Dayananda Sagar University Bengaluru

October - December 2022

Volume 02 Issue 02

CSE EDUINSIDE

A Newsletter of Department of Computer Science and Engineering, SOE, DSU, Bangalore

VISION AND MISSION OF THE INSTITUTE

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 OF THE DEPARTMENT

CSE

Vision

To develop pool of high calibre professionals, researchers and entrepreneurs in the areas of Computer Science & Engineering and Information Technology with exceptional technical expertise, skills and ethical values, capable of providing innovative solutions to the national and global needs.

Mission

- To create a robust ecosystem where academicians, concept developers, product designers, business incubators, product developers, entrepreneurs, mentors and financial institutions are brought together under one platform of the department.
- To establish Project Environment in the Department with open source tools, provide hands-on experience to students by establishing a process to channelize their effort towards acquiring relevant competencies and skills in their chosen technology areas and domains.
- To create continuous learning environment for faculty and establish Research Centres in collaboration with Industries and Institutions of National/International repute and conduct research in emerging areas as well as socially relevant technical and domain areas through funded research projects.

Dayananda Sagar University
Innovation Campus
School of Engineering
Kudlu Gate, Hosur Road, Bengaluru - 560 068

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DEAN'S MESSAGE

Dr. Udaya Kumar Reddy K R
Dean, School of Engineering, DSU

BE YOU
BE THE DIFFERENCE!!!
Welcome to the new way of learning at School of Engineering (SoE) of Dayananda Sagar University (DSU). At SoE, we are committed to helping you to make a positive difference in the world.
We at SoE are immensely proud to provide all of our students with an outstanding education that equips them with the skills, experience, and confidence required to stand out from the crowd. The School promotes Culture of Excellence including the culture of Interdisciplinary, Research, Creativity, Innovations, and Entrepreneurship on various Cutting-Edge Technologies.
We at SoE, provide the World-Class Education that is Student-centric, Research-centric, and Educational space where all of our students will have a transformative education, learn to be independent critical thinkers, be societally and ethically responsible, and to have a broad understanding of the world.
We value ability, not background, and we support all of our students to achieve their potential. We want you to enjoy your time here, confident that, upon completion of Engineering degree program under SoE, you will have the knowledge, expertise, and employability skills to set you on your chosen career path.
The decision you make about where to study is an extremely important one. I am pleased you are considering the School of Engineering at DSU, and hope that you choose to continue your education with us.
BEST WISHES !

CHAIRMAN'S MESSAGE

Dr. Girisha G S
Professor and
Chairman

It is a matter of pride for me to present the Issue 2 Volume 2 of CSE Newsletter for the academic year 2022-23. We are publishing this newsletter to you four times a year giving you regular updates about student/faculty achievements, academic/research activities in the department. In this issue, we are portraying the achievements and highlights of the department during last three months.
I thank the editorial board, staffs, students for their whole hearted support in preparation of this Newsletter. I request you to send your comments and suggestions to us on how to make this Newsletter more meaningful to you

ABOUT THE DEPARTMENT

The Department of Computer Science & Engineering was started in the year 2015. It offers four Undergraduate Programmes, namely, B. Tech CS&E, B. Tech CS&E (AI & ML), B. Tech CS&E (Data Science) and B. Tech CS&E (Cybersecurity) which prepares students for the current and future demands of industry and the research world.

The Department offers a Master's Programme namely, M. Tech in Computer Science & Engineering. This programme prepares students to become leaders in knowledge driven professions.

The faculty members in the Department are active in the Research Areas of Artificial Intelligence, Machine Learning, Data Science, Network Security, Networks & IoT, Wireless Networks, BlockChain Technologies, Big Data, Data Mining, Data Analytics, Cloud Computing, Image Processing, Computer Vision and Video Analytics, Information Retrieval, etc. Apart from core courses, the Department also offers Liberal Studies Courses (as per NEP- 2020). Liberal studies focuses on creating synergy between Humanities, Social Sciences, Performing arts, Law, Management, Fine Arts, Yoga, Painting, Music etc.

The Department has many Adjunct Professors/Professor of Practice who typically have positions at Industry or other institutions to bring in the industry expertise and research rigour in our programmes to provide specialized supervision of student projects.

The students of CSE Department are placed in various top MNCs like IBM, Accenture, Capgemini, Cognizant, Wipro, Infosys, Mindtree, Intel, Mercedes Benz, Sap Labs etc. with an emolument in the range of 4.78 Lakhs to 27 Lakhs per annum

Implant Training Period with Hindustan Aeronautics Limited

Hindustan Aeronautics Limited (HAL) is an Indian state-owned aerospace and defence company, headquartered in Bangalore, India. It is one of the oldest and largest aerospace and defence manufacturers in the world today. I had an opportunity to intern at HAL (RWRDC(FTC)) and worked on one of their projects/software applications. The internship project titled Automation Of Updating Flight Instrumentation Plan which I had done under my implant training period with HAL , is currently being used by the company with their day to day calculations and readings done in the telemetry under the Flight Test Centre (FTC). These readings are taken during pre-flight and in-flight containing thousands of parameters which cannot be disclosed due to national security. Working on automating their flight systems helped save a lot of time and also resulted in comparatively accurate results. The updation of each data point gives the flight test engineer and other engineer analysts , the minor changes which can be made during the flight in order to fix the value which results in better performance of the flight.

Mr. Maheep Singh Shaan
3rd Year, CSE

ISRO Implant Training Program

The Indian Space Research Organisation (ISRO) is the national space agency of India, headquartered in Bangalore. I had an opportunity to intern at ISRO (LPSC-B) and work on one of their projects/software applications titled : Graphical User Interface Development of E-beam Software. Electron Beam (E-beam) welding is a fusion joining process that produces a weld by impinging a beam of high energy electrons to heat the weld joint. The application was modified to add functionalities of editing the given data and plotting the graph for focus current and beam current for any of the input parameters for a given machine, component and material. I contributed towards enhancing the graphical user interface of the E-beam software to make it more user friendly and create high efficiency in the performance. The software is now being used to carry out necessary calculations which aims to improve time efficiency.

Mr. Kunal Jaiswal
3rd Year, CSE

A Unified Method for De-interleaving and PRI Modulation Recognition of Radar Pulses Based on Deep Neural Networks

I had an opportunity to intern in DRDO CASDIC and work on implementation of 'a unified method for deinterleaving and PRI modulation recognition of radar pulses based on deep neural networks' with my team. In the cutting-edge electronic warfare signal environment, multiple radar signals of high density are received mixed, and isolating them into signals for every emitter is a fundamental stage for emitter distinguishing proof. Every radar has its own pulse repetition interval (PRI), which is a critical boundary for deinterleaving pulse trains.

The PRI is tweaked in different structures relying upon the reason for the radar activity, and examining the mean PRI and the modulation type of PRI is the center of electronic warfare signal processing. To defeat the deficiencies of electronic warfare signal processing , my team implemented a unified deinterleaving and PRI modulation recognition method based on multi-task learning with a CNN. To apply supervised learning-based deep learning, the input data and labels for ground truth must be defined. CWT is a signal processing tool for time-frequency analysis of signals that provides high-accuracy time and frequency localization. CWT can be simplified as a function of cosine and sine by using Euler's formula, so it is easy to apply to real-time embedded systems such as electronic warfare systems. In addition to this, it is possible to check the frequency change over time by applying CWT for the sliding windows on the pulse trains. considering the advantages of easy implementation and 2D image generation representing deinterleaving and PRI modulation analysis at once. CWT results are visually similar to images and can be used to confirm changes in PRI over time. The label for the target is composed of a two-dimensional array containing the PRI and modulation information, and label propagation is proposed to compensate for the deinterleaving error.

The proposed CNN-based MTL model combines three loss functions, defined for mean PRI estimation and modulation type prediction, and improves performance by adding residual blocks and global average pooling. Post-processing that merges adjacent estimated PRIs is also introduced to reduce false alarms in the testing process. This was the methodology that we implemented.

Ms. Shubhashree P
4th Year, CSE

Evaluation of Subjective Answers Using Machine Learning

The manual approach for evaluating subjective responses for scientific fields requires the evaluator to invest a significant amount of time and resources. However, computers can currently only be used to evaluate multiple-choice questions. There is a requirement for a teacher to review the answer sheet when it comes to the theoretical examination of replies. Therefore, the teacher must focus more on grading answer sheets than on imparting knowledge to the students. Subjective responses can be assessed based on a number of factors, including the content and writing style of the inquiry. Evaluation of subjective responses is an essential responsibility. When a human analyses anything, the evaluation's quality can change depending on the person's emotions. As the same inference method is utilized for all students, utilizing intelligent approaches to do evaluation on computers assures consistency in marking.

For more than ten years, scientists have been studying how to use computers to assess subjective responses. Machine Learning has come to the limelight for various domains like medical, image processing, pattern recognition etc. Subjective answer evaluation employs a number of machine learning approaches. The Bayes theorem, K-nearest classifier, large data natural language processing, latent semantic analysis, and even formal methods like formal concept analysis have all been used to overcome this issue. They fall into three types in particular: Full Natural Language Processing, Statistics, and Information Extraction.

To analyze the subjective response, the algorithm must perform tasks including tokenizing words and phrases, tagging parts of speech, chinking, lemmatizing words, and wordneting. My suggested approach also offers the context's semantic meaning. There are other programs available, however they differ from this one and employ other methodologies. Some applications that are accessible only analyze multiple choice questions, not subjective questions. Only one needs to scan the response to that question to use this program, and OCR will be used to separate the response keyword. The application will generate ratings between 1 and 5 based on the keywords used in both the answer and the data set. For checking answer sheets, this approach can be utilized extensively in educational settings like schools, universities, coaching programs, and institutes. It may also be used by many organizations that conduct competitive exams.

Ms. Shreya Sree G
4th Year, CSE

Ms. Sneha G
4th Year, CSE

Quantum Machine Learning: An Effective Approach to High-dimensional Learning

Machine learning (ML) algorithms have gained great success during the last 20 years. However, this development is encountering growing difficulties. With dataset sizes continually increasing and Moore's Law coming to an end, it is predicted that soon a stage will arrive where present computing tools will no longer suffice. With quantum computing technology approaching the point of commercialization enabling quantum supremacy, they can efficiently tackle certain challenges in machine learning that are thought to be difficult for conventional machines. My research paper namely "Quantum Machine Learning: An Effective Approach to High-dimensional Learning" details about how quantum machine learning works, with particular attention to the quantum support vector classifier. The work also compares the Quantum support vector classifier and its classical equivalent by working on the Cleveland heart disease dataset.

To view the possible improvement using QSVC, we have used the Classical-quantum method, which denotes using classical data on a quantum computer. In our implementation, we have selected 5 features from the dataset these are Chest Pain types, Thallium heart test, Number of major vessels, ST slope and Exercise-induced angina. To use this classical data, we first need to map the data points to quantum states. To convert our data into this quantum state we make use of the ZFeatureMap with 5 qubits as we have 5 features. The quantum kernel then maps the obtained quantum data points into a higher-dimensional space by determining the inner product of the quantum feature maps, this gives the quantum kernel matrix. The QSVC classifier uses this quantum kernel matrix. The data is then divided into 80:20 training and testing ratios. Training data is then fit into the QSVC to generate the model and the success of the model is then determined using the test data. The model gives a classical output of either 0 or 1 (presence of heart disease = 1, absence = 0) for each input.

The results provide a positive foundation for working on different classification problems using the quantum machine learning approach. Kernel matrix generated during Quantum SVC for learning tasks provides a way to make use of the quantum approach in machine learning problems.

Mr. Jeevan Kumar A Das
4th Year, CSE

Quantum Cryptography: A Pathway to Secure Communication

Cryptography was introduced to prevent a third party from accessing and learning the contents of private messages sent during a communication process. Quantum Cryptography looks promising to provide a new level of secure communication by applying quantum mechanics concepts to cryptography. The research in the domain emphasizes that such systems can detect eavesdropping and ensure that it does not occur at all. My research paper namely "Quantum Cryptography: A Pathway to Secure Communication" reviews the existing state of quantum cryptography, which includes an introduction to quantum computing and quantum key distribution algorithm. Special attention is given to the implementation and working of the BB84 Protocol. It also provides a glimpse of post-quantum cryptography.

The BB84 Protocol helps in determining the presence of an eavesdropper in the quantum channel. In BB84, the polarized state of a photon can be used to encode a bit. In rectilinear bases, binary 0 has a polarization of 0°, while diagonal bases have a polarization of 45°. Similar to this, binary 1 can have a diagonal basis of 135° or a rectilinear base of 90°. One of the two bases is used to polarize a photon. The BB84 protocol helps to identify the existence of an outsider in the channel and it is also used to securely send secret key from one user to another.

This paper reviewes the domain of quantum cryptography and discusses the working and implementation of the BB84 protocol under Quantum Key Distribution. However, a more powerful approach is required to transport sensitive information between two or more sites. QKD along with other quantum encryption approaches will undoubtedly help us safeguard information more efficiently in the future. Quantum cryptography is a prominent step toward a future that would provide for secure communication.

Ms. Ishika Giroti
4th Year, CSE

Department Events

SEMINAR: TOP 3 CAREERS TO PURSUE AFTER ENGINEERING

The department of Computer Science & Engineering conducted a seminar on 'Top 3 Careers to pursue after Engineering' on the 14th of October 2022. The event was conducted by Dr. Revathi V, Associate Professor, CSE with Mr. Sandeep Andari as the one of the distinguished speakers of the event. The Gate Academy having good expertise in the preparation of GATE examination, gave an insight on the abundant opportunities for engineers who have qualified GATE. One of the distinguished speakers, Mr Sameer, having expertise in abroad & management education discussed about the various benefits of preparing for competitive exams like GRE, GMAT. It was an interactive session with about 90 attendees actively participating, making it a successful event.

WORKSHOP: QUANTUM COMPUTING INTO A NEW REALM OF MACHINE LEARNING AND CRYPTOGRAPHY

The department of Computer Science & Engineering conducted a workshop on 'Quantum Computing into a new realm of Machine Learning and Cryptography' on the 14th of October 2022. The event was conducted by Dr Meenakshi Malhotra, Associate Professor, CSE and Dr. Jayavrinda Vrindavanam V, Chairperson, CSE (AI and ML).

Quantum Computing seems like a very promising field and this workshop aimed at providing the students a baseline to encourage them to take up developmental projects or research in this field in the future. Ms. Ishika Giroti and Mr. Jeevan Kumar A Das of the 7th semester were the speakers of the event. They covered topics such as Quantum Mechanics, Quantum Laws, Quantum Computing-Qubit, Quantum Gates, Quantum Circuits, Classical Machine Learning, Support Vector Machines, Cryptographic algorithms, Quantum Cryptography and many more.

GLOBAL INVESTORS MEET 2022

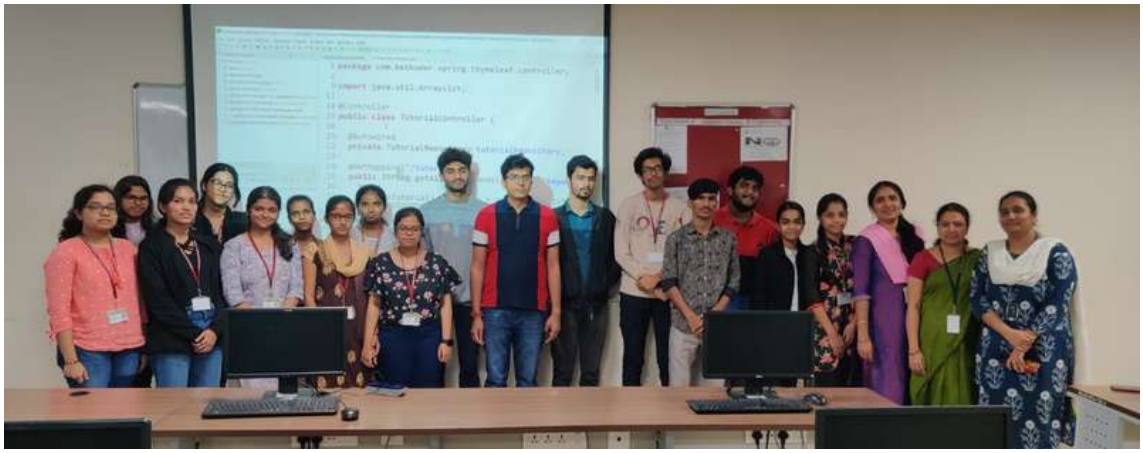
Students of SOE attended 'The Global Investors Meet 2022' on November 2nd, 3rd and 4th held in Bangalore Palace. Renowned entrepreneurs and innovators spoke about exploring industries driven by BigData, Automation, AI, Make in India initiatives and many more. Fireside Chat was one of the major events where Randi Zuckerberg (CEO of Zukerberg Media) spoke about entrepreneurship in the post-pandemic era and about the status of women pursuing these roles. Various entrepreneurs from across the globe like Thomas Dauner, Chetan Maini shed light on the revolution in India's mobility and discussed about the future prospects of the country. Many local and global brands had set up exhibition stalls ranging from handlooming to 3D printing of organs.

Dayananda Sagar University (DSU) invited to deliver Training to Students of Vien Dong Institute, Vietnam

Dayananda Sagar University (DSU) has partnered with VEnable Management Services Pvt Ltd company to impart education related services in the Asia Pacific region. Upon the request of Vien Dong College, HCMC, Vietnam, twelve days of training was delivered on Java and ReactJS to the students during November 14-26, 2022 by Dr. Niranjan Appaswamy, Associate Professor and Prof. Ambeshwar Kumar, Assistant Professor of Department of CSE. The training was well received and very well appreciated.

Dr. Bondu Venkateswarlu, Associate Professor and Prof. Gousia Thaniyath, Assistant Professor assisted the faculty in fine-tuning the syllabus as well as in content delivery with members of the technical review committee. Prof. Arunkumar Khannur ,Associate Professor in the Centre for Capacity Building and Consultancy Services, coordinating the initiative along with Mr. Sandip Acharya, Co-Founder of Venable. This initiative was made possible with the support and guidance of Dr. D. Premachandra Sagar - Pro Chancellor, Prof. H.P.Khincha - DSU Evangelist, Dr. KNB Murthy - Vice Chancellor, Dr. Uday Kumar Reddy – Dean School of Engineering, and Dr. Girisha – Chairman of CSE of DSU.

WORKSHOP: APPLICATION DEVELOPMENT USING SPRING BOOT



The Ganakanveshana Club of the Department of Computer Science and Engineering conducted a Day Hands-on Workshop on "Application Development using Spring Boot" on the 03rd of December 2022. The workshop was organized by Dr. Savitha Hiremath, Associate Professor, Prof. Shweta G S, Assistant Professor, and Prof. Nandini K, Assistant Professor, CSE.

Mr. Bineet Kumar Jha, Senior Consultant at CGI was the resource person for the workshop. The main objective of the workshop was to give a hands-on experience in developing web(MVC) applications using Springboot. Students learned how to perform DB interactions using JPA, how to perform API testing using JAVA SPRINGBOOT AND POSTMAN, Students were made familiar with the underlying concepts used in Mocknit/Junito, Thymeleaf: front end and MySql. Around 50 students participated in the workshop, rating the event with a positive feedback.

ALUMNI TALK: HOW ENGINEERING IS NOT JUST A DEGREE BUT RATHER A TRANSITION OF MINDSET

The Department of Computer Science and Engineering, under the Alumni Talk Series conducted its first on the topic "How Engineering is not just a degree but rather a transition of mindset" on the 3rd of December 2022. The event was organized by Prof. Rashmi Mothkur, Assistant Professor (CSE) and Prof. Reshma B , Assistant Professor(CSE). The objective of the talk was to encourage, foster and promote close relations between the alumni and current batch of students, to provide guidance to the present students in their endeavor for better employment and future studies. The establishment of this season of the Alumni Talk Series started with the motivation to utilize the industrial experiences of the university's alumni for the benefit and progress of the current undergrads.

The resource Person for this talk was Miss. Varsha Revanur, Product Manager in SIXT Research and Development, Bangalore from the CSE batch of 2016. Topics covered by the speaker were - 'How 4 years evolves your thinking to tackle not just coding problems but also your approaches to solve everyday real world problems', 'The various departments/roles of a corporate office', 'The importance of self-motivation in the journey to get your dream job'.

WORKSHOP: BUSINESS INTELLIGENCE TOOLS

The department of Computer Science and Engineering conducted a 3-day Hands-on Workshop on "Business Intelligence Tools" from 9th to 11th December 2022. The workshop was organized by Dr. Sindhu P Menon, Associate Professor, Prof. Kalpana B N, Assistant Professor, and Prof. Ankita Singhai, Assistant Professor, CSE.

Mr. Venkat Durga Sriram, Application Developer Senior Data Analyst in Accenture Solutions Pvt. Ltd., Bangalore, was the distinguished resource person of the event. The workshop was conducted for the M.Tech students of the CSE department. The aim of the workshop was to make aware the importance of Business Intelligence, to understand the working of Power BI Business Intelligence Tool and to understand the underlying concepts of Tableau Business Intelligence Software.

TALK: EARTH OBSERVATION SATELLITE IMAGE PROCESSING

The department of Computer Science and Engineering conducted a seminar on “EARTH OBSERVATION SATELLITE IMAGE PROCESSING" on 14th December 2022. The event was organized by Dr. Rajesh TM, Associate Professor, Dr. Tina Babu, Assistant Professor, Prof. Nandini K, Assistant Professor, CSE. Dr. P S Diwaker, ISRO Chair, Professor, NIAS was the resource person of the event. The targeted audience was 3rd year students of all the programs of the Department of CSE. The course was organized in offline mode. Around 30+ students attended the webinar. The Seminar covered practical knowledge on different topics including types of satellite images which helps in better visualization,brief understanding of data fusion methods like multispectral,Hyperspectral etc ,and understanding how to predict glacier loss over the years. All students were trained on both theoretical and practical knowledge of the satellite image processing. Different problem statements were given by Dr. Diwakar Sir on to work with Research is on the board where student can get to know what is deep down the ocean as humans cannot sustain in deep ocean. At the end of the seminar a feedback was taken from the students and it is found to be satisfactory.

VISIT: CDSIMER CAMPUS

Computer Science and Engineering Final Year students Aishwarya Gangyada, Deeksha Y D, Manjari U, Meghana G, Ritika G M, Sathvika Patil proposing a health care application project employing artificial intelligence techniques under the supervision of Dr. Basavaraj N. Hiremath Professor, CSE. For taking healthcare specialists suggestion student visited CDSIMER campus on December 21st, 2022 at Dr. Shiva Murthy's invitation, for a meeting to understand the domain knowledge with the physicians. Then the formal proposal and specification document is prepared for reviews. They meeting with Dr Anil Kumar H Professor and Head, General Medicine to know the understanding of disorders in thyroid glands in medical diagnostics and their challenges in diagnostic methods.

CONTEST: FULL STACK DEVELOPMENT

Department of Computer Science & Engineering under FSD Club conducted coding challenge for “Full Stack Development” on 24th December 2022. This was exclusively organized for students of third semester from Dept. of CSE. The event was organized by Prof. Gousia Thahniyath, Prof Chhaya S Dule, Dr. Santhosh Kumar, Prof. Meghana G, Prof. Poojashree, Prof. Sindhu N, Prof. Amruta B. The objective of conducting this coding challenge was that students can take part in coding activities.to build a team player and leadership qualities among them. To develop creative, technical and critical thinking among students. To develop a functional web application by using various framework and methodologies of full stack development with the aim to resolve a real world problem with best possible solutions. Total 22 teams were participated in the Aptitude round, 7 teams who perform in the aptitude test were sent for the development round. The remaining students who could not qualify aptitude round were given chance to participate in Buzzer Round and selected students in buzzer round will be given chance to participate in Triangle round, 3 teams were selected from this round. Triangle round is conducted for participants who did not qualify Buzzer round and from 3 top teams, 2 teams were selected for Development round. The selected students from first round, second round and third round participated in development round. They were given task to develop web application using HTML, CSS, Javascript , Nodejs . They can use any components to develop their web application. The remaining team members were given chance to participate in Treasure hunt round. One team is selected from this event and prize is given. First Prize in Development round is given to Ganesh, Amar Khan, Patel Mohammad, Second Prize is given to Sohana R, Akshaya B, Nanditha N, Niharika R and third prize is given to Pragati P Kamarla, Nuthan B, Pavananda K S, M J Ankitha Koushik. Treasurer Hunt prize is given to Ekta Ghosh, Deepti Gurjar, Divyanka Jain Singhvi, Kavin Adarsh.

VISIT: Research Department of Gandhi Krishi Vigyan Kendra (GKVK) University of Agricultural Sciences Bengaluru

Third year B Tech (CSE) students Kavya M Badiger, Chandana C P, Chethana P, Divya, together with their special topic supervisor, Dr. Basavaraj N Hiremath, Professor (CSE) visited the GKVK University campus on December 29, 2022, to have a better understanding of field data gathering in the plant house. The tour began with a visit to a polyhouse. Dr. Murali Mohan K and Dr B G Hanumantharaya, together with the farmers, reviewed farming techniques, plant diseases, and the challenges they confront sustaining crops in polyhouses. Papaya and banana were the crops that were farmed, and papaya was chosen to be grown in polyhouses because the output in open fields was falling owing to the rapid spread of viral disease. In the polyhouse, they were permitted to capture real-time data [temperature and humidity]. Then they were accompanied by Professor Manjunath and a meteorological department observer. They learned about manual and self or automatic climatic parameter measuring units [rainfall, solar radiation, soil temperature at different depths, wind speed and direction, etc.]. Manual measuring instruments included the rain gauge for measuring precipitation and the pyranometer for monitoring sun radiation. Self-measuring unit includes a combination of all cloud-connected parameter measuring units.

KANNADA RAJYOTSAVA

FIRST YEAR ORIENTATION

SOE, DSU organized Orientation Program for B.Tech first-year students on 1st December 2022. Sri. Aniruddha Kannalm, Co-Founder and CEO Vox Biomarkers was the chief guest of the event.

PARENT TEACHER MEETING

Computer Science and Engineering department organized Parent Teacher Meeting (PTM) for 5th semester on 10th December 2022 and 3rd Semester on 24th December 2022.

Student Achievements

Ms. Anmol Rathan M Sabale, 5th Semester, CSE has won the Miss Karnataka Crown 2022 organised by Sizzling Guys Dance Studio held in Mangalore, Karnataka.

Ms. Shubhashree P, student of 7th Semester CSE , was awarded the Research Warriors Award Champ by Bharatiya Shikshan Mandal on 21st October 2022 for her research paper titled "Paradigm of International Relations -Netaji till date". This research paper has been published in International Organization of Scientific Research-Journal of Humanities and Social Science on 25th November 2022. She was invited as a Guest Speaker for inauguration of Cysec Club, DSU on 13th October 2022. She has been published as co-author of her fourth book named 'Entangled' which has the storyline genre to be a satire and titled as 'The Hard Times ' describes life during covid lockdown on November 7 th 2022.

Ms. Shreya Sree G along with Ms. Sneha G, 7th Semester, CSE, published a paper on “Evaluation of subjective answers using machine learning” in the 3rd International Conference on Issues and Challenges in Intelligent Computing Techniques (ICICT-2022), IEEE, November 2022

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Student Achievements

Ms. Ishika Giroti along with Dr. Meenakshi Malhotra, Associate Professor(CSE) published a paper entitled "Quantum Cryptography: A Pathway to Secure Communication" at the 6th International Conference on Computation System and Information Technology for Sustainable Solutions (CSITSS), December 2022.

Mr. Jeevan Das, 7th Semester (CSE) along with Dr. Meenakshi Malhotra, Associate Professor(CSE) published a paper on "Quantum Machine Learning: An Effective Approach to High-dimensional Learning" in 6th International Conference on Computation System and Information Technology for Sustainable Solutions (CSITSS), December 2022

Ms. Bhagyalaxmi N Kulkarni, 5th semester CSE student secured first place in Paper presentation competition in the event ADVITIYA - 22, it was a Two-Day National Level Student's Technical Fest, organized by K.L.E. Institute of Technology, Hubballi, Karnataka from 22nd December to 23rd December 2022. She presented paper on Website Blocker Using Python under the supervision of Dr kiran B Malagi, Chairman & Professor, Cyber Security and received a cash prize of Rs. 5000/.

Student Achievements

Ms. Shishira S(CSE), Ms. Shubhashree P (CSE), Mr. Varun D(MECH),Mr. Karthik S (MECH), 7th semester students 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. Harshitha V, 1st semester CSE won the 2nd Prize in poster design competition organized by Green Warriors Committee, SOE on 25th November 2022.

Mr. Alan Joshy Thomas and Mr. Kiran Thomas V 5th Sem, CSE won the 1st and 2nd pize in debate competition organized by Green Warriors Committee, SOE on 25th November 2022.

Ms. Siri D Rangdale, 3rd Sem, CSE student along with other stream students from SoE participated in cultural events of Bikathon which is being held at Vidhanasoudha and Main campus, DSU on 18th November 2022.

Student Achievements

Mr. Ganesh, Mr. Amar Khan, Mr. Patel Mohammad won first prize in the Full Stack Development Challenge conducted on 24th December 2022.

Ms. Sohana R, Ms. Akshaya B, Ms. Nanditha N, Ms. Niharika R won second prize in the Full Stack Development Challenge conducted on 24th December 2022.

Ms. Pragati P Kamarla, Ms. Nuthan B, Mr. Pavananda K S, Ms. M J Ankitha Koushik won third prize in the Full Stack Development Challenge conducted on 24th December 2022.

Ms. Ekta Ghosh, Ms. Deepti Gurjar, Ms. Divyanka Jain Singhvi, Mr. Kavin Adarsh won Treasurer Hunt prize in the Full Stack Development Challenge conducted on 24th December 2022.

Faculty Achievements

Dr. Rajesh T. M., Associate Professor, CSE along with Prof. Ambeshwar Kumar published “Role of Explainable Edge AI to Resolve Real-Time Problem”, Explainable Edge AI: A Futuristic Computing Perspective. Studies in Computational Intelligence. Springer, November 2022, Scopus.

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

Dr. Basavaraj N Hiremath, Professor(CSE) along with Ms. Nithyashree V, Ms. Vanishree L, Ms. Aparna Duvvuri, Ms. Disha Anand, Ms. Vidyashree G published paper entitled "Identification of Toxicity in Multimedia messages for Controlling Cyberbullying on Social Media by Natural Language Processing" in IEEE International Conference on Distributed Computing, VLSI, Electrical Circuits and Robotics (2022 IEEE DISCOVER), October 2022.

Dr. Meenakshi Malhotra, Associate Professor(CSE) along with Ms. Ishika Giroti published paper entitled "Quantum Cryptography: A Pathway to Secure Communication" and with Mr. Jeevan Das "Quantum Machine Learning: An Effective Approach to High-dimensional Learning" in 6th International Conference on Computation System and Information Technology for Sustainable Solutions (CSITSS), December 2022.

Faculty Achievements

Prof, Ambeshwar Kumar, Assistant Professor (CSE), and Dr. Rajesh T.M, Associate Professor (CSE), published paper entitled “Role of Explainable Edge AI to Resolve Real Time Problem”, ISBN: 978-3-031-18291-4, vol 1072, Springer, November 2022.

Prof. Chhaya Suryabhan Dule, Assistant Professor (CSE), published Canadian copyright on “Cloud-based Electric vehicles temperature monitoring system using IoT", November 2022.

Dr. Niranjan Appaswamy, Associate Professor(CSE) published a paper entitled, "Monitoring Environment Parameters of Gerbera Flower Cultivation in Greenhouse using Internet of Things", in the Indian Journal of Science and Technology a Web of Science Indexed Journal, December 2022.

EDITORIAL COMMITTEE

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Prof. Ankita Singhai
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3rd Year

Mr. Harsh Manalel
2rd Year

Department of Computer Science and Engineering
Dayananda Sagar University
Innovation Campus
School of Engineering
Kudlu Gate, Hosur Road, Bengaluru - 560 068

PROGRAM OUTCOMES (PO'S)

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 analyze 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 modeling 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 EDUCATIONAL OBJECTIVES (PEO'S)

PEO1 - Engage in the design, development, testing/verification and validation, and operation of computational systems in the field of Information Technology and related areas, or in multidisciplinary teams in any field where computing can be applied.

PEO2 - Solve problems of social relevance applying the knowledge of Computer Science Engineering and/or pursue higher education and research.

PEO3 - Work effectively as professional and as team members in computing in multidisciplinary projects, and demonstrating initiative, persistence in problem solving, and excellent technical communication skills.

PEO4 - Engage in lifelong, self-directed learning and career enhancement, anticipate changing professional and societal needs, and adapt rapidly to these changing needs.

PROGRAM SPECIFIC OUTCOMES (PSO'S)

PSO1 - Develop, Analyse, Review and Contribute to efficient, secure and high quality design, implementation, testing and operations of computing system

PSO2 - Find and articulate digital and intelligent solution that can fully or partially automate various aspects of human activity.

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