth. Dr. Uday Kumar Reddy suggested to students to go beyond department level to conduct activities and assured that the university will support for such activities. Dr. Kiran B. Malagi, Chairman, CSE(CS) guided and supported students to form the student club and urged to reap the benefits of team work. Certificates were distributed to all award-winning students in different competitions. Prof. Manjula and Prof. Naveen Kulkarni coordinated the event.



AWARENESS ON CYBERTHREATS

The B.Tech III year (2020-2024 Batch) 5th Semester Students Krishna Priya Lokanatha, Nainesh Dalai, Gangesh Gunjan Sharma, Pratham V Kamat, Pratham Acharya, Yogesh Sirvi, Nachiketh S Ujjainimath, Bennet Christopher and Pooja Ramesh of Department of Computer and Science and Engineering(Cyber Security), Dayananda Sagar University, School of Engineering organised a one day workshop 18th October 2022 for the B.Tech II year (2021-2025 Batch). A well-built and analyzed cybersecurity strategy and implementation can minimize the potential harms brought by internal source. The students gained a foundational perspective on the topics of cyber safety, social engineering exploits, pitfalls of social media, malware and exploitation, communications security and physical security. They also learnt the risks that could potentially lead to data breaches and other cybersecurity threats.

The students presented about the various threats to cybersecurity, which are as follows: Phishing, Malware, SQL Injection, Password attack, Man in the middle attack, D.O.S. They conducted some activities after the presentation like, Demonstration of various Hacking tools, Quizzes regarding the general awareness in cyber security. Interactive session about their doubts, hacking tools and cyber security as a career was held after activities.



Figure 3: Nainesh Dalai explaining about Cyber Terrorism



Figure 4 : Pratham V Kamat demonstrating the BEEF Tool

Awareness on Cyberthreats, attacks to II-year students by III-year Students

The B.Tech III year (2020-2024 Batch) 5th Semester Students Krishna Priya Lokanatha, Nainesh Dalai, Gangesh Gunjan Sharma, Pratham V Kamat, Pratham Acharya, Yogesh Sirvi, Nachiketh S Ujjainimath, Bennet Christopher and Pooja Ramesh of Department of Computer and Science and Engineering(Cyber Security), Dayananda Sagar University, School of Engineering organised a one day workshop 18th October 2022 for the B.Tech II year (2021-2025 Batch). A well-built and analyzed cybersecurity strategy and implementaton can minimize the potentialharms brought by internal source. The students gained a foundatonal perspecti e on the topics of cyber safety, social engineering exploits, pitalls of social media, malware and exploitation,communicaationsecurity and physical security. They also learnt the risks that could potentiallylead to data breaches and other cybersecurity threats.

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Department of
Computer Science
& Engineering
(Data Science)

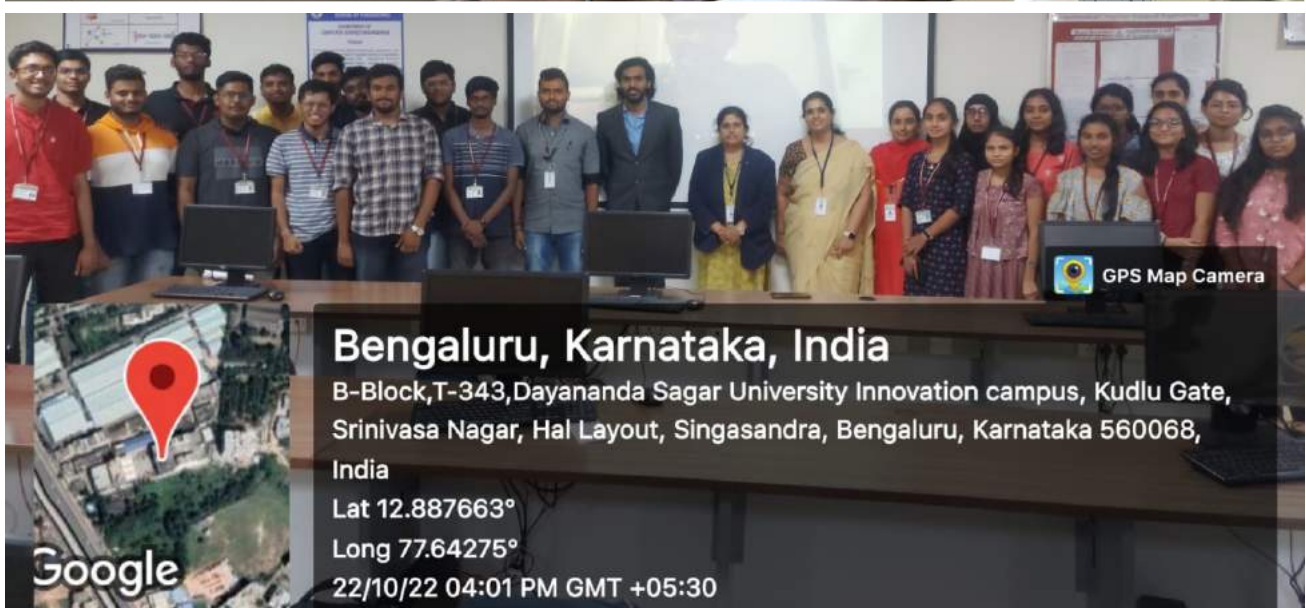
Workshop on Data Science for Dummies

Under the DataScience@DSU Club, the Department of CSE (Data Science) organized an offline Hands-On Workshop “Data Science for Dummies” on 22nd October 2022 organized by Dr. Shaila S G, Professor and Chairperson, Dept. of Data Science, Prof. Shivamma D, Assistant Professor, Dept. of Data Science, Prof. Monish L, Assistant Professor, Dept. of Data Science, and Prof. Vaishali Bagewadikar, Assistant Professor, Dept. of Data Science. The event was inaugurated with a commencement speech by Dr. Shaila S G. Professor and Chairperson, Dept. of CSE (Data Science).

The Speaker Mr. Ayush started with the introduction to Data Science and he gave a detailed overview of Data warehousing and OLAP-OLTP technology exploring the significance of Industrial work like decision support. Data warehousing and OLAP (On-line Analytical Processing) tools are essential for decision-making and have the ability to focus on databases of industry. And he explained the difference between the requirements of database technology compared to OLTP (On-line Transaction Processing) application.

Mr Ayush and Mr Sumit helped the students to explore the Kaggle site to download the data set and to work on the large data. Students performed a number of exercises throughout the life cycle of the data warehouse to drive home complete understanding of the data warehouse development process and its issues.

At the end of the webinar an evaluation was carried out and the students have performed satisfactorily, feedback was taken from the students and it is found to be satisfactory.



STAFF ACHIEVEMENT



Prof. Shivamma D
Assistant Professor

Selected as Galactic Mentor for NASA Space Apps Challenge 2022 in the International Hackathon hosted by DSU virtually during Oct 1-2, 2022.

STUDENT ACHIEVEMENTS



R D Lohith, Pranav S S, Manju Swaroop, Amrin Bushra Taj and Sukrutha G of 5th Semester Data Science students selected as "Global Nominee" in the NASA Space Apps Challenge 2022 in the International Hackathon hosted by DSU virtually during Oct 1-2, 2022.



Department of Mathematics

Publications

- 1) Stochastic Programming Model in Least Cost Feed Formulation for Lactating Cattle., Communicated. International Journal of Tropical Insect Science by Dr. Ravinder Singh Kuntal.
- 2) First Edition Livestock Ration Formulation for Dairy Cattle and Buffalo by Dr. Ravinder Singh Kuntal Copyright Year 2022. ISBN 9781032137476 Published by CRC Press. Taylor Francis (Available on Amazon). <https://www.routledge.com/Livestock-Ration-Formulation-for-Dairy-Cattle-and-Buffalo/Singh-Kuntal-Gupta-Rajendran-Patil/p/book/9781032137476>.

Patent

- 1) A Real Genetic algorithm-based system for formulating the most cost-effective feed ration for pregnant dairy cows. 202022104745. 06-09-2022. German Patent by Dr. Ravinder Singh Kuntal.
- 2) Obesity in children: a mathematical model - Indian Patent by Dr. Ravinder Singh Kuntal.
- 3) A Novel Hardware Prototype for Crowd Monitoring System and A Method Thereof. (South African Patent).
- 4) Feed formulation methods for quantifying the amounts of various feed ingredients: An Introduction and Survey. (South African Patent)



Department of Physics

Staff Achievement

Dr. Yogesh Kalegowda got SERB Sanctioned project in Core research Grant scheme.

Title: Graphene oxide (GO) and reduced graphene oxide (rGO) based nanomaterials for photothermal supercapacitor applications

Budget: 30 Lakhs

Duration: 3 years



Association for TRIZ and Technical Innovation (TRIZTI) a regional MATRIZ Association (promoted as ATTI) from India has been spear heading TRIZ deployment in India since 2016 in collaboration with Proinn. With a clear mission and vision to contribute to India's growth on innovation to be within the top 10 on Global Innovation Index, GII, has been spearheading activities of teaching, mentoring the methods of TRIZ, DFP through workshops and actual problem solving using this learning. As on October '22, India ranks at 40. TRIZTI conducts India's annual TRIZ and Technical Innovation conference "Bharat TRIZutsav" to INSPIRE, Showcase and Promote Invent in India® and then Make in India using the structured innovation methodology of TRIZ (Structured Jugaad).



Diversity of participation across Industries, Start-ups, Academia and a full house from 9.30 AM – 6.30 PM

DSU faculties with Mr. Tito Kishan Vemuri Vice President, MATRIZ (India) Founder Chairman, TRIZTI



DSU faculties with Dr. Kovaichalvan Director, Institute for Quality & Leadership, TVS Motors



DSU faculties with Dr Alok Nath De, FNAE Executive Consulting Director and ex-CTO, Samsung India Adjunct Prof. IISc and IIT-J





Department of Mechanical Engineering

VISIT to KGTTI, GoK

KGTTI is a Sustainable Skilling Group undertaken by Govt of Karnataka Supported by Govt of India, Govt of Germany and Govt of Japan to develop Skill and transform the community for Industry readiness program.

Date : Thursday October 20, 2022, at 10.30 AM

Agenda of the Visit:

- Walk through KGTTI Shop floor for understanding the available facility,
- Understand the kind of collaborative areas to support the program to develop the captive center for learning and skill research
- Areas of Interest to write Joint proposals for research and development for CSR funds treating KGTTI as Industrial Partner
- Joint proposals to be proposed in future to implement community development programs from Industries and commerce with state of art expertise utilization of Subject experts in the field of science and technology. (ex.) Smart city development, Energy sector Innovation, Mobile communication and Learning management system and so on Thursday October 20, 2022, at 10.30 AM with Industrial collaboration.

Representatives from DSU:

1. Dr. KNB Murthy, Vice Chancellor, DSU
2. Dr. Saravanabavan, Dept. of Mechanical Engg, DSU
3. Prof. Kathik S.B., Dept. of Mechanical Engg, DSU



“Saraswathi & Ayudha Pooja at DSU”

As per the tradition of DSI/DSU, SoE has arranged “Ayudha Pooja” in college premises for all departments on 10th October 2022. The pooja was performed in the presence of Dr. Uday Kumar Reddy K R, Dean SoE, DSU; Dr. M K Banga, Dean, Research, DSU, all faculties and students. All the arrangements were done by DSU faculties and students. After Pooja rituals prasadam was distributed among all the present.



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