Dayananda Sagar University Bengaluru

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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 1 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

Particle Swarm Optimization

Artificial Intelligence is the technique to simulate human behavior using computation for solving complex problems. The Computational Intelligence approach of Artificial Intelligence can be simulated using Swarm Intelligence an innovative paradigm for solving and optimizing problems that come under Evolutionary Computation. It originally follows the biological behavior of swarm, flocking, and real ants, in the composite form of an entity by collaborating locally with others. An optimization approach Particle Swarm Optimization (PSO) introduced by J. Kennedy, Eberhart R.C in 1995 is used to optimize non-linear and multidimensional complex problems. This technique is the part of Swarm Intelligence class, which is motivated by the communal and corporate nature of a group of birds flying in parallel or a group of fish swimming in the same direction for food. PSO is most popular because it is simple to implement and get quickly converges to a reasonably good solution. Iteratively, it improves the particles' solution towards the optimum solution of the problem within some threshold measurement.

The biological behavior of a group of birds flying in parallel or a group of fish swimming in the same direction for food represents mutual nature. Birds search for food by considering their own knowledge and keeping track of one another and moving towards the nearest to the food. Individuals implementing a flocking approach that effectively searches for food, avoid carnivore, and improved sharing behavior with each other using only their personal information the whole group achieves their goal in a synchronized manner. Like the neural networks, the processing of particles in the PSO depends on a group as a swarm of the computed entity as particles. Each particle is tried to achieve a goal or is closer to a goal by employing its position and speed based on its personal best value and the better particle among all in the group. The performance of the PSO algorithm is totally related to the control parameter and velocity update strategies used to move each particle of the population towards an optimum solution without falling into local optima.

The original PSO algorithm was used mainly to solve unconstrained and single-objective optimization problems but nowadays PSO has also been developed to solve constrained problems, multi-objective optimization problems, problems with dynamically changing landscapes, and to find multiple solutions. PSO techniques have been successfully used across a wide range of applications such as Telecommunications, Data Mining, Power Systems, Signal Processing, Function Optimization, Artificial Neural Network Training, Fuzzy System Control, All problems where Genetic Algorithm is applied

Prof. Ankita Singhai
Assistant Professor, CSE

Particle Swarm Optimisation for Cancer Cell Analysis

Cancer is characterised by tremendous increase in the number of cells which can affect the organs of body. Thanks to the rapid technological advances of recent years, it is now possible to analyse the cellular structure of different types of cancer in a short period of time. DNA microarrays printed microscope slides have thousands of tiny dots in the specified locations, each containing a sequence of DNA or a gene. The objective of my research paper is to use Particle Swarm Optimisation as a transform for increasing the accuracy of the machine learning algorithms such as Quadratic Discriminant Analysis, K Nearest Neighbour Classifier, Random Forest Classifier etc. Gene expression data related to 358 Liver cancer and 290 Breast cancer subjects were considered in this analysis. Principal Component Analysis was used for reducing the dimensionality of data. Notably, Quadratic Discriminant Analysis when used with Particle Swarm Optimization provided the highest Balanced Accuracy score of 96 % for liver cancer data while K Nearest Neighbor classifier along with Particle Swarm Optimization provided the highest Balanced Accuracy score of 91 % for breast cancer data.

Mr. Maheep Singh Shaan
3rd Year, CSE

Non-Fungible Token (NFT) – The internet of the future

You might wonder what's all about the overwhelming hype about NFTs. Well, it is completely understandable that one might feel cynical about it. Concepts like property and ownership aren't foreign to us. They have existed for centuries in the physical world and have now been introduced in our digital space. Copyright, Digital Millennium Copyright Act (DMCA), Data Recovery Agent (DRA), watermarks, etc. have been put to use to claim one's ownership and to restrain distribution. But such approaches are to no avail. Information should be able to travel without any encumbrance.

Today, large corporations that run the most effective Ad networks control most of the value on the internet and not the people creating its content. That's where NFT's step in. It is a technological breakthrough. NFT, Non Fungible Token, is a certificate of ownership registered on the blockchain. They are unique cryptographic tokens that exist on a blockchain. Traditionally, ownership precludes others from having the benefit of it. Here's the catch, NFT's can be purchased and it does not restrict others from using it. It is amusing that one can sell their music, art, tweets, and even a selfie as an NFT and it can be worth millions of dollars. One such significant example is the REPLICATOR. It is a creative and futuristic art by a Canadian artist Michah Dowbak. His art was sold for 4.1 million dollars, making him one of the most expensive Canadian artist. NFT's can be accessed by everyone on the internet and the best part is that, as its popularity grows, so does its value. So what does the internet of the future look like as far as NFT's are concerned? An internet where the economical control rests in the hands of the creator and where we get paid for the work we do with our minds.

Ms. HANNAH CAROLINE SAMUEL
2nd Year, CSE

Department Events

WORKSHOP : "DEMYSTIFYING RESEARCH METHODOLOGY AND EFFECTIVE TECHNICAL WRITING"

Department of Computer Science and Engineering conducted one day workshop on "Demystifying Research Methodology and Effective Technical Writing " on 2nd July 2022 in a virtual mode. The main objectives of the workshop is to enable basic knowledge of qualitative research methods, understand the process of research, discuss effective technical writings for publications in journal. The workshop was organized by Dr. Basavaraj N Hiremath, Professor, CSE, Prof. Rashmi Mothkur, Assistant Professor(CSE), Prof. Ambeshwar K, Assistant Professor(CSE).

The speaker Dr. Tapalina Bhattasali, HOD, Information Technology, St.Xavier's College (Autonomous), Kolkata gave a talk on Demystifying Research Methodology, Dr. Mahanand B S, HOD of Information Science and Engineering, Sri Jayachamarajendra College of Engineering, JSS Science and Technology University, Mysuru discussed Effective Technical Writing methods, Dr. V Krishna Murthy, Research Professor, Dayananda Sagar University, School of Engineering, Bengaluru spoke on Importance of Discussion chapter in Research.

The workshop was highly appreciated by the faculties, research scholars, and the student community. We thank our resource persons for delivering knowledgeable and useful sessions to students, research scholars, and academicians. On completion of the workshop, participants are likely to have developed the skills to review the literature, develop hypotheses, frame research design, identify sampling techniques and comprehend the role and relevance of the tools for data collection analysis and report writing.

WORKSHOP : CREATING ARTICLES USING LATEX

The Ganakanveshana Club of the Department of Computer Science and Engineering conducted a One Day Hands-on Workshop on "Creating Articles using LaTeX" on 13th July 2022. Workshop was organized by Dr. Savitha Hiremath, Dr. Meenakshi Malhotra, Dr. Jayita Saha, Dr. Debanjali Bhattacharya, Prof. Veena M, Prof. Shwetha G S, Prof. Nandini K, Prof. Pooja Goud.

The main objective of the workshop was to encourage faculty members to write articles and prepare presentations using Latex. A LaTeX editor is an open-source tool that allows for formatting complex content with applied command tags. This workshop on Latex will facilitate faculty members to be equipped with Latex for creating technical documents and preparation of Slides. It is highly customizable and produces high quality typography. LaTeX makes writing math easy and beautiful. It's used widely in academia and industry for technical writing which requires a lot of mathematical notations.

Dr. Debanjali Bhattacharya, gave the Introduction to Latex, Document Structure: Creating Title, Author details, Section and SubSections, Bibliography. Dr. Savitha Hiremath explained Tables and Figures, List, Equations, Multiline Equations, Slide preparation in Latex using Beamer. Dr. Jayita Saha explained how to Write Algorithms in Latex. Dr. Kiran B Malagi explained Paper writing in Latex with different class (Springer/ IEEE/ Journal/ Conference formats, Thesis templates).

WORKSHOP : OUTCOME BASED EDUCATION DECIPHERING CO-PO ATTAINMENT

Department of Computer Science and Engineering organized one day workshop on “Outcome-Based Education: Deciphering CO-PO Attainment” on 14th July 2022. Coordinator of the workshop was Dr. Meenakshi Malhotra, Associate Professor(CSE), Prof. Vaidehi Verma, Assistant Professor(CSE).

The main objectives of the workshop were to acquaint the faculty with the important aspects of Outcome-Based Education, to enable faculty how to formulate Course outcome while stressing the dos and don’ts while writing Cos, to emphasize the significance of CO-PO mapping, to apprise the faculty of the step-by-step process for COPO attainment.

Dr. Anala M R, Professor, ISE, RVCE was the resource person of the workshop. Topics covered in the workshop was Important aspects of the Outcome-Based Education, Establishing The Course Outcomes, CO-PO Mapping Process, Measure CO attainment, Measure PO attainment, Case Study on Attainment of CO, PO, Design of Outcome-based Question Paper. The workshop was highly appreciated by the faculties.

FACULTY DEVELOPMENT PROGRAM: AMAZON WEB SERVICES (AWS)

Department of Computer Science and Engineering in association with Brain O Vision, AICTE and Ministry of Education, Government of India successfully conducted a one week Faculty Development Programme on Amazon Web Services(AWS) from August 22nd to August 27th in virtual mode. The event was organised by Dr. Girisha G S, Professor & Chairperson, Dept. of CSE, Dr.Sindhu P. Menon Professor, Dept. of CSE and Dr. Pramod kumar Naik, Associate professor, Dept. of CSE.

The event was inaugurated by Dr. Chandrasekhar Buddha, Chief Coordinating Officer, AICTE. He spoke about the opportunities in Cloud Environment. The resource person for the FDP was Ms. Yasaswi Surabhi, Web Data Analyst at Tech Mahindra, France . She was previously employed with Nissan Automotive Europe as Former SEP & Quality Assurance Manager.

The main objective of the workshop was to enhance the teaching and research capabilities of the faculties which in turn help them in educating the students. It also focussed on giving a detailed information about the configuration of services in AWS Cloud Infrastructure. The targeted audience were faculty from across India.

The speaker addressed the participants and highlighted the importance of Cloud Computing. She also threw light on how Amazon Web Services (AWS) began offering IT infrastructure services to businesses in the form of web services. As the speaker had expertise in this area, a number of hands-on sessions were conducted to demonstrate the facts explained. She also took up several questions thrown by the participants. Around 100+ faculties participated in the workshop

Day 1 started with inauguration and a small session by the resource person, giving an introduction to Cloud computing. On Day2, she taught about EC2 and how to launch a windows instance. On Day 3, she touched upon various aspects of cloud computing like types of cloud and in the hands on session, demonstrated launching of a single security group with multiple instances . On Day 4, the launching of web server both manually and automatically was demonstrated. Finally on Day 5, EC2 and EBS options were explained followed by ELB and ASG. In the hands on session, launching of web server both manually and automatically were shown. At the end of the FDP, feedback from participants was taken and it was found to be satisfactory.

HANDS-ON SKILL DEVELOPMENT PROGRAM ON DATA ACQUISTION METHODS

Department of Computer Science and Engineering conducted Five days Skill Development Program on 'Data Acquisition Methods' from 22nd August to 26th August 2022 for the 5th Semester students and organized by Dr. Niranjan Appaswamy Associate Professor, CSE. The speaker of the workshop was Dr. Aman Chawla, Associate Professor, CSE. The main objective of the workshop was to understand basics concepts of signal acquisition, become familiar with the types of signals that may be acquired from an environment, to know and apply advanced methods of signal analysis, perform basic data input-output in python and to design GUI in python.

TALK: TOWARDS DEMYSTIFYING DEEP LEARNING A SIMPLE ASYMPTOTIC MODEL FOR OVERPARAMETERIZED LEARNING

Department of Computer Science and Engineering conducted Interactive Talk on "Towards demystifying deep learning: a simple asymptotic model for overparameterized learning" on 29th August 2022. Dr. Aman Chawla, Associate Professor, CSE was the organized and Prof. Anant Sahai, U C Berkeley, USA, was the resource person of the event. The main objective of the event was to demostrate to student, that modern deep learning is a collection of arcane mantras and rituals that must be performed in the right way for good results to emerge as if by divine intervention.

VALUE ADDED COURSE: SOFTWARE TESTING, TECHNIQUES, APPLICATIONS

Department of Computer Science and Engineering conducted 5 days value added course on Software Testing: Techniques and Applications from 6th September to 10th September 2022. The event was organized by Prof. Reshma B, Assistant Professor, CSE for 5th Semester B.Tech students.

Prof Arun kumar Khannur, Associate Professor, CSE was the speaker of the event. The main objective of the event was to introduce software testing and levels of testing, to introduce black box, white box and grey box testing techniques, to understand verifications and validations in each phase of SDLC, to learn through case studies and apply the learnings in software.

This course covered Introduction to Software Testing, Structure and Levels of Software Testing, Requirements Specification and System Testing, Functional Specification and Module Testing, Architecture & Design Phase: Reviews and Testing, Coding Phase, Other Tests, Bug Reporting and Classification.

After attending this workshop, the students developed in-depth knowledge about manual software testing so that they get ready for career opportunities in software testing in industry.

2018-2022 for Higher Studies

S.No.	Student Name	University
1	Ms. V A S Kiranmayee	Queen Mary University of London, MSc Business Analytics
2	Ms. Varshashree D	California State University East Bay, Masters in Computer Science
3	Ms. Srinishaa Prabhakaran	San Jose State University
4	Mr. Nithin Sameer	University of Maryland, College Park - Master of Professional Studies in Data Science and Analytics
5	Mr. Varun Menon	Arizona State University, Masters in Computer Software Engineering
6	Mr. Ravhit Potluri	Brunel University London
7	Ms. Aanchal Jain	Alliance School of busniess, Masters of busniess administration

2019-2023 Placement

From the Department of Computer Science and Engineering, a total of 285 students are eligible for placement out of 359. Highest Package 25.5L provided by Draup, Minimum package is 3.5L, average package is 6.04L.

Registered	Eligible	Non Eligible	Total Offers	No. of 1 Offers	No. of 2 Offers	No. of 3 Offers	No. of 4 offers
359	285	74	252	194	50	6	1

Regular offer Upto 5 LPA	Dream Offer 5 LPA to 10 LPA	Super Dream Offer 10 to 15 LPA	Mega Offer Above 15 LPA	Total
117	98	28	8	251

Department Activities

CSE, 7th Semester students visited ISRO (UR Rao satellite centre), Bengaluru on 7th September 2022.

CSE 7th Semester students visited Nokia Labs,(Hebbal), Bengaluru on 13th September 2022.

SOE, DSU celebrated "Independence day" on 15th August 2022.

Ganesha Habba

SOE, DSU celebrated Ganesha Habba on 9th September 2022. In the event along with students, faculties gave their performances in the music and dance.

Student Achievements

Team Adamya, SOE won the 2nd Prize in Group dance in the Samskruthi Fest organized by BMS College of Commerce & Management and BMS Evening College of Arts and Commerce, Bangalore on 8th July 2022.
Members of Team Adamya were Ms. Khushi Periwal, CSE (5th Sem), Ms. Kashish Verma, CSE (7th Sem), Mr. Nainesh Dalai, CSE (Cyber Security) (5th Sem), Mr. Christina Rebello, Aerospace Engineering (5th Sem), Mr. Pranam Gowda, Aerospace Engineering (5th Sem), Ms. Sheetal P, CSE (2nd Sem).

Team Adamya, SOE, won the 3rd prize in Group Dance in inter college competition held at Sindhi College on 22nd July 2022.
Team Adamya members were Ms. Khushi Periwal, CSE (5th Sem), Ms. Kashish Verma, CSE (7th Sem), Ms. R Harini, CSE (2nd Sem), Ms. Siri D Rangdale, CSE (2nd Sem), Mr. Pranam Gowda, Aerospace Engineering (5th Sem), Ms. Sheetal P, CSE (Data Science) (2nd Sem),

Student Achievements

Mr. Tanmay Sharma, 7th Semester, CSE published his paper entitled "Design and development of vine robot for the exploration of Mars and Titan" in International Astronautical Federation, 22nd September 2022.

Ms. Shubhashree P, student of 7th sem CSE , won the National Debate on Constitutional Issues conducted under 'Har Ghar Tiranga programme (18/7/2022-15/08/2022) ' was awarded from the Department of Legal Affairs Ministry of Law and Justice, Supreme court, India on September 23rd 2022. She won the Indie Author Awards 2022 and was awarded with ' The 21 st Century Emily Dickinson Award' for the book - 'The Phoenix Wings ' On September 9th 2022. She published her book which was submitted to PM Mentoring Yuva -' Jatayu-The Unsung Hero ' as an e- publication on July 5 th 2022. She has been awarded the Certificate of Commitment from Ministry of Defence, Ministry of Youth Affairs & Sports and Ministry of Women and Child Development on August 15 2022.

Faculty Achievements

Dr. Debanjali Bhattacharya, Assistant Professor, CSE received the Prof. Ravindran Gold Medal award for best Ph.D. thesis by International Institute of Informational Technology (IIIT) Bangalore on 3rd July 2022.

Dr. Rajesh T. M., Associate Professor, CSE was the keynote speaker of the session on "Forensic Crime Detection Using DIP and ML" on July 1, 2022, NCSEM2K22 conference organized by the department of ISE, Oxford College of Engineering. He served as an Editor of the 2 Springer ICICC-2021 Book Proceedings “Data Engineering and Intelligent Computing", July 2022 and “Computer Communication, Networking, and IoT", August 2022. He published two double-blind peer-reviewed journals entitled “Design of optimal metaheuristics-based pixel selection with homomorphic encryption technique for video steganography”, International Journal of Information Technology, Springer, June 2022, and "A Multi-Model Framework for Grading of Human Emotion Using CNN and Computer Vision", in the International Journal of Computer Vision and Image Processing, September 2022, DBLP. He along with co-authors Dr. Shaila S G, Chairman and Professor (DS), and Prof. Lavanya B Koppal, Assistant Professor published book chapters entitled "Tumour Detection Based on 3d Segmentation Using Region of Interest", High-Performance Medical Image Processing by Apple Academic Press, July 2022, Taylor and Francis Library. He has also co-authored along with Dr. Shaila S G, Chairman and Professor (DS) entitled "Analysis and Prediction of Breast Cancer using Multi-model Classification Approach", ICICC, SCOPUS, July 2022, "Early Detection of Diabetic Retinopathy Using Multimodal Approach"; in Computer Vision and Robotics. Algorithms for Intelligent Systems, Springer, August 2022. and “Music Therapy for Transforming Human Negative Emotions: Deep Learning Approach” Proceedings of International Conference on Recent Trends in Computing, Springer August 2022.

Dr. Mouleeswaran S K, Associate Professor(CSE) along with Prof, Ranjini K, Assistant Professor(CSE) published paper entitled "Breast Cancer Prediction by Leveraging Machine Learning and Deep learning Techniques with Different Imaging Modalities" IEEE 7th International Conference for Convergence in Technology, July 2022.

Faculty Achievements

Prof, Ranjini K, Assistant Professor(CSE) along with Dr. Mouleeswaran S K, Associate Professor(CSE) published paper entitled "Breast Cancer Prediction by Leveraging Machine Learning and Deep learning Techniques with Different Imaging Modalities" IEEE 7th International conference for Convergence in Technology, July 2022.

Dr. Sindhu P.Menon, Professor(CSE) along with Dr. Tina Babu, Assistant Professor(CSE), Dr. Rekha Nair, Assitant(BCA), and Prof. Pavithra K, Assitant Professor(BCA) filed a patent on "Lung Cancer Detection" by Design Patent, India. She has also published the paper entitled "Brain Tumour diagnosis and classification based on AutoML and traditional techniques" in IEEE Global Conference on Computing, Power and Communication Technologies (GlobConPT) September 2022.

Prof. Chhaya Suryabhan Dule, Assistant Professor (CSE), published a book chapter entitled “Privacy Preservation of Image Data With Machine Learning“ in "Application of machine learning and deep learning for privacy and cyber security” by IGI Global, in September 2022.

Dr. Tina Babu, Assistant Professor(CSE) along with Dr. Sindhu P.Menon, Professor(CSE) Dr. Rekha Nair, Assitant(BCA), and Prof. Pavithra K, Assitant Professor(BCA) filed a patent on "Lung Cancer Detection" by Design Patent, India.

Dr. Aman Chawla, Associate Professor(CSE) published paper entitled "On the Erro Exponent of Axon Coupled Channels" in the Bernstein Conference 2022, Berlin, September 2022.

EDITORIAL COMMITTEE

•Faculty Coordinators•

Prof. Ankita Singhai
Assistant Professor

Prof. Amrithavalli
Assistant Professor

• Student Coordinators •

Ms. Shubhashree P
4th Year

Ms. Shambhavi Chavan
4th Year

Ms. Shermeen Ulfat
3rd Year

Mr. Kishore Kumar K
3rd Year

Mr. Elton Derick
3rd Year

Mr. Harsh Manalel
2rd Year

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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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