Volume 03
Issue 01

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (DATA SCIENCE)

DATA GLIMPSE

January 2024 - June 2024

BI - ANNUAL NEWSLETTER

Dayananda Sagar University, School of Engineering
Devarakaggalahalli, Harohalli Kanakapura Road, Ramanagara - District Karnataka - 562112

VISION AND MISSION DSU

Vision:

To be a centre of excellence in education, research & training, innovation & entrepreneurship and to produce citizens with exceptional leadership qualities to serve national and global needs.

Mission:

To achieve our objectives in an environment that enhances creativity, innovation and scholarly pursuits while adhering to our vision

VISION AND MISSION Data Science

Vision:

To produce Engineers for Industry and Society in the field of Computer Science and Engineering (Data Science) by providing Excellence in Education, Research and Entrepreneurship with focus on sustainable solutions to fulfill global needs.

Mission:

The Department of Computer Science and Engineering (Data Science) in committed to:

- Impart quality education, critical thinking and sustainable learning practices in the domain of Computer Science and Engineering (Data Science) with ethical values and leadership qualities.
- Inculcate Interdisciplinary Research and Innovation by establishing Industry-Academia collaboration to solve critical problems.
- Prepare graduates to become Ethical Data Science practitioners to contribute in data driven global society.

DEAN'S MESSAGE

Dr. Udaya Kumar Reddy K R
Dean - School of Engineering
Professor, Dept. of Computer Science and Engineering
DSU

I am delighted that the Department of Computer Science and Engineering (Data Science) is bringing out the newsletter that can provide wonderful insights for students and faculty fraternity.

A lot has been happening in the school of computing sciences over the years, and one of the significant changes involves this newsletter.

Our graduate students are doing amazing things in many different areas in different ways. In the current issue, you'll meet some remarkable students and faculty who are making a difference in the technical aspects and otherwise. We are hoping to build this endowment with your support, to afford even more opportunities for students to take part in this important component of their graduate education.

I hope this magazine provides the reader a wonderful insights and I thank the editorial team for their wonderful effort in bringing out this newsletter.
Wish you all the best.

CHAIRPERSON'S MESSAGE

Dr. Shaila S G
Professor & Chairperson
Department of CSE
(Data Science) SOE,DSU

It gives me immense pleasure and pride to introduce the Volume 3 Issue 1 of the Newsletter DATA GLIMPSE from the Department of Computer Science & Engineering (Data Science). The Data Science is designed to bridge the industry gaps in terms of research and development using cutting-edge technologies. The program aims to meet the requirements of various job roles in Data Science.

The students and faculty members of the program have contributed technologically to solving real-world challenges through projects, hackathons, and quizzes. The program has offered various workshops and webinars for the students to develop their skills and knowledge in various domains. These events are effectively captured in the newsletter in the form of articles and achievements. I hope the Data Science newsletter motivates and encourages the students and faculty members with ample opportunities and exposure.

I thank the students, faculty members, and the editorial team for their wonderful efforts in bringing out this newsletter.

ABOUT THE PROGRAM

B.Tech CSE (Data Science) is a 4-year undergraduate degree programme. Data Science teaches the students how to combine Machine Learning techniques, algorithms, tools, business acumen and mathematics and apply on raw data to extract insight information from it. In short, technology algorithm development and data inference are blended together to solve complex problems analytically in Data Science.

Throughout the entire duration of the programme, the students are taught how to amalgamate business knowledge, tools and statistics to generate business value in creative ways.

The four-year undergraduate curriculum includes a detailed delivery of Basic Sciences, Mathematical Foundations, Statistical Foundations, Artificial Intelligence, Machine Learning, Data Science, Deep Learning, and Data Visualization.

The curriculum imparts 21st century skills having the following components: Liberal education aspects for all round development, courses that trigger new age skills, project based learning, special topics (hands-on sessions on multiple topics with mentoring from expert), option for MOOC, UG Research Project/Product Development/Internships.

The curriculum focuses on Liberal Art Courses, Foundation Courses, Professional Courses, and Electives that helps them build expertise in some specialized areas. Curriculum developed also emphasis on Design oriented thinking, Communication, Collaboration and Creativity right from 1st year.

A degree in Computer Science (Data Science) can lead to the following job roles in a variety of industries such as Retail, Finance, E-commerce, Healthcare, IT services:

- Data Scientist
- Data Analyst
- Business Analyst
- Data Engineer
- Senior Data Engineer
- Senior Data Analyst
- Data Director

What's inside...

- Articles
- Programme Events
- Staff Achievements
- Student Achievements
- Result Analysis

And more....

FACULTY LIST

Dr. Shaila S G
Professor & Chairperson

Dr. Shaila S G has earned her Ph.D in Computer Science from NIT, Trichy, Tamil Nadu for her thesis on Multimedia Information Retrieval in Distributed System. She has 17 years of experience in teaching & research in the concerned field. She has worked for CPRI, Bangalore as a Trainee Engineer. Later, she worked as a Research Fellow for a DST project, India for a period of 3 years. She has also worked in Indo-US collaborated project for "Obama-Singh Knowledge Initiative Program" in the University of Nevada (UNLV), Las Vegas, United States. She is a certified IBM trainer for the Business Intelligence. Her research areas are Data mining, Information Retrieval, Image Processing and Computational Neuroscience. She has published more than 50 research articles in reputed Journals and Conferences, books and book chapters. She has 11 Indian Patents and 2 Australian Patents.

Dr. Kakoli Bora
Associate Professor

Dr. Kakoli Bora is an Associate Professor in the Department of CSE (Data Science). She had completed her Ph. D. in Computer and Information Science (Astroinformatics) from Visveswaraya Technological University, Belagavi, Karnataka. Her thesis title is Machine learning approach to understanding Astrophysical Data: The Final frontier: Novel Algorithmic study. She has 17 years of teaching & research experience in the field of Computer Science. She has worked for a startup named Happymonk AI Labs as Senior Data Scientist. Her research interests include Data mining, Image Processing and Deep Learning. She has published more than 15 research articles in reputed Journals and Conferences. She has published two book chapters.

Prof. Shivamma D
Assistant Professor

Shivamma D is working as an Assistant Professor in the Department of Computer Science and Engineering (Data Science). She is pursuing Ph.D in Dayananda Sagar University, Bengaluru. She completed her M.Tech from Birla Institute of Technology and Science (BITS), Pilani (Rajasthan). She has an extensive experience of 10 years in the field of Teaching and Research. She has worked as an IT Officer/IT Programmer/Data Analyst at National Institute of Mental Health And Neuro Science (NIMHANS), An Institute of National Importance, Government of India located at Bangalore. Her research interests are in the area of Technology Enabled Digital Learning, Machine Learning, Image Processing, Computational Neuroscience, Big Data Analytics and Data Science.

Prof. Monish L
Assistant Professor

Monish L is working as an Assistant Professor in the Department of Computer Science & Engineering (Data Science). He is pursuing Ph D on Image Analytics in Dayananda Sagar University. He has completed M. Tech from Dayananda Sagar University, and B.E. from The Oxford College of Engineering. He has 1 year of industrial experience in ADAS. He is a certified trainer of JAVA and FSD from Virtusa. He has published 3 Book chapters in an international journal. His paper is awarded with the best paper award in the ICAMIDA 2022 conference. His areas of interest are Data Mining, Knowledge Discovery, Data Analytics, Machine Learning and Artificial Intelligence.

FACULTY LIST

Sindhu A is working as an Assistant Professor in the Department of Computer Science & Engineering (Data Science). She has completed M.Tech from Dayananda Sagar University, and B.E. from BMS College of Engineering,Bangalore.Worked as an intern in Tech Citi Technologies. She has published 3 research papers. Areas of interest are Computer Vision, Machine Learning,Data Mining,Artificial Intelligence and Image Processing.

Prof. Sindhu A
Assistant Professor

Vaishali Bagewadikar is working as an Assistant Professor in the Department of Computer Science and Engineering (Data Science). She has completed her M.Tech from University of Visveswaraya College of Engineering, Bangalore and BE from Basaveshwara Engineering college, Bagalkot. She has 7 years of teaching experience and 1 year of industry experience from Unisys India Pvt ltd. Her area of interests are cloud and Fog computing, Machine learning, Data Science.

Prof. Vaishali Bagewadikar
Assistant Professor

Shahwar Ara Kamal S is working as an Assistant Professor in the Department of Computer Science and Engineering (Data Science). She has completed her B.E in Information Science from APS College of Engineering and M.Tech from Dayananda Sagar University, Bangalore. She has published one paper at International Conference Springer. Her areas of interest are Computer Networks, Machine Learning.

Prof. Shahwar Ara Kamal S
Assistant Professor

Manjula M is working as an Assistant Professor in the Department of Computer Science & Engineering (Data Science). She is pursuing PhD on Image Retrieval in Dayananda Sagar University. She has completed M.Tech in Computer Network & Engineering from East west Institute of Technology Bangalore, affiliated to VTU She has 4 years of Teaching Experience in Dayananda Sagar Institute of Technology and 1 year IT experience as a Web Developer, I Published 4 paper in International Journals and 1 paper in National Conferences. Her areas of interest are Cyber Security and Forensics, Image Processing, Machine Learning and Artificial Intelligence.

Prof. Manjula M
Assistant Professor

SUPPORTING STAFF

Divya R
Teaching Assistant/Lab Instructor

Praveen R S
Office Assistant

ARTICLES

Early Detection and Classification of Breast Cancer cells using Data Fusion Techniques

Nowadays, the most predominant cancer disease is Breast Cancer that has a higher death rate and women gender is the most affected by this disease. But detecting Breast Cancer in early stage is challenging as the malignance growth at this stage occurs in the duct that are undetected as symptoms are less. Early detection of breast cancer is very much needed and critical, and mammography is considered as one of the best-suited procedures. The masses are classified as benign or malignant tumors. Mammography is the most effective and widely used method for detecting and analysing breast cancer in its early stages. The size and shape of the masses are characterized by its shapes as per BI-RADS (Breast Imaging-Reporting and Data System), which can discriminate benign and malignant effectively. A framework that automatically classifies the benign and malignant tumors in mammogram images has been proposed and INBreast and CBIS-DDSM dataset experiments are been considered. The histogram-processing multi-level Otsu thresholding on the extracted Region of Interest (RoI) is applied as pre-processing steps for segmenting it. The analysis of morphological features such as structure, shape, size, and boundaries of mass that are extracted from the RoI. The relevant features that are extracted from the datasets are cross-validated for training and testing using stratified cross-validation techniques. In the next stage, the analysis of texture feature from the RoI. The texture identifies the spatial ordering of intensities of the RoI and are used for classifying the benign and malignant masses. The RoI is logically split into 8x8 non-overlapping regions. Goodness of Fit Distribution, Independence of Attributes and Homogeneity are extracted as features for understanding the texture content. Further, the fusion scheme of morphological and texture features of the cells for analysis is done. Morphological features such as the shape and marginal characteristics of the mass are considered as per the BI-RADS standard. Texture features of the mass were also extracted to understand the characteristics of pixel variation in the masses. These features are combined and its dimension is normalized using Exhaustive Feature Selection (EFS). The Support Vector Machine (SVM) is used to classify benign and malignant tumours from the CBIS-DDSM and INbreast datasets. The performance is measured by means of various measures such as precision, Recall, etc. The result is further compared with contemporary methods and found that the fused feature is performing well.

Dr. Shaila SG
Chairperson & Professor
Dept. of CSE (DS)

Blockchain for Data Privacy in AI and Data Science

Integrating blockchain technology into AI and data science presents a powerful solution for bolstering data security. Traditional data storage methods, which rely on centralized systems, are highly susceptible to breaches and unauthorized access. Blockchain technology, with its decentralized nature, mitigates these risks by distributing data across numerous nodes. This distribution makes it substantially harder for malicious actors to compromise the system. Each data entry within a blockchain is cryptographically secured and linked to the previous one, forming an immutable ledger. This ensures that once data is recorded, it cannot be altered, thereby preserving data integrity. Such robust security measures are critical for AI and data science applications, where the accuracy and reliability of data are paramount.

Maintaining data privacy while facilitating data sharing and collaboration is a significant challenge in AI and data science. Blockchain technology effectively addresses this issue through its decentralized data management approach. In a blockchain network, data owners maintain control over their data, allowing them to share only the necessary information without relinquishing ownership. The implementation of smart contracts—self-executing contracts with the agreement terms directly embedded in code—ensures secure and automated data-sharing processes. These smart contracts enforce compliance with predefined privacy rules, providing a transparent and verifiable mechanism for data transactions. This approach ensures that data privacy is upheld while enabling the collaborative efforts essential for AI research and development.

Trust and transparency are crucial elements in any data-driven ecosystem, particularly in AI and data science. Blockchain technology significantly enhances these aspects by offering a transparent and tamper-proof record of all data transactions. Every transaction on the blockchain is time-stamped and publicly verifiable, allowing participants to trace the data's history and provenance. This transparency fosters trust among stakeholders, as they can independently verify the authenticity and integrity of the data. Additionally, the decentralized nature of blockchain eliminates the reliance on a central authority, reducing the risk of single points of failure and ensuring a more resilient and trustworthy data ecosystem. By integrating blockchain technology, AI and data science can achieve heightened standards of data privacy, security, and trustworthiness, thereby encouraging innovation and collaboration while protecting sensitive information.

Prof. Shivamma D
Assistant Professor
Dept. of CSE (DS)

Restoring the World Through Data Innovation

In today's world, data is omnipresent, generated from countless activities like messaging on phones and GPS tracking. Data innovation involves using advanced technologies such as artificial intelligence (AI), machine learning, and big data analytics to collect, analyze, and utilize data effectively. This innovation is instrumental in tackling significant global challenges, including climate change. For instance, satellites gather critical environmental data on deforestation and ice cap melting, enabling scientists to monitor changes and predict future trends. This information aids governments and organizations in formulating policies to reduce carbon emissions and protect natural resources.

Healthcare and education are also significantly impacted by data innovation. In healthcare, electronic health records (EHRs) allow doctors to access patient histories easily, leading to more accurate diagnoses and treatments. Data analytics can identify disease patterns, enabling quick responses to prevent outbreaks. In education, data helps improve teaching methods and personalize learning experiences. Learning management systems (LMS) track student performance, providing insights for teachers to tailor lessons and help students achieve their potential. Moreover, data-driven tools facilitate the development of online courses, making education accessible globally.

Agriculture and urban planning are other fields benefiting from data innovation. Farmers use data from sensors and drones to monitor crop health and soil conditions, optimizing irrigation, fertilization, and pest control to increase yields and reduce waste. Additionally, data on weather patterns and market trends helps farmers plan better and sell produce efficiently. Smart cities utilize data to enhance residents' quality of life by monitoring traffic, air quality, and energy usage. For example, smart traffic lights adjust timings based on real-time data to reduce congestion. Embracing data innovation is essential for creating a sustainable and prosperous world, offering endless possibilities for positive global impact.

Prof. Monish L
Assistant Professor
Dept. of CSE (DS)

Ethical and Explainable AI: Building Trust in Technology

As artificial intelligence (AI) systems become deeply embedded in various aspects of society, the focus on ethical and explainable AI (XAI) is intensifying. Ethical AI seeks to ensure that AI technologies are designed and utilized in ways that uphold fairness, transparency, and alignment with societal values. This involves addressing significant concerns such as algorithmic bias, which can lead to discriminatory outcomes if not properly managed. For instance, biases in training data can cause AI systems to make prejudiced decisions, impacting critical areas like hiring, lending, and law enforcement. Ethical AI aims to preempt these issues by implementing rigorous standards and practices that promote accountability and fairness.

Explainable AI, or XAI, complements these ethical considerations by enhancing the transparency of AI systems. Traditional AI models, particularly deep learning algorithms, often function as "black boxes" with little to no insight into how they arrive at specific decisions. This opacity poses significant challenges in fields that require a high degree of trust and accountability, such as healthcare, finance, and criminal justice. XAI strives to demystify these complex models by developing techniques that provide clear, understandable explanations for their decisions. By doing so, XAI helps stakeholders—including developers, users, and regulators—understand and trust the AI's decision-making process. This transparency is crucial for validating AI's outputs and ensuring they align with ethical standards.

Implementing ethical and explainable AI is not without its challenges. One of the primary hurdles is ensuring that AI systems are free from bias, which necessitates a meticulous approach to data selection and algorithm design. Researchers and practitioners must carefully curate training datasets and continuously monitor AI outputs to detect and mitigate biases. Additionally, creating explainable models that do not compromise on performance is a complex technical challenge. Techniques such as rule-based systems, natural language processing, and visualizations are being explored to bridge this gap. As AI technology continues to advance, prioritizing ethical considerations and explainability will be essential in fostering public trust and ensuring that AI systems are used responsibly and effectively across various domains.

Nitin Prajwal R
4th Semester
Dept. of CSE (DS)

Big Data Analytics Meets the Internet of Things

Big Data and the Internet of Things (IoT) are two of the most influential domains in today's technological landscape, collectively generating approximately 2.5 quintillion bytes of data daily. Big Data encompasses vast amounts of both structured and unstructured data, extensively used in business intelligence and other information-rich fields to make predictions and informed decisions that enhance business performance. Through big data analytics, organizations can examine a wide range of data simultaneously, yielding valuable insights that drive improved decision-making processes. Conversely, IoT facilitates the interconnection of machines, humans, and other machines, providing real-time solutions to complex problems. Although initially based on different technologies, Big Data and IoT have become increasingly intertwined. Their combination creates a powerful synergy, resulting in more efficient and reliable applications. However, many companies struggle to fully leverage these benefits due to a shortage of skilled big data analysts capable of effectively utilizing and analyzing the vast amounts of data produced by IoT devices.

In real-time IoT applications, synchronizing hardware, programming, and interfacing is crucial. The interdependency between Big Data and IoT is evident as they work together to achieve specific goals. For example, sensors that collect 1,000 readings per second at 1 KB per reading generate 1 MB of data per second per sensor. With 10,000 sensors, this equates to 1 GB of data per second. Such statistics underscore the significant impact Big Data has on IoT and vice versa. This union drives innovation, enhancing business operations and providing numerous benefits to both organizations and end-users, thus fostering a more connected and data-driven world. The integration of Big Data and IoT not only enhances business operations but also paves the way for groundbreaking innovations across various industries. For instance, in healthcare, IoT devices can continuously monitor patient vitals, generating vast amounts of data that, when analyzed, can predict health issues before they become critical. In manufacturing, IoT sensors on machinery can detect anomalies, enabling predictive maintenance that reduces downtime and costs. Smart cities leverage the combination of Big Data and IoT to optimize traffic flow, reduce energy consumption, and improve public safety. These examples illustrate the transformative potential of harnessing Big Data and IoT, underscoring the need for skilled professionals who can bridge the gap between raw data and actionable insights, ultimately driving smarter and more efficient solutions across all sectors.

Janardhan K S
4th Semester
Dept. of CSE (DS)

Unleashing the Power of AR, VR, and MR in Data Science

Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR) are not just buzzwords in the tech industry; they are transforming how we interact with data and derive insights. These technologies offer immersive experiences that enhance data visualization, improve decision-making, and foster innovative ways to analyze complex datasets. AR overlays digital information onto the real world, enhancing the user's perception by adding layers of data, images, or graphics to their environment through devices like smartphones or AR glasses. VR immerses users in a completely virtual environment, detached from the real world, allowing them to explore and interact with 3D models and simulations. MR blends the physical and digital worlds, allowing interaction with both real and virtual elements, creating a cohesive experience.

One of the most significant contributions of AR/VR/MR to data science is in the realm of data visualization. Traditional 2D graphs and charts on computer screens can only convey so much information, while AR, VR, and MR enable the creation of 3D data models, providing a more intuitive understanding of patterns and relationships. Users can walk through data points, interact with datasets, and observe trends from multiple angles, leading to deeper insights that might be missed with conventional methods. Additionally, these technologies facilitate better collaboration among data scientists, stakeholders, and decision-makers by enabling virtual meeting spaces where teams can collectively analyze data, discuss findings, and make decisions, regardless of their physical locations. Presenting data in an immersive environment makes it easier for stakeholders to grasp complex concepts and see the practical implications of data insights.

AR/VR/MR technologies also enable real-time interaction with data, which is particularly useful in scenarios such as live data feeds where AR devices can overlay real-time data onto physical objects or environments, aiding in immediate analysis and decision-making. VR can simulate real-world scenarios with live data inputs, allowing users to test hypotheses and observe outcomes dynamically. In healthcare, these technologies can enhance data analysis and patient care through medical training with VR simulations, surgical planning with AR overlays of patient data, and more. In manufacturing, AR can guide technicians through complex repair processes with real-time data overlays, and VR simulations can analyze production data to identify bottlenecks and optimize workflows. The retail sector benefits from AR/VR/MR through virtual showrooms, enabling customers to explore products in a virtual space, and AR providing additional product information in physical stores. AR also assists in inventory management by overlaying data onto storage environments, ensuring better accuracy and efficiency.

Pavan Kumar G
4th Semester
Dept. of CSE (DS)

PROGRAMME EVENTS

"ORIENTATION PROGRAM AND TECHNICAL CONTENT WRITING"
5TH FEBRUARY, 2024

The Department of Computer Science and Engineering (Data Science), organized a C**omprehensive Orientation and Technical Content Writing** event on February 5th, 2024. Led by **Prof. Vaishali Bagewadikar**, Assistant Professor in the Department of CSE (Data Science), the event targeted 6th-semester B.Tech students.

A key focus of the event was providing students with valuable insights into the courses scheduled for the 6th semester. Dr. Shaila S.G, Chairperson of the Department of CSE (Data Science), conducted the introductory session. The faculty coordinator team, including Dr. Kakoli Bora, Associate Professor, played a crucial role in guiding students through core courses, professional elective courses, MOOC courses, and open elective courses. The event extended its coverage to include discussions on placement activities, career development, and detailed information on Continuous Internal Assessment (CIA) components for each course.
During the orientation Dr. Kakoli Bora covered key aspects of technical content writing, including the appropriate use of terminology, structuring information logically, and tailoring the content to diverse audiences. The session likely included practical examples and exercises to help students grasp the nuances of writing for technical contexts.

To conclude the session, the selection of Class Representatives (CR) and Class Committee members for the 6th semester took place. Overall, the orientation event proved to be highly informative, equipping students with the necessary knowledge and insights for a successful academic semester.

Outcome:

1. Students gained insights into upcoming courses, enabling informed academic choices.

To focus on technical content writing, empowered students with practical skills and fostered active learning and participation.

"ORIENTATION PROGRAM AND PROFESSIONAL SOCIETY AWARENESS"
26TH FEBRUARY, 2024

The Department of Computer Science and Engineering (Data Science), organized a C**omprehensive orientatio**n and Pevent on February 26th, 2024. Led by **Prof. Monish L**, Assistant Professor in the Department of CSE (Data Science), the event targeted 4th-semester B.Tech students.

The orientation program and professional society awareness initiative for 4th-semester B.Tech students aimed to provide a holistic understanding of their academic journey and introduce them to the broader professional landscape. Organized by the Department, this program began with an overview of the semester's curriculum, emphasizing core subjects and special topics. Faculty members shared insights into the academic expectations, grading policies, and available support services, ensuring that students were well-informed about the upcoming challenges and opportunities. The orientation also included interactive sessions addressing student queries, fostering a sense of clarity and confidence among the attendees.

In addition to the primary academic focus, the program incorporated an informative segment dedicated to creating awareness about professional societies pertinent to the field of engineering. Students gained valuable insights into well-established societies, understanding their goals and the advantages associated with membership. The initiative aimed to provide students with a deeper understanding of current industry trends, opportunities for networking, and the inherent importance of maintaining connections within the professional community. This fusion of academic orientation and professional society awareness intended not only to prepare students for their academic pursuits but also to cultivate a sense of belonging and a broader comprehension of the professional landscape awaiting them post-graduation. This comprehensive strategy ensures that 4th-semester B.Tech students possess a well-rounded set of academic and professional perspectives, enriching their educational journey.

Outcome:

1. The initiative ensured that 4th-semester B.Tech students made informed decisions about their academic paths by gaining insights into upcoming courses.
2. Students acquired valuable knowledge about relevant engineering societies, enhancing their understanding of industry trends and networking opportunities, setting the stage for future professional success

"ACCELERATING SUCCESS"
16TH FEBRUARY, 2024 & 23RD FEBRUARY, 2024

In association with DataScience@DSU Club, the Department of CSE (Data Science) started a short term training on **"Accelerating Success"** held on 16th February and 23rd February, 2024 organized by the **faculties of CSE(Data Science)** department. The first session was taken by Dr. Kakoli Bora, Associate Professor, who gave an insight on how to solve problems using the C programming language along with a technical quiz on C language. The second session was handled by Prof. Vaishali VB, Assistant Professor. She had taken a session on solving different aptitude questions. The students took active participation on both the days.

The Takeaways of the event are:

1. Gain Knowledge on advanced C concepts
2. Improved problem solving skills
3. Exposure to different types of aptitude problems and how to solve them.

QUIZ ON
"QUIZ-VENTURE ENHANCE YOUR SKILLS WITH C"
1ST MARCH, 2024

The DataScience@DSU Club, under the Department of Computer Science and Engineering (Data Science), organized a Quiz event titled **"QUIZ-VENTURE:** Enhance your skills with C" on March 1st, 2024. The event aimed to assess students' understanding of fundamental concepts in C programming and provide them with an opportunity to enhance their skills in the subject. The quiz was organized by **Prof. Shivamma D**, Assistant Professor, Department of CSE (Data Science), and **Prof. Monish L**, Assistant Professor, Department of CSE (Data Science). The Quiz was taken up by 25 students.

Winners:

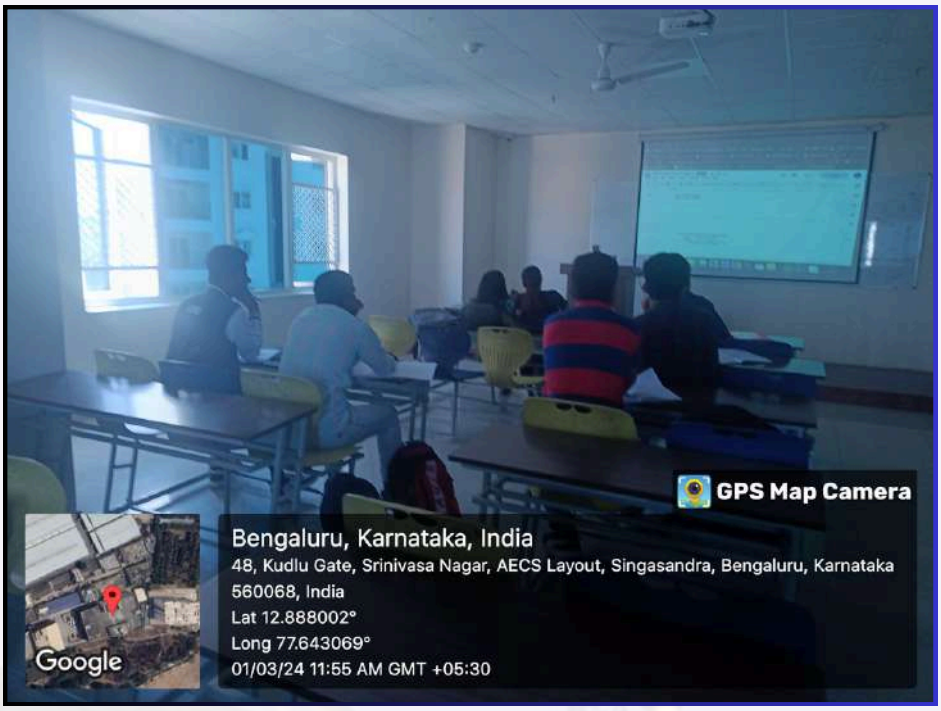
	Name	USN
First Place	**Kovarthana K**	**ENG22DS0032**
Second Place	**Sanjana T**	**ENG22DS0017**
Third Place	**Arian Kovacs**	**ENG22DS0049**

The Takeaways of the event are:

1. Quizzes reinforce learning by consolidating concepts from lectures, textbooks, and practical exercises.
2. They encourage students to review course materials and practice problem-solving skills.

Quizzes foster a commitment to academic excellence by promoting active engagement with the subject matter.

SHORT TERM TRAINING
"JAVA CODING SKILL TEST"
1ST MARCH, 2024



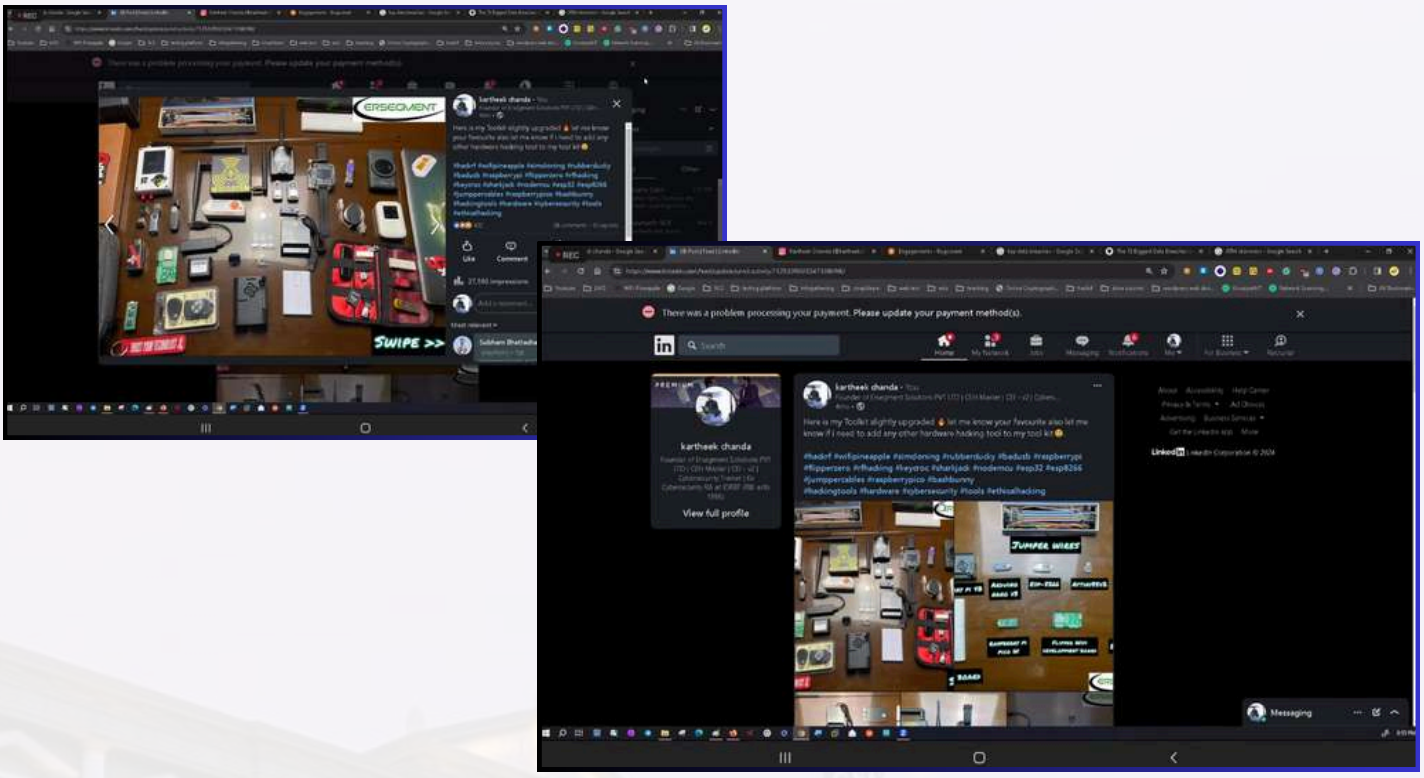
The DataScience@DSU Club, the Department of CSE (Data Science) conducted a short term training on **"Java Coding Skill"** held on 1st March, 2024 organized by the faculties of CSE(Data Science) department.

The session was taken by **Dr. Kakoli Bora,** Associate Professor, who gave an insight on problem solving using the JAVA programming language along with a technical quiz on aptitude problem solving. The students took active participation on both the days.

The Takeaways of the event are:

1. Gain Knowledge on basic concepts of Java language
2. Improved problem solving skills
3. Exposure to different types of aptitude problems and solutions

WEBINAR ON
"CYBER STRATEGIES FOR CUTTING-EDGE DATA SCIENCE"
6TH MARCH, 2024



The DataScience@DSU Club, in collaboration with Intellipaat and the Department of Computer Science and Engineering (Data Science), organized an online Webinar on **"Cyber Strategies for Cutting-Edge Data Science"** on March 6th, 2024. The webinar emphasized integrating cybersecurity measures into data science practices and highlighted proactive threat detection, privacy compliance, and collaboration among stakeholders as essential strategies for safeguarding data assets in the digital age. The Webinar was organized by **Prof. Shivamma D**, Assistant Professor, Department of CSE (Data Science), and **Prof. Monish L,** Assistant Professor, Department of CSE (Data Science). The Webinar was attended by 42 students.

The Takeaways of the event are:

1. Understand the importance of integrating cybersecurity into data science practices.
2. Learn proactive techniques for threat detection and prevention, such as advanced analytics and machine learning algorithms.
3. Recognize the significance of data privacy and compliance with regulatory standards like GDPR and HIPAA.
4. Emphasize continuous monitoring and prompt response to cybersecurity incidents using automated tools and protocols.

Resource Person: Kartheek
CEH Master | CEI - v2 | Cybersecurity Trainer | Ex Cybersecurity RA

QUIZ ON
"APTIPRECISION: FINE-TUNING NUMERICAL ABILITIES"
7TH MARCH, 2024

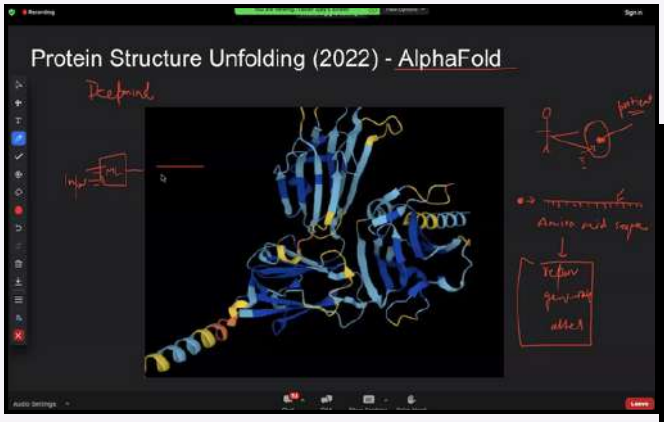
The DataScience@DSU Club, the Department of CSE (Data Science) organized a Quiz "**AptiPrecision: Fine-Tuning Numerical Abilities"** held on 7th March 2024 organized by Prof. Shivamma D, Assistant Professor, Dept. of CSE (Data Science), and Prof. Monish L, Assistant Professor, Dept. of CSE (Data Science).

AptiPrecision: Fine-Tuning Numerical Abilities is an aimed at enhancing participants' numerical proficiency through targeted strategies and practice. By delving into numerical concepts and problem-solving techniques, attendees gain valuable insights into optimizing their performance in aptitude tests and exams. Through practical guidance and interactive sessions, the webinar equips participants with the skills and confidence needed to tackle numerical challenges effectively. With a focus on precision and efficiency, AptiPrecision empowers individuals to refine their numerical abilities, ultimately leading to improved academic and professional outcomes.

The Takeaways of the event are:

1. Identify areas where you excel and areas where you may need improvement in terms of problem-solving, critical thinking, mathematical reasoning, etc.
2. To understand how well you manage your time during the quiz.
3. Reflect on the strategies you used to solve different types of questions. Determine which strategies were effective and which ones need refinement.
4. To assess your understanding of fundamental concepts in areas such as mathematics, logic, reasoning, and analytical thinking.
5. To identify any gaps in your knowledge or skills that need to be addressed through further study or practice.

WEBINAR ON
"EXPLORING PATHS IN DATA SCIENCE CAREERS"
9TH MARCH, 2024



The webinar titled **"Exploring Paths in Data Science Careers"** organized by the DataScience@DSU Club in collaboration with Intellipaat and the Department of CSE (Data Science) at DSU, held on 9th March, 2024 organized by **Prof. Shivamma D**, Assistant Professor, Dept. of CSE (Data Science), and Prof. Monish L, Assistant Professor, Dept. of CSE (Data Science) proved to be a valuable resource for students and professionals interested in pursuing careers in data science. Led by esteemed speakers from both industry and academia, the webinar provided insights into the diverse career paths available within the field of data science, ranging from data analysis to machine learning engineering. Participants gained a deeper understanding of the essential skills and qualifications required to excel in data science roles, along with practical guidance on building a strong portfolio and navigating the job market.

Ajay Bharaj, a seasoned data scientist with extensive experience in the industry. Ajay shared his insights into industry trends, emerging technologies, and potential career growth opportunities within the data science field. His expertise and practical advice resonated with the audience, providing valuable insights and inspiration for those looking to carve out successful careers in data science. Overall, the webinar served as a platform for knowledge sharing, networking, and career guidance, empowering attendees to embark on their journey towards fulfilling and rewarding careers in data science.

Resource Person: Ajay Bharaj, Data Science Specialist
Mckinsey and Company

The Takeaways of the event are:

- Understanding of diverse career paths in data science.
- Insight into essential skills and qualifications for data science roles.
- Practical guidance on building a strong portfolio and navigating the job market.
- Awareness of industry trends, emerging technologies, and career growth opportunities.
- Inspiration and motivation to pursue careers in data science.

WOMEN'S DAY CELEBRATION
"EMPOWER HER CELEBRATION: HONORING WOMEN"
11TH MARCH, 2024

The DataScience@DSU Club, the Department of CSE (Data Science) organized a Women's Day Celebration "**EMPOWER HER CELEBRATION: HONORING WOMEN**" held on 11th March 2024 on the occasion of International Womens Day organized by **Prof. Shivamma D**, Assistant Professor, Dept. of CSE (Data Science) the event aimed to commemorate International Women's Day and honor the contributions of women in various fields. The celebration featured a series of engaging activities, including inspirational talks, panel discussions, and cultural performances, showcasing the achievements and empowerment of women. Participants expressed their appreciation for the event's insightful discussions and uplifting atmosphere, highlighting the importance of recognizing and supporting women's endeavors in society. Overall, the "Empower Her Celebration: Honoring Women" served as a meaningful tribute to women's achievements and a platform for promoting gender equality and empowerment.

Top of Form

Bottom of Form

Eminent Women Role Models of DSU Invited:

- Dr. Mahalakshmi P, Chairperson, Dept. of Mathematics
- Dr. Pushpamala S, Professor, Dept. of ECE
- Dr. Savitha Hiremath, Professor, Dept. of CSE
- Prof. Nandhini, Assistant Professor, Dept. of CSE

Departmental Women Role Models:

- Dr. Shaila SG, Chairperson, Dept. of CSE (DS)
- Prof. Shivamma D, Assistant Professor, Dept. of CSE (DS)
- Ms. Divya R, Teaching Assistant/Lab Instructor, Dept. of CSE (DS)

The Takeaways of the event are:

- Education about gender equality and women's rights.
- Empowerment through highlighting achievements and promoting self-confidence.
- Emphasis on inclusivity and diversity.
- Community building among supporters of gender equality.

TECH TALK ON
"DATASPHERE: IEEE DATA SCIENCE EXPLORATION"
14TH MARCH, 2024

The DataScience@DSU Club, the Department of CSE (Data Science) organized a Talk on IEEE "Datasphere: IEEE Data Science Exploration" held on 14th March 2024 organized by Prof. Monish L, Assistant Professor, Dept. of CSE (Data Science), and Prof. Shivamma D, Assistant Professor, Dept. of CSE (Data Science).

Dr. Pushpa Mala S, a senior IEEE member and Life Member of ISTE, actively fosters collaboration and knowledge exchange within the scientific community. Her leadership in the EXECOM-IEEE Bangalore Section underscores her dedication to promoting excellence in electronics engineering. We eagerly anticipate her address on IEEE, expecting her insights to
Inspire and enlighten us.

Resource Person: Dr. Pushpa Mala S, Associate Professor,
Dept. of EC & E, SOE, DSU

The Takeaways of the event are:

- These events highlight the latest trends in data science, showcasing advancements like machine learning, artificial intelligence, big data analytics, and data visualization.
- Applications Across Industries: Attendees learn how data science is applied in various sectors such as healthcare, finance, retail, and transportation, addressing complex challenges and driving innovation.
- Ethical Considerations: Discussions focus on ethical issues surrounding data-driven technologies, including data privacy, algorithm bias, transparency, and accountability.

"CODE-A-BIT '24: GET YOUR GEEK ON"
21ST - 22ND MARCH, 2024

The DataScience@DSU Club, the Department of CSE (Data Science) organized **CODE-A-BIT'24**, held on March 21st and 22nd, 2024, at Gallery Hall-01 & GE Healthcare A-Block, Campus-03, showcased the technical prowess and innovation of students from DSU's School of Engineering. Organized by the Department of Computer Science and Engineering - Data Science, the event featured four rounds: Innovative Interface, Frontend Knockout, Mind Sprint, and Data Fusion. Participants demonstrated their skills in UI design, web development, quiz challenges, and data analytics. Chief Guest Mr. Vinod Shankar, CEO of AIC-DSU, graced the event, emphasizing our commitment to academic excellence and technological advancement.

Round 1: Innovate Interface - UI Design Participants redesigned the ISRO website's user interface, focusing on visual appeal and appropriateness. They showcased their design abilities by conveying ISRO's mission, vision, brand identity, and values effectively.

Round 2: Front-End Knockout: In this round, participants navigated through three levels of increasing complexity, testing their ability to recreate website designs using front-end technologies like HTML, CSS, and JavaScript.

Chief Guest: Mr. Vinod Shankar, CEO of AIC-DSU

1st Prize: Team LET US COOK

- K V S Balaji ENG21CS0195
- Naindeep Singh ENG21CS0261
- Andrew Nitin Joseph ENG21CS0164

2nd Prize: Team TECHCRAFTERS

- Pooja V M ENG21CT0029
- Harika Reddy K ENG21CT0007
- Krutarth Y G ENG21CT0019
- Venkat B S ENG22AM3015

3rd Prize: Team MEAT BALLS

- Priyanka Datta ENG21CS0309
- Sri Hari ENG21CS0344
- Sakshi Singh ENG21CS0343

INDUSTRY VISIT
"MOX ISRO ISTRAC"
27TH MARCH, 2024

The DataScience@DSU Club, the Department of CSE (Data Science) organized a **Industry visit to MOX ISRO ISTRAC** for 4th Semester students held on 27th March 2024 organized by **Prof. Shivamma D**, Assistant Professor, Dept. of CSE (Data Science).

During the industry visit to MOX ISRO ISTRAC, Mr. Sankar Madaswamy, Manager of HRD at ISTRAC/ISRO, provided insightful explanations about the organization's operations and its significance in the aerospace sector. He elaborated on the critical role of ISTRAC (ISRO Telemetry, Tracking and Command Network) in tracking and controlling satellites launched by the Indian Space Research Organisation (ISRO). Mr. Madaswamy highlighted how ISTRAC's advanced telemetry, tracking, and command capabilities enable real-time monitoring and management of satellite missions, ensuring precise navigation and communication. He also shed light on the complex technical infrastructure and sophisticated systems employed by ISTRAC to support various space missions, emphasizing its contributions to India's space exploration endeavors.
During the visit to MOX ISRO ISTRAC, the students had the privilege of meeting Ms. Nindini Harinath, who led the operations team at ISTRAC, ensuring the successful mission operations of Chandrayaan-3 and Aditya. Ms. Harinath shared valuable insights into the planning, execution, and operational aspects of the Chandrayaan-3 mission, which is India's ambitious lunar exploration project. She provided a comprehensive overview of the mission's objectives, scientific goals, and the advanced technology deployed for lunar exploration. Ms. Harinath also discussed the challenges encountered during the mission and the innovative solutions devised by ISRO's team to overcome them. Her interaction with the students offered them a rare opportunity to learn firsthand about the intricacies of space missions and the pivotal role played by operational directors in ensuring their success. Overall, the meeting with Ms. Nindini Harinath enriched the students' understanding of India's space exploration endeavors and inspired them to pursue careers in space research and technology.

The Takeaways of the event are:

- Insight into ISTRAC's role in satellite mission operations.
- Understanding of real-world applications of space technology.
- Appreciation for the leadership and expertise of operational directors.
- Inspiration for future careers in space research and technology.
- Networking and collaboration opportunities with industry professionals.

AWARENESS PROGRAM
"AWARENESS TALK ON THALASSEMIA"
17TH APRIL, 2024

Under the DataScience@DSU club, the Department of CSE (Data Science) organized an awareness program on "**Awareness talk on THALASSEMIA"** on 17th April 2024, from 11:00 am to 1:00 pm organized by Together With Us Foundation in collaboration with SANKALP INDIA FOUNDATION. The Together With Us Foundation is dedicated to positively impacting the community by providing aid, support, and hope to those in need, run by youth. The SANKALP INDIA FOUNDATION – a charitable trust promoting voluntary blood donation and alleviating blood requirements in patient care in India.

The Speaker of the talk Mr. Rakesh Dhanya BV, CEO- SANKALP INDIA FOUNDATION, likely emphasized a few key points:

1.Understanding Thalassemia: Explaining the types of thalassemia (such as alpha-thalassemia and beta-Thalassemia) and how they affect the body. This might include discussing the genetics behind the disease, the symptoms experienced by those who have it, and the various degrees of severity.

2.The Role of Blood Donations: Highlighting how crucial regular blood donations are for the treatment of patients with Thalassemia. Since these patients may require frequent transfusions throughout their lives, there is a constant need for a stable blood supply.

3.Call to Action: Encouraging the audience to donate blood, highlighting how each donation can save multiple lives and is particularly vital for those living with chronic conditions like thalassemia.

4.Safe Blood donation: Discussed about the criteria's for the donors. How a donor should prepare herself/himself before donating blood.

The speaker visited all the classrooms of 6th semester, SoE in Campus 3 and delivered the talk to the students.

Speaker: Mr. Rakesh Dhanya BV, CEO- SANKALP INDIA FOUNDATION

The Takeaways of the event are:

- ·Understanding Genetic Blood Disorders
- ·Importance of Regular Blood Donations
- ·Challenges with Frequent Transfusions
- ·Advancements in Treatment Options
- ·Encouraging Community Participation

PRE-PLACEMENT TRAINING
"WORKING IN TEAMS AND INTERPERSONAL SKILLS"
25TH APRIL, 2024

Under the DataScience@DSU club, the Department of CSE (Data Science) organized Pre-Placement Training on "**Working in teams and Interpersonal Skills"** on 25th April 2024, from 9:00 am to 4:00 pm organized by the Deputy Director – Placement Mr. Vijay Kumar S, Chairperson Dr. Shaila S G, Department of CSE (Data Science), Prof. Shivamma D, Assistant Professor and Prof. Monish L, Assistant Professor in the Department of CSE (Data Science), the event targeted 4th-semester B.Tech students. The purpose of the session was to equip participants with the essential skills and knowledge required to excel in team environments and foster effective interpersonal relationships in professional settings.

The pre-placement training session on "Working in Teams and Interpersonal Skills" provided participants with valuable insights and practical tools to navigate the complexities of teamwork and interpersonal relationships in professional settings. Through interactive discussions, activities, and role-plays, participants gained a deeper understanding of the importance of effective communication, conflict resolution, empathy, and trust-building. The session equipped them with the skills necessary to thrive in collaborative environments and contribute positively to their future workplaces.

Overall, the training was well-received by participants, who expressed appreciation for the practical advice and strategies provided. It is anticipated that the knowledge and skills acquired during the session will serve them well as they embark on their professional journeys.

Resource Person: Mr. Arun Ramachandran, Soft skill Trainer, CIL, DSI

Objectives:

1. Understand the importance of teamwork in achieving organizational goals.
2. Develop effective communication skills for collaborating within teams.
3. Enhance conflict resolution and problem-solving abilities.
4. Cultivate empathy and respect for diverse perspectives.
5. Learn strategies for building trust and fostering positive relationships.

The Takeaways of the event are:

1.Improved communication skills through active listening and clear articulation.
2.Acquired conflict resolution strategies for harmonious team dynamics.
3.Cultivated empathy and respect for diverse perspectives.
4.Fostered trust within teams through integrity and transparency.
5.Developed emotional intelligence for navigating interpersonal relationships effectively.

"PLACEMENT TRAINING SESSION MODULE ON RESUME WRITING / GROUP DISCUSSION / MOCK INTERVIEWS/ GROOMING FOR INTERVIEWS"
6TH MAY 2024

Under the DataScience@DSU club, the Department of CSE (Data Science) conducted a **"Placement Training** Session Module on Resume Writing / Group Discussion / Mock Interviews / Grooming for interviews" on May 6, 2024, from 8:45 am to 4:45 pm. The event was overseen by the Deputy Director – Placement, **Mr. Vijay Kumar** S, and chaired by **Dr. Shaila S G**, Chairperson of the Department of CSE (Data Science). The target audience for this event was 6th-semester B.Tech students. The main objective of the session was to provide participants with the necessary skills and knowledge to excel in team environments and cultivate effective interpersonal relationships in professional settings.

The session began with a detailed discussion on presentation skills. The facilitator highlighted key aspects that HR personnel typically look for during presentations, such as body language, confidence levels, language proficiency, and eye contact. Additionally, insights were shared on resume creation, distinguishing between resumes, CVs, and biodata, and explaining their respective purposes and formats. Following this, a debate was initiated on whether international or Indian food is preferred by Bengalurians. This debate allowed participants to apply their presentation skills, present their arguments persuasively, and engage in meaningful dialogue.

The overarching goal of the session was to improve participants' abilities in presentation skills, resume building, and group discussion techniques. Emphasis was placed on elements like body language, confidence, language proficiency, eye contact, and the ability to communicate thoughts effectively.

Resource Person: Karthik C, Soft Skill Trainer, CIL DSI

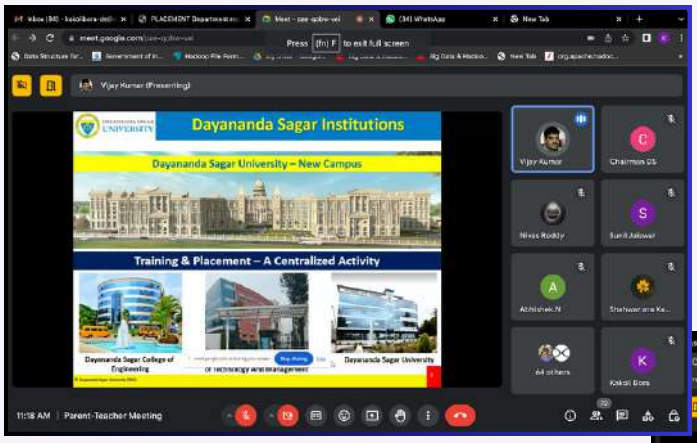
Objectives:

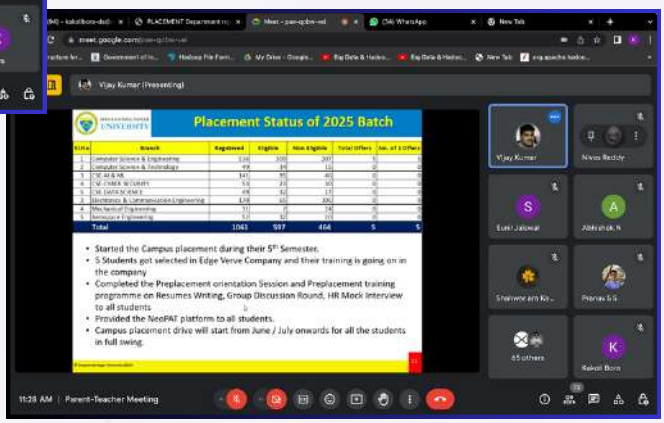
- To provide knowledge and skills in Resume Writing for creating impactful and professional resumes.
- To enhance participants' capabilities in Group Discussion by offering techniques for effective communication and collaboration.
- To simulate real-life interview scenarios through Mock Interviews and offer constructive feedback for improvement.
- To instill confidence and professionalism through Grooming sessions tailored for interviews.

Key Takeaways:

1. Understanding the importance of presentation skills in professional environments.
2. Distinguishing between resumes, CVs, and biodata.
3. Developing the skill of engaging in persuasive argumentation through debate.
4. Recognizing the importance of group discussions and refining essential skills for effective participation.
5. Understanding interview etiquette and appropriate dress codes.
6. Practice interview skills through mock interviews and receiving personalized feedback.

"PARENTS AND TEACHERS MEETING"
11TH MAY 2024





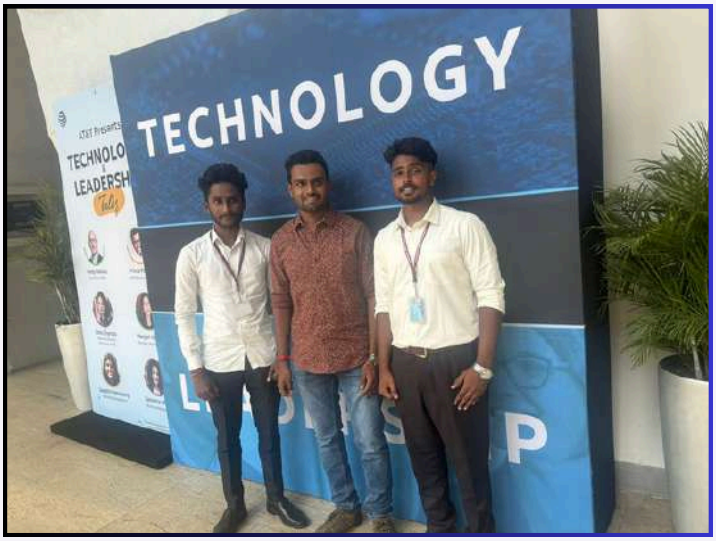
Dr. Shaila S G, Chairperson, and Dr. Kakoli Bora, Associate Professor, delivered a formal welcome address to parents, emphasizing the significance of "**Parent-Teacher meeting's**" for both students and the organization. Attendance requirements were reviewed, stressing the necessity of maintaining an 85% attendance record across all courses to be eligible for SEE exams. The split-up scheme of 60:40 was briefly explained to the attendees (6th and 8th Semester).

Prof. Vijay Kumar provided insights into the university's placement activities, covering eligibility criteria, company expectations, interview preparation, and the utilization of NeoPAT. Parental inquiries regarding placement were addressed. The importance of maintaining a good CGPA and SGPA was emphasized, underscoring their role in facilitating participation in placement opportunities and training sessions.

Recent placement statistics were shared, indicating an impressive placement rate of approximately 80% for the 2024 Data Science batch. The highest package offered was 8.5 LPA, with an average package of 3.5 LPA. The university's adoption of best learning practices, such as project-based learning, was highlighted as a means to enhance student engagement and learning outcomes.

Overall, parents expressed gratitude for the opportunity to connect with teachers and discuss their child's progress during the PTM, highlighting the importance of building a strong partnership between home and College to support student success

"TECHNICAL TALK"
14TH MAY 2024



Our department faculty Prof. Monish L, along with two 4th Semester students, Abhishek A (ENG21DS0002) and Abhishek N (ENG21DS0003), participated in a **"Technical Talk"** hosted by AT&T at the Vivanta Taj in Pattandur Agrahara, Bangalore, on May 14th, 2024. The session delved into the convergence of technology and leadership, with a particular focus on advancements in artificial intelligence (AI) and data science, exploring their implications for the future of work. Furthermore, it provided valuable insights into leadership strategies for fostering innovation and personal career growth.

The objectives of the technical talk:

- Showcase AT&T's Technological Expertise: Introduce attendees to AT&T's operations and underscore their dedication to innovation in AI, data science, and related domains.
- Demystify AI and Data Science: Provide a comprehensible overview of Large Language Models (LLMs), neural networks, and their diverse applications across industries.
- Explore the Future of Work: Examine how automation and technological progressions are reshaping professional landscapes, emphasizing the significance of adaptability.
- Equip Attendees with Leadership Skills: Furnish attendees with valuable insights into fostering workplace innovation, navigating career trajectories, and cultivating robust leadership attributes.

Key Takeaways :

- Attained a comprehensive understanding of AT&T's dedication to leveraging data science and AI for enhancing business operations.
- Gained insights into the company's operational strategies and its emphasis on technological advancements.
- Acquired profound knowledge about Large Language Models (LLMs), their capabilities, and their potential impact across various industries.
- Received insights into the pivotal role of data science and AI in fostering innovation and addressing complex challenges.
- Learned about the intricate functionality of neural networks and their applications within AI systems.

Conclusion:
In conclusion, the AT&T tech talk seamlessly merged technological expertise with leadership development strategies. We gleaned invaluable insights into the present landscape of AI and data science, recognizing their profound influence on upcoming industries. Moreover, the discourse on leadership furnished essential direction for personal and career advancement. This enlightening experience has equipped us to navigate the dynamic technological terrain and pursue our professional aspirations with newfound determination.

"MIND SPARK 2024"

PROJECT EXPO ON IOT

20TH MAY 2024

The DataScience@DSU Club, under the guidance of the faculty coordinators Dr. Shaila S G, Professor and Chairperson, Dept. of CSE (DS), **Prof. Shivamma D, and Prof. Monish L**, successfully organized the **"Mindspark 2024:** Data Science solutions for Cutting Edge IOT Problems" Project Expo on 20th May 2024 at the Harohalli Campus,A410, A Block.

The event aimed to showcase the innovative projects developed by 4th-semester students from the Department of Computer Science and Engineering (Data Science) at DSU.

The primary goal of this exhibition was to provide a platform for students to showcase their innovative projects developed in the Second Year (Fourth Semester), focusing on either Industry Defined Problems or User Defined Problems. It aimed to enable students to demonstrate their learning experiences and enhance their confidence by successfully completing their projects.

Student-prepared project prototypes addressing real-world issues in IOT, Cyber Security, and Embedded Systems drew interest from university officials and students. With 60 participants showcasing more than 20 projects, the Project Expo highlighted the creativity and skills of the students. This project expo provided a unique platform for students to share their innovations and experiences with the community.

Following the successful conclusion of the Project Expo, Dr. Shaila S.G, Professor and Chairperson of the Department of Computer Science & Engineering (Data Science) extended gratitude to External Experts and Management at Dayananda Sagar University for their support in making the event possible. Additionally, he congratulated staff members and students for their active participation.

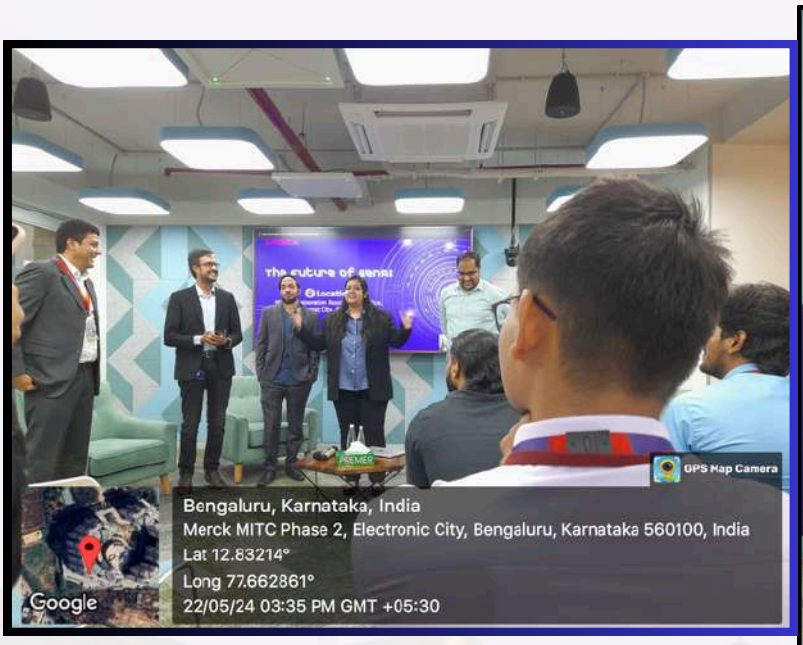
Judges:

Dr. Jayavrinda Vrindavanam V, Professor and Chairperson of CSE (AIML), DSU.
Dr. Basavaraj N Hiremath, Professor, CSE at DSU.

Winners:

1**st Prize:** Janardhan K S,Virika Olivia Soans and Sanjana T
Title: "Agriculture in Digital Era Smart strategies with Integrated IOT" under the guidance of **Prof. Shivamma D**
2nd Prize: Anshuman, Nemkal Harsha Vardhan and Priyanka Bai B K
Title: "Human Following Robot" under the guidance of **Prof. Shivamma D**
3rd Prize:
1. Nitin Prajwal R, Vinuraj Vamshi and Sujeeth Kumar
Title: "Intellichain IOT" under the guidance of **Prof. Monish L**
2. Pavan Kumar G, Kuruba Veeresh and Chethan Kumar S
Title: "Water Level Monitor" under the guidance of **Dr. Shaila S G**

TECHNICAL TALK
"FUTURE GEN AI" - AT MERCK MITC
22ND MAY 2024



The placement department has arranged a talk for 10 students from 6 semesters across the departments. two students from CSE (Data Science) **Akshaya B (ENG21DS0006) and Chaithra K(ENG21DS0014)** were selected to attend the event **"MITC X FireSide Chat with MITC : The Future of GenAI"** on 22nd May at Merck office, Bangalore from 11:00 AM onwards.

The event started with Introduction to Merck, its business, IT tech stack use, etc. The second phase featured the selection process for a campus ambassador. Candidates from various colleges presented their qualifications and motivations for the role. The selection process was competitive, with candidates showcasing their leadership abilities, communication skills, and understanding of Merck's values and objectives.

The final phase was a comprehensive panel discussion on the future of Generative AI, featuring esteemed panelists including an editor of an analytics magazine, an angel investor, a neuroscientist, and a data scientist from Merck. The discussion covered topics like : Future of Generative AI, Large Language Models, Impact on Jobs, Quantum and Cloud Computing, Edge Computing, and Generative AI in Health Science.

Overall, the event was highly informative, offering attendees a detailed understanding of Merck's operations, the process of selecting a campus ambassador, and the future prospects of Generative AI.

"TECHNICAL WRITING IN MULTILINGUAL CONTEXTS"
24TH MAY 2024

The DataScience@DSU Club, the Department of CSE (Data Science) organized a Workshop on **Technical Writing in Multilingual Contexts** held on 23rd May 2024 organized by **Prof. Monish L**, Assistant Professor, Dept. of CSE (Data Science), and **Prof. Shivamma D**, Assistant Professor, Dept. of CSE (Data Science).

The workshop on Technical Writing in Multilingual Contexts, organized by the DataScience@DSU Club and the Department of CSE (Data Science) on 23rd May 2024, shed light on the intricacies of producing high-quality technical documentation for diverse audiences. Led by Prof. Monish L and Prof. Shivamma D, Assistant Professors in the Department of CSE (Data Science), the event underscored the importance of a systematic approach in writing research papers.

Dr. Shaila's contribution to the talk on technical writing in multilingual contexts encapsulated the importance of a systematic approach to writing research papers. Beginning with meticulous topic selection and thorough preliminary research, attendees gained valuable insights into crafting a clear thesis statement and maintaining coherence through an organized outline. Dr. Shaila underscored the significance of conducting in-depth research, structuring body paragraphs effectively, and critically analyzing results. Her emphasis on these elements highlighted the importance of producing a meticulously revised and polished final draft, ready for scholarly submission. Dr. Shaila's guidance provided attendees with practical strategies to navigate the complexities of multilingual technical writing, ensuring clarity, accuracy, and adherence to scholarly standards in their research papers.

Resource Person: Dr. Shaila SG, Professor & Chairperson CSE (DS), SoE, DSU.

Key Takeaways:

·Students gained insights into upcoming courses, enabling informed academic choices.
·To focus on technical content writing, empowered students with practical skills and fostered active learning and participation.

"PROJECT PULSE 2024"

PROJECT EXPO

27TH MAY 2024

The DataScience@DSU Club, under the guidance of the faculty coordinators Dr. Shaila S G, Professor and Chairperson, Dept. of CSE (DS) Dr. Kakoli Bora, and Prof. Manjula M, successfully organized the **"Project pulse 2024: Data Science solutions for Cutting Edge Problems"** Project Expo on 27th May 2024 at the Kudlu gate Campus, G033, B Block.

The event aimed to showcase the innovative projects developed by 8th- semester students from the Department of Computer Science and Engineering (Data Science) at DSU.

The event was promoted effectively through various channels, including posters, and email newsletters, under the direction of the faculty coordinators. Their guidance ensured maximum outreach within the DSU community and beyond, resulting in a strong turnout of attendees.

Guest Interaction:

Faculty coordinators welcomed guests and facilitated interactions between attendees and project presenters. Their presence added credibility to the event and provided guests with opportunities for meaningful discussions and networking.

Post-Event Feedback:

Faculty coordinators played a key role in collecting feedback from participants and attendees, enabling a comprehensive evaluation of the event's success. Their insights will be valuable in identifying areas for improvement and planning future events.

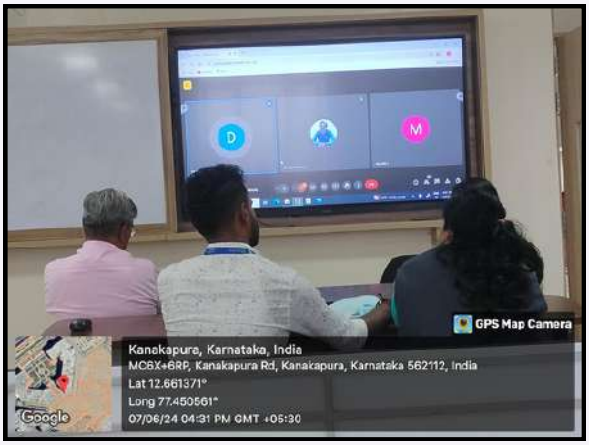
Expert panel members:

- Dr. Gopalasharma Joshi, Professor, CSE, SOE, DSU.
- Prof. Bhaskar Venugopalan, Professor of Practice, Dept of CST, SOE, DSU.

Objectives:

- Enable students to apply theoretical knowledge to real-world IoT challenges through hands-on projects.
- Facilitate interactions between students, faculty, and industry professionals to foster collaboration and exchange of ideas.
- To help students improve their presentation and communication skills by explaining complex data science concepts to a diverse audience.
- Provide students with the opportunity to receive valuable feedback from judges and attendees, helping them refine their projects and approaches.

"BOARD OF STUDIES MEETING"
7TH JUNE, 2024



Venue : Room no A - 432, 4th Floor, DSU.

The BoS Members are discussed as follows

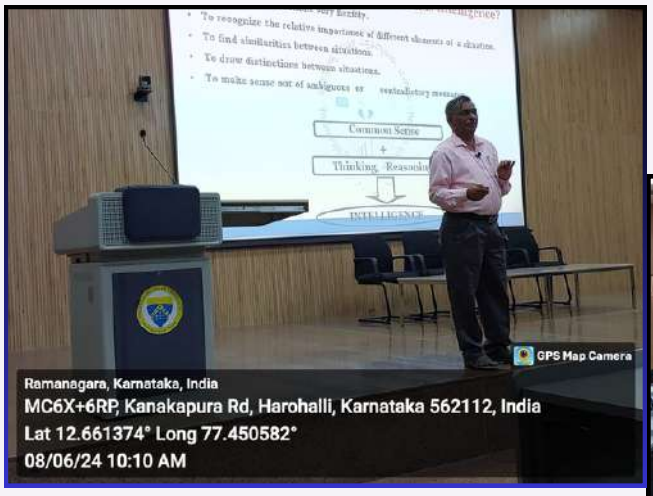
1. Vision and Mission of Computer Science and Engineering (Data Science)
2. Program Educational Objectives (PEOs)
3. Program Specific Outcomes (PSOs)
4. Stakeholder feedback on curriculum (students, faculty, parents)
5. Review and discussion of the 2022 scheme and Choice Based Credit System (CBCS) syllabus for the 5th - 8th semester of B.Tech in Computer Science and Engineering (Data Science)
6. Review and discussion of the 2023 scheme and CBCS syllabus for the 3rd - 8th semester of B Tech in Computer Science and Engineering (Data Science)
7. Review and discussion of the 2023 scheme and CBCS syllabus for the 1st - 2nd semester of B Tech in Computer Science and Engineering (Data Science)
8. Overall recommendations and guidance
9. Concluding remarks

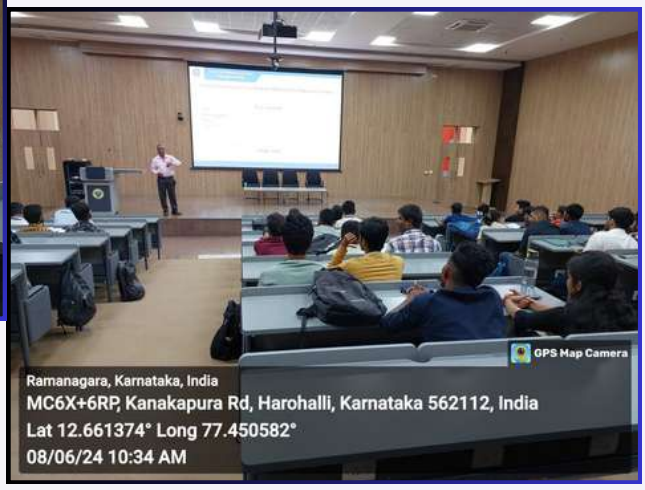
These discussions and reviews are essential for ensuring the quality and relevance of the department, the recommendations and guidance provided will help in enhancing the educational experience for students and aligning the curriculum with industry standards and best practices.

Members Present:

1. Dr. Udaya Kumar Reddy K R, Professor & Dean, School of Engineering, Dayananda Sagar University
2. Dr. Shaila SG, Professor & Chairman, Dept. of CSE (Data Science), SoE
3. Dr. Mahesh Kumar H.Kolekar, Associate Professor, Ph.D, E and ECE Dept, IIT Kharagpur, Post-Doctoral Fellow, Dept of Computer Science, University of Missouri, MO, USA
4. Dr. K S Sreedhar, Professor, Dept. of CS & E, UBDT, College of Engineering, Davanagere
5. Dr. Sabeeha Sultana, Machine Learning Engineer, Cognizant, Bangalore
6. Dr. M K Banga, Professor, SOE, DSU
7. Dr. Surendiran K, Associate Professor, Department of CSE, NIT-Puducherry
8. Prof. Monish L, Assistant Professor, Dept of CSE (Data Science), DSU
9. Prof. Shivamma D, Assistant Professor, Dept of CSE (Data Science), DSU
10. Prof. Mahindra, Assistant Professor, Dept of CSE (Data Science), DSU
11. Prof. Godhandaraman T, Assistant Professor, Dept of CSE (Data Science), DSU

ONE DAY - WORKSHOP ON "BEGINNER'S GUIDE TO MACHINE LEARNING AND NEURAL NETWORKS" 8TH JUNE, 2024





The DataScience@DSU Club, the Department of CSE (Data Science) organized a Workshop on **"Beginner's Guide to Machine Learning and Neural Networks"** held on 8th June, 2024 at 9:00 AM- 4:00 PM organized by **Dr. Shaila S G,** Professor and Chairperson (DS), **Prof. Shivamma D,** Assistant Professor, Dept. of CSE (Data Science), and **Prof. Monish L**, Assistant Professor, Dept. of CSE (Data Science). More than 40+ students have been registered for the event.

The event began with an overview of AI and neural networks, emphasizing their ability to simulate brain function with billions of interconnected nerve cells. Key topics included Static Neural Networks, their structure, and the role of threshold and activation functions in processing inputs. The seminar also covered Artificial Neural Networks (ANN), explaining their architecture and training processes.

Participants learned about the perceptron model and the importance of multilayer neural networks in capturing complex data patterns. Interactive workshop sessions provided practical experience, enhancing participants' understanding of neural network applications in machine learning.

Conclusion:

The workshop offered a thorough introduction to machine learning and neural networks, making complex concepts accessible to beginners. Participants gained a solid understanding of neural networks' functioning, activation functions' importance, and the training processes for effective models. Practical sessions enriched the learning experience, equipping attendees with skills to apply these concepts in real-world scenarios. This seminar significantly fostered interest and knowledge in artificial intelligence among the participants.

Resource Person: Dr. K S Sreedhar, Professor, Dept. of CSE, UBDT, Davanagere.

5-DAY SERB-SPONSORED WORKSHOP ON "INTEGRATION OF ARTIFICIAL INTELLIGENCE AND IOT IN AGRICULTURE" 18TH JUNE, 2024 - 22ND JUNE, 2024

Faculty attended: Prof. Shivamma D, Assistant Professor, Dept. of CSE (Data Science)
Held at: Alliance University, Bengaluru

Prof. Shivamma D, Assistant Professor, Dept. of CSE (Data Science) recently participated in a 5-day SERB-sponsored workshop titled "Integration of Artificial Intelligence and IoT in Agriculture," held at Alliance University, Bengaluru from June 18th to 22nd, 2024. This workshop proved to be a transformative experience at the intersection of technology and agriculture, marking significant advancements in the field.

The workshop commenced with an inauguration by distinguished guests, including Dr. Nagaraja Prakasham and Dr. Bijay Kumar Sahu, setting a high intellectual tone for the sessions that followed.

Throughout the workshop:

·Day 1 focused on foundational aspects with Dr. Bijay Kumar Sahu discussing agricultural automation and intellectual property, followed by insights from Dr. Selvakumar K on AI, machine learning, and sensors in agriculture.

·Day 2 delved deeper into AI applications in crop management with Dr. Maryam Shojaei Baghini, complemented by practical guidance from Dr. Vijaya Kumar B P on deploying IoT sensors for precision farming.

·Day 3 highlighted advancements in water management through IoT and AI by Dr. Abesh Reghuvaran and Dr. Vijayabaskaran Sundararju, crucial for enhancing irrigation efficiency.

·Day 4 expanded perspectives with Dr. Kumar Rajamani exploring geospatial AI for climate-resilient agriculture, and Dr. Uttam Kumar discussing AI's role in forestry and biodiversity conservation.

·Final Day addressed integration challenges of AI and IoT in agriculture by Dr. Sreenath Vijayakumar, and Dr. Chakravarthi Naik along with Dr. Mohit Hemanth Kumar discussed intellectual property rights protection. Dr. Rakesh R Warier concluded with insights into multi-agent systems and intelligent IoT applications.

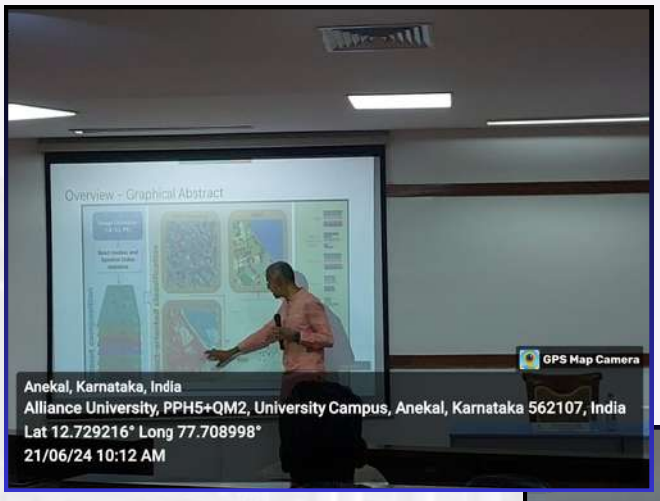
The workshop underscored that AI and IoT are not mere theoretical concepts but robust tools addressing practical challenges in agriculture, from predictive analytics for crop yield estimation to smart irrigation systems and disease detection.

Shivamma D's active participation and exemplary performance earned her the Excellence Award, recognizing her deep engagement and mastery of IoT and AI concepts applied in agricultural contexts.

CONTD.

Key outcomes from the workshop:

1. Gained insights into the cutting-edge technologies of Artificial Intelligence (AI) and Internet of Things (IoT) and their potential applications in agriculture. This included improving crop management, optimizing water usage through smart irrigation, and enhancing sustainability practices.
2. The workshop provided practical examples and case studies illustrating how AI and IoT can be implemented in real-world agricultural scenarios. This included hands-on experiences with deploying IoT sensors, utilizing AI algorithms for data analysis, and integrating these technologies into existing farming practices.
3. Impact on Efficiency and Productivity: Attendees learned how AI and IoT solutions can significantly improve efficiency in agriculture. From predicting crop yields and optimizing resource allocation to monitoring environmental conditions and managing pests, these technologies offer transformative benefits for enhancing productivity in farming.
4. To Gain a deeper understanding of the complexities involved in adopting and integrating these technologies on a large scale.



FACULTY ACHIEVEMENTS

Dr. Shaila S G
Professor and Chairperson
Department of CSE (Data Science)

- **Dr. Shaila S G**, Prof. Shivamma D and Prof. Monish L have been designated as resource persons for the Faculty Development Program on “SPSS for Health Professionals”, from February 8, 2024, to February 10, 2024 organised by College of Nursing Sciences, Dayananda Sagar University.

Research Publication

- VR Gurudas, SG Shaila, A Vadivel - “Morphological and Textural Data Fusion for Breast Cancer Classification Based on Inter and Intra group Variances.” International Journal of Intelligent Engineering & Systems 17 (3) on 2024/5/1.

- SG, Sumana and Yerva, Manjula and S G, Shaila and K, Srinivas and S, Vinuth Gowda "Complex Facial Expression Analysis and Recognition using Deep Networks," 2024 International Conference on Inventive Computation Technologies (ICICT), Lalitpur, Nepal, 2024, pp. 563-567, doi: 10.1109/ICICT60155.2024.10545002

- M Manjula, Kakoli Bora, SG Shaila, Skanda N Raj, R Thilak, Akanksha Kanchireddy "Enhancing Data Privacy through a Secure Data Hiding Approach Integrated with Lossless Compression," 2024 International Conference on Inventive Computation Technologies (ICICT), Lalitpur, Nepal, 2024, pp. 1465-1470, doi: 10.1109/ICICT60155.2024.10544914

FACULTY ACHIEVEMENTS

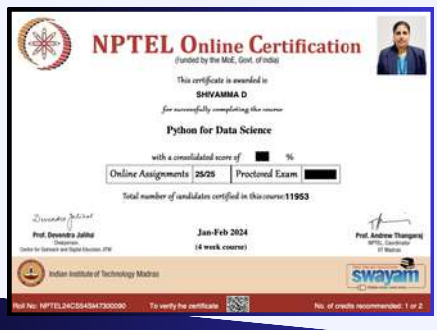
Prof. Shivamma D
Assistant Professor
Department of CSE (Data Science)

- Dr. Shaila S G, **Prof. Shivamma D** and Prof. Monish L have been designated as resource persons for the Faculty Development Program on **"SPSS for Health Professionals",** from February 8, 2024, to February 10, 2024 organised by College of Nursing Sciences, Dayananda Sagar University.

- Shivamma D completed the certification and earned the badges on "**Data Nuts & Bolts: Fundamentals of Data" (27th May 2024), Learning Full Stack Development (28th May 2024) and Data Structures & Algorithms in Python: Implementing Sorting Algorithms (29th May 2024)** organised by the Infosys Spring board and Skillsoft.

- Shivamma D Participated in workshop on **"Google Cloud Best of Next 2024"** organised by Google on 3oth April 2024

- Shivamma D completed the certification on **"Python for Data Science"** organised by SWAYAM NPTEL IITK in the month of April 2024.



FACULTY ACHIEVEMENTS

- Shivamma D, Assistant Professor nominated and Completed the Faculty Enablement Program on **"Artificial Intelligence"** organized by Infosys's Springboard from 24th June to 28th June 2024.

- Shivamma D completed the courses on **Introduction to Data Science, Introduction to Artificial Intelligence, Introduction to Natural Language Processing, Introduction to Deep Learning, Introduction to Robotic Process Automation and Computer Vision** as part of the Faculty Enablement program on Artificial Intelligence organized by Infosys's Springboard from 24th June to 28th June 2024.

- Shivamma D completed the certification on **Artificial Intelligence Foundation Certification** on 27th June 2024 and **Artificial Intelligence Primer Certification** on 28th June 2024 organized by Infosys's Springboard

FACULTY ACHIEVEMENTS

Prof. Monish L
Assistant Professor
Department of CSE (Data Science)

Dr. Shaila S G, Prof. Shivamma D and **Prof. Monish L** have been designated as resource persons for the Faculty Development Program on **"SPSS for Health Professionals"**, from February 8, 2024, to February 10, 2024 organised by College of Nursing Sciences, Dayananda Sagar University.

- Monish L completed the **Virtusa Technology Orientation** for Faculty Program on 16th May 2024 organised by VIRTUSA

STUDENT ACHIEVEMENTS

- Pavan Kumar G, Sanjana T, Sujeeth Kumar D S, 4th Semester, Dept. of CSE (DS) attended the FOSSMeet '24 at NIT Calicut held on March 23-24, 2024

- Janardhan K S, 4th Semester has completed the Course on Python for Data Science organised by Infosys Springboard on 27th April, 2024.

- Nitin Prajwal R (ENG22DS0039, 4th Sem) secured 2nd place at the DSU CODE RED Hackathon organized by ACM DSU on 22/05/2024. He won a cash prize of ₹2000

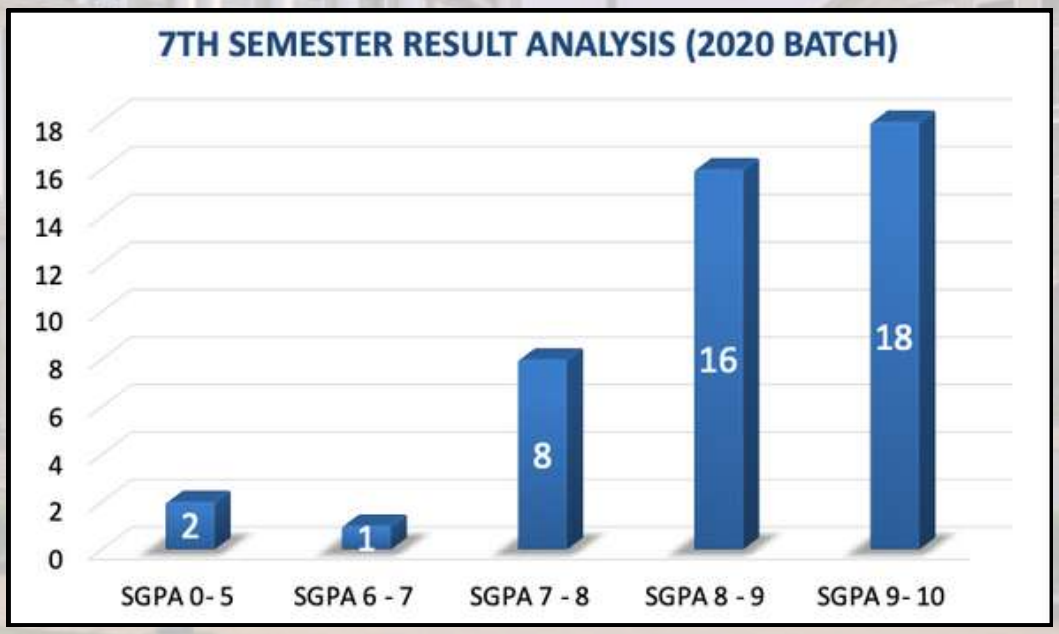
- Mohamed Faizan Khan, 4th Semester participated online event on "How to Become a Data Analyst at Amazon" organized by WsCUBE TECH on June 16th, 2024.

RESULT ANALYSIS

7TH SEMESTER TOPPERS (2020 BATCH)

SL NO	NAME	SGPA
1	VEDANTH V BALIGA	10
2	YASHNA KARKERA	10
3	ABHIRUCHI SANJAYKUMAR BHARAMBE	9.75
4	MANJU SWAROOP V	9.75
5	VANAVEE PALANI	9.75
6	M MADAN	9.5
7	NANDINI HAZARIKA	9.5
8	GAGANA MALLESHACHARI	9.25
9	K SAI PRADEEPTHI	9.25
10	KUSHAL B S	9.25
11	PRANAV S S	9.25
12	VAIDEHI A	9.25

7TH SEMESTER RESULT ANALYSIS (2020 BATCH)

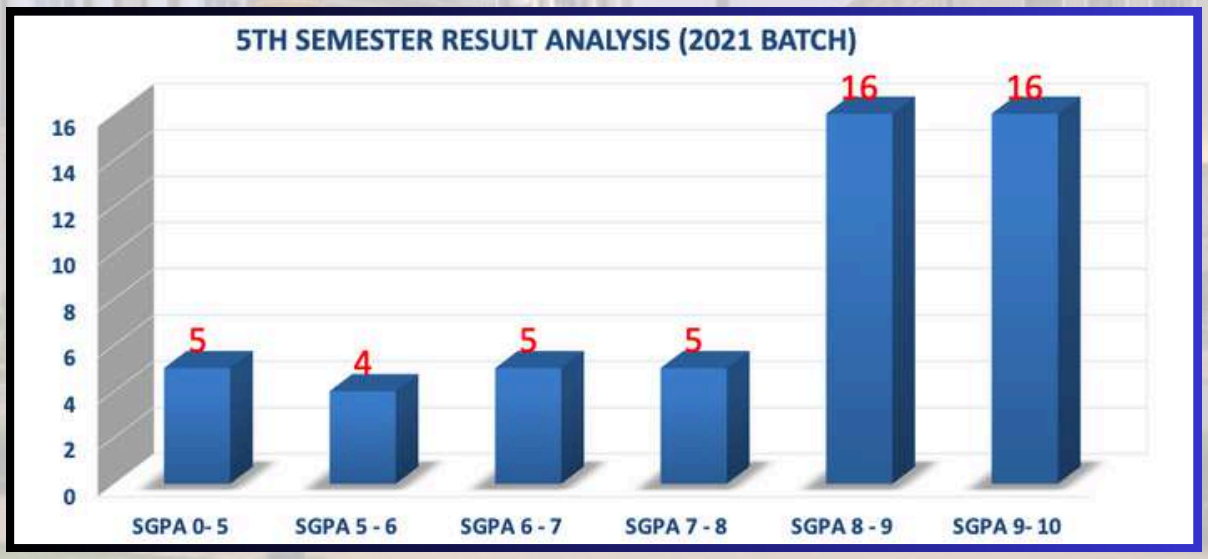


RESULT ANALYSIS

5TH SEMESTER TOPPERS (2021 BATCH)

SL NO	USN	NAME	SGPA
1	ENG21DS0002	ABHISHEK A	10.00
2	ENG21DS0003	ABHISHEK N	10.00
3	ENG21DS0006	AKSHAYA B	10.00
4	ENG21DS0046	V NIVAS REDDY	9.88
5	ENG21DS0035	SAMMANA BHAVANI PRASAD	9.76
6	ENG21DS0044	THILAK R	9.72
7	ENG21DS0014	CHAITHRA K	9.68
8	ENG21DS0013	CHAITHRA SHREE P	9.56
9	ENG21DS0020	GOLLA PUJARI SOWMYA	9.56
10	ENG21DS0045	USHASHREE N	9.36
11	ENG21DS0039	SHUBHAM KUMAR	9.32
12	ENG21DS0033	RANJITH KUMAR M	9.28
13	ENG21DS0047	VINUTH GOWDA S	9.28
14	ENG21DS0026	PRANJAL MEWARA	9.24
15	ENG21DS0021	MANOJ V BHANDARE	9.16

5TH SEMESTER RESULT ANALYSIS (2021 BATCH)

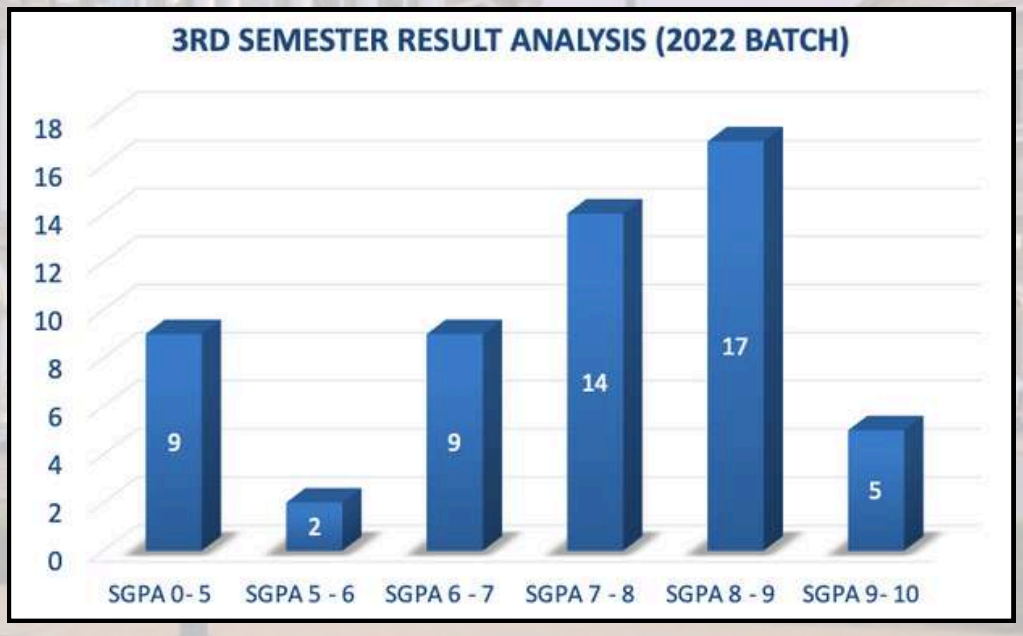


RESULT ANALYSIS

3RD SEMESTER TOPPERS (2022 BATCH)

SL NO	USN	NAME	SGPA
1	ENG22DS0010	R SINDHU	9.48
2	ENG22DS0039	NITIN PRAJWAL R	9.33
3	ENG22DS0024	VIRIKA OLIVIA SOANS	9.29
4	ENG22DS0017	SANJANA T	9.1
5	ENG22DS0032	KOVARTHANA K	9
6	ENG22DS0019	SUJEETH KUMAR D S	8.95
7	ENG22DS0042	SHERLYN ROSE	8.95
8	ENG22DS0040	PAVAN KUMAR G	8.81
9	ENG22DS0029	HIT KARAN SINGH RATHORE	8.76
10	ENG22DS0015	SAHANA S M	8.62
11	ENG22DS0018	SRI SAI NITHIN P	8.62
12	ENG22DS0022	VENKAT NIVAS REDDY K	8.62
13	ENG22DS0049	ARIAN KOVACS	8.38
14	ENG22DS0023	VINITH K M	8.29
15	ENG22DS0003	HARSHITA JEETENDRA BHUTE	8.24

3RD SEMESTER RESULT ANALYSIS (2022 BATCH)



STUDENT ACHIEVEMENTS (PLACEMENTS)

B TECH 2020-2024 BATCH

USN	FULL NAME	COMPANY	PACKAGE
ENG20DS0040	SUKRUTHA G	StoneX	8.25
ENG20DS0044	VEDANTH V BALIGA	StoneX	8.25
ENG20DS0009	ATUL UPPIN	EdgeVerve	8
ENG20DS0021	B S KUSHAL	EdgeVerve	8
ENG20DS0032	R D LOHITH	EdgeVerve	8
ENG20DS0030	PRANAV S S	Versa Networks	8
ENG20DS0035	RISHANK GAUTAM	Emplay Inc	8
ENG20DS0048	YASHNA KARKERA	UD Trucks	7.5
ENG20DS0018	KATALA GANTI SAI PRADEEPTHI	Sony India Software	7.5
ENG20DS0007	G S ANJANA PRIYA	Inmovidu	7
ENG20DS0023	MANJU SWAROOP V	Inmovidu	7
ENG20DS0037	SANJAY M	Inmovidu	7
ENG20DS0016	GAGANA MALLESHACHARI	Aptean	6.5
ENG20DS0019	KEERTHANA HEBBAR R	EY India	6.37
ENG20DS0022	M MADAN	EY India	6.37
ENG20DS0023	MANJU SWAROOP V	EY India	6.37
ENG20DS0049	NABIL IRSHAD	IQVAI	6
ENG20DS0013	CHANDAN M POONACHA	Labcorp	6
ENG20DS0015	DHANUSHA R	Labcorp	6
ENG20DS0031	PREETIKA RAY	Labcorp	6
ENG20DS0034	RAHUL SRIKANTH	EY GDS	4.83
ENG20DS0017	HRITIKKA N	IBM	4.5
ENG20DS0015	DHANUSHA R	Publicis Sapient	4.48
ENG20DS0012	BALA VENKATA VARUN VARMA KANUMURI	Capgemini	4.25
ENG20DS0035	RISHANK GAUTAM	MY3DMETA	4
ENG20DS0001	THIRU KRITHIKA A	EdgeVerve	3.6
ENG20DS0042	VAIDEHI A	EdgeVerve	3.6
ENG20DS0025	NADELLA MOKSHITHA	Tata Elxsi	3.5
ENG20DS0031	PREETIKA RAY	Tata Elxsi	3.5
ENG20DS0033	R R DEVAPRASAD	Tata Elxsi	3.5
ENG20DS0011	AYUSH BARANWAL	Maveric Systems	3.5
ENG20DS0039	SUDHARSHAN G K	CAI	3

FAREWELL

B TECH 2020-2024 BATCH

EDITORIAL COMMITTEE

Faculty Co-ordinator

Prof. Shivamma D
Assistant Professor
Department of CSE (Data Science)
SOE, DSU

Student Co-ordinator

Nitin Prajwal R
4th Semester, CSE (DS)

Janardhan K S
4th Semester, CSE (DS)

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

Department of Computer Science and Engineering
(Data Science)
Dayananda Sagar University
School of Engineering, Devarakaggalahalli, Harohalli,
Kanakapura Road, Ramanagara Dt., – 562 112

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

After few years of graduation, the graduates of Computer Science & Engineering (Data Science) will be able to:

PEO1: Knowledge delivery in terms of analytics and visualization, research, design, product implementation and optimization by using modern tools and techniques of data science to provide absolute resolution in social aspects.

PEO2: Applying strong mathematical and statistical foundations of Data Science to build powerful knowledge models to generate actionable insights, necessary for making data-driven decisions in multi-disciplinary areas.

PEO3: Function effectively as competent Data Science Professionals, Entrepreneurs or Researchers in the work place or maintain employment through lifelong learning including professional certifications.

PROGRAM OUTCOMES (POS)

PO1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. Design / development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues, and the consequent responsibilities relevant to the professional engineering practice.

PO7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSOS)

PSO1. Apply the principles of Data Science including Data Visualization, Data Management and Data Security for building intelligent predictive models for solving real world problems.

PSO2. Apply Business Analytics, Visualization Tools & Statistical Tools acquired through professional society, certification programs, projects, Internship & Laboratory exercises to solve critical problems.

CONTACT US

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Kanakapura Road, Ramanagara Dt.,
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