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A Half- yearly E-newsletter of the Department of Computer Science and Engineering, Manipal Institute of Technology - Jan 2022

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NEWSBITCSE

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A Half- yearly E-newsletter of the Department of Computer Science and Engineering
Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal

MESSAGE FROM DEPARTMENT CHAIR

Welcome and a very happy new year to everyone. It is my pleasure to present to you the new issue of "NEWSBITCSE" covering the activities and achievements of the students, alumni, staff and faculty members. We have conducted AICTE sponsored workshop, international symposium and expert sessions over the course of these months, which have helped to nurture the young minds and prepare them to face the challenges ahead. I take great pride and contentment to note that the faculty members and the students have actively taken part in various academic, extra-curricular and research activities amidst the pandemic. My heartiest congratulations to all of them for their amazing achievements. Happy reading!

- Dr. Ashalatha Nayak

Faculty Mentor

Dr. Srikanth Prabhu

Editor- in-Chief

Ms. Vidhya V.

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6. Dr. Radhakrishna Bhat
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DEPARTMENT EVENTS

AICTE- ATAL SPONSORED ONLINE FDP ON BLOCK-CHAIN TECHNOLOGIES AND ITS APPLICATIONS

The Department organized a five-day AICTE-ATAL sponsored Faculty Development Programme (FDP) on "Blockchain Technologies and its Applications" in virtual mode from 6th to 10th December 2021. The workshop witnessed a crowd of 166 participants across the country. Dr. Rajkumar Buyya, Professor, School of Computing and Information Science, Melbourne, Australia was the Chief Guest for the inaugural programme. The online event was co-ordinated by Dr. Narendra V G, Dr. Krishnamoorthi Makkithaya and their team.

PSUC WORKSHOP

The Department in association with Office of Associate Director (FD & W) conducted 4-day workshop on "Problem solving Using Computers" for the faculties members of other departments from 13th to 16th July 2021. A total of 19 participants attended the workshop.

INTERNATIONAL SYMPOSIUM AND CONFERENCE

The Department in association with University GoGlobal organized an international conference and symposium entitled "A Quality Discourse by Legal and Technology Academics and Professionals on the Seamless Intersection of Law & Technology in Contemporary Times " from 26th to 28th August 2021. The aim of the event is to stimulate and provoke a critical discourse on the evolution of Law and Cybersecurity, from the perspectives and subjective matter expertise of eminent scholars and practitioners from both fields The online symposium and conference was co-ordinated by Dr. Srikanth Prabhu.

TRAINING SESSION ON THE EVE OF NATIONAL CYBER SECURITY AWARENESS MONTH

On the eve of National Cyber Security Awareness month, October 2021, an online training session on "Introduction to Ethical Hacking" followed by quiz was organized by the Department in association with Gravitas AI, on 30th October 2021. Ms. Sandhya. R, an experienced Technology leader in Security, was the resource person for the event.

USC VITERBI SPOTLIGHT LECTURE SERIES

The Department in association with University of Southern California hosted USC Viterbi Spotlight Lecture Series on the topic "Stem Technical Debt in Software systems by Mining Architectural Information" by Dr. Nenad Medvidovic, Professor, University of Southern California on 22nd September 2021. Dr. Nenad provided an in-depth overview of software architecture modeling, analysis and how to deal with technical debt in software systems respectively.

STUDENT ACHIEVEMENTS

GOOGLE AWARDS STUDENT WITH $3133 FOR SPOTTING BUG

Sohom Datta, a second-year student, won a reward of $3133 as part of Google's vulnerability reward program (GVRP) for identifying a bug in one of Google's open source libraries during the month of June 2021. Google VRP is a program via which Google rewards security researchers who report security issues in Google's products.

STUDENT DUO WINS ADOBE INDIA SCHOLARSHIP

Two third year students - Kumud Lakara and Supriti Vijay, have received the Adobe India WIT 2022 Scholarship 2022. The scholarship covers fund toward tuition fees for the remainder of the award recipient's university education ending in academic year 2023. It also provides an opportunity for Summer Internship at Adobe India in 2022 and travel assistance to Grace Hopper Conference India, including the participation fee.

PG STUDENTS WIN BEST PAPER AWARD

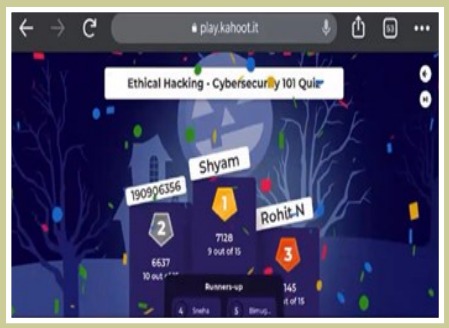
Two second year M.Tech (CSIS) students, Chiradeep Gupta and Athina Saha, have won the best paper award for the research article titled "Cardiac disease prediction using Supervised machine learning techniques" in the First International conference on Artificial Intelligence, Computational Electronics and Communication System (AICECS) hosted by Department of Electronics & Communication, MIT, Manipal from 28th to 30th October 2021. The research work, which was mentored by Dr. N.V. Subba Reddy and Dr. U. Dinesh Acharya, has also been submitted to IOP: Journal of Physics Conference series for publication.

STUDENT SELECTED AS DELEGATE FOR THE ASIA CONFERENCE 2021

Mini Shail Chhabra, a third year student, has been selected as a delegate for the "Harvard Project for Asian ad International Relations (HPAIR) Asia Conference 2021" which was held in the month of August. The conference theme was on Reinventing with Resilience.

THIRD YEAR STUDENTS EMERGED AS CYBERSECURITY QUIZ WINNERS

Shyam Vaideeaswaran and Siddharth Manoj have emerged winners in the cybersecurity awareness quiz conducted by the Department in association with Gravitas AI on the eve of UGC National Cybersecurity Awareness month- October 2021.



STUDENT TEAM WINS ONLINE HACKATHON

The student team 'Ipseity' comprising of Mini Shail Chhabra (CSE), Ishika Gupta (ECE), Praseedha Praveen Kalbhavi (ICT), Pratyaksh Gupta(EEE) and Shreya Tiwari (ECE) has emerged victorious in the online Hackathon American Express CodeStreet'21 national challenge held during August to September 2021. The team took part in the hackathon under the theme open banking.

STUDENT TEAM BAGS SECOND RUNNER-UP POSITION IN HACK-E-LTH 2021

The student team comprising of Pranshul Goyal (CSE), Rhea Adhikari (CSE), Ishan Kumar (I&CT) and Adit Luhadia (I&CT) have won the second runner-up position in the HACK-E-LTH 2021, a national challenge organized by GE Healthcare Digital Technology on 6th December 2021. The challenge for the team was to implement progressive web apps (PWA) which can seamlessly work with any device (IOS, Android or desktop) , responsive and easy to maintain the codebase.

CSE DUO WINS CSUN SCHOLARSHIP

Srishti and Chinmayee have been selected as the scholarship recipients of the 2021 California State University Northridge Scholarship. The scholarship provides an opportunity to deeply explore their fields of interest through internships, extracurricular activities and community engagements.

STUDENT'S START-UP MAKING WAVES

BugBase, a start-up launched by Dhruv Goyal is making waves among cybersecurity enthusiasts and professionals. The start-up is a comprehensive platform for vulnerability submission, cybersecurity auditing, and hosting bug bounty challenges. BugBase aims to be an enormous step towards building a secure digital India and solidify the idea of Cybersecurity in India.

FACULTY ACHIEVEMENTS

- The faculty members have published around twenty research papers in various Scopus indexed journals and also presented papers in various international conferences.
- Dr. Srikanth Prabhu has presented a webinar session on "Soft Skills for Engineers" on 9th July 2021 organized by IEEE Computer Society Bangalore Chapter. He also delivered a keynote address on 'Biometrics, Cybersecurity, Healthcare with AI' in the 2021 International Conference on Applications and Techniques in Information Security held during 16th to 17th December 2021.
- Dr. Geetha Maiya and Mr. Roshan David Jathanna have received a grant of Rs. 16,83,000 for the project titled "Nasha Mukt Udupi Abhiyaan (NMUA)" from the Department of Social Justice and Empowerment, Government of India to conduct a year-long event on the Prevention of Substance Abuse. The project aims to create Nasha Mukt MAHE Campus and adjoining villages in Udupi District.
- Dr. Manjunath K N has received the outstanding service award from IEEE Mangalore Sub-Section for the volunteer service rendered for the benefit of engineering community. He is associated with the Sub-Section from the day of its inception. He has also chaired healthcare sessions in the 2021 IEEE DISCOVER international conference held at NMAMIT, Nitte during 19th to 20th November 2021.
- Dr. Narendra V G was the resource person for the online AICTE-ISTE Sponsored Induction/Refresher Programme on "Recent Trends in Machine Learning and Pattern Recognition" held during 6th to 11th September 2021. He has also delivered a technical talk on " Machine Vision systems in Quality and Safety" in Technical Session 3 : Innovations in Food Safety and Quality held on 15th November 2021 at XV Agricultural Science Congress, 2021 organized by National Agricultural Statistics Service (NASS) and Banaras Hindu University (BHU),Varanasi India.
- Mr. Ganesh Babu has been selected as the winner in SAMSUNG PRISM "SPARK in Voice" for the August season last year.
- Dr. Sameena Begum Pathan, research alumnus of the department, has been selected for the "Special Mention of the Jury" Award 2020 for her thesis titled "Automated Detection of Melanocytes Related Pigmented Skin Lesions Using Image Processng". The award is issued by Board for IT Education Standards (BITES), a non-profit society constituted by Govt. of Karnataka. She has carried out her research under the able guidance of Dr. P. C. Siddhalingaswamy.
- The two Samsung work-lets mentored by Dr. Mamatha Balachandra & Dr. Radhika Kamath and Dr. Bhargav Bhatkalkar , have been awarded Certificate of Excellence as part of the Phase-2 Samsung PRISM program held during October 2020 to March 2021. The teams have also rewarded with Amazon vouchers worth $900 for the work-lets based on image denoising and next generation networks.

FAREWELL TO COLLEAGUES

In the last year, we have seen a number of changes in the professional team with four valued members leaving us for retirement and pastures new. We thank each one of them for their immense contribution and wish all success in their future.

- A farewell was arranged for Mr. Chidananda Acharya, who joined the department in 2002 and served the institute for seventeen years. He is one of the inspiring teachers with little words, high wisdom, very humble and ever-smiling. He is an excellent mentor who we can always look up to. He has served as a coordinator for the conduction of various examinations and also developed a tool for automating the faculty time table preparation. He has contributed a lot towards the growth and expansion of this department. We wish him a peaceful retired life with good health and happiness.

- Prof. Bhargav Bhatkalkar served the department for seven and half years and was relieved from the duty on 6th December 2021. He has been an inspiring teacher who instills the love for learning among the students. He has also handled various departmental responsibilities and mentored several student projects. He has been one of the active editorial team members of the e-newsletter. He has joined Digipen Institute of Technology, Singapore – a dedicated, world renowned leader in education and research with regards to Computer Interactive Technologies. The department wishes him all the best for his future endeavors.

- A farewell was arranged for Mr. Kalu Naik, General Duty Worker (Senior), on 13th November 2021, who served the department since 1989 for thirty three years. Mr. Naik and his wife were honored with a shawl and memento for his dedicated service. His sincerity, diligence and commitment towards work during these years was appreciated by everyone. He has been very active in the process to support the faculty, the institution and its stakeholders throughout his service. We wish him a happy, healthy and peaceful retired life.

- Ms. Richa Hinde served the department for two years and was relieved from the duty on 30th June 2021. She has served the department as teacher guardian, mentor, placement coordinator, exam coordinator and an active editorial team member. She has always been keen on instilling confidence and discipline in young minds to prepare them for the future. She is currently working on a project in Education Research. We wish her happiness and success in all her future endeavors.

DEPARTMENT CLUB ACTIVITIES

LINUX USERS' GROUP

Faculty Advisor

Mr. Ashwath Rao

Events Conducted

1. Linux Install Fest - An offline event conducted during 25th to 26th Nov. 2021 to guide students on dual booting process and install Linux on their computers.

ACM STUDENT CHAPTER

Faculty Advisor

Dr. Srikanth Prabhu

Events Conducted

1. Internships and Placements AMA - An interactive online session held during Aug. 2021.
2. MITACS Globalink Research Internship AMA session - An interactive online session held during Sept. 2021
3. IamRemarkable Workshop - A Google intiative empowering women held during Sept. 2021
4. recHERsion 2021 - A national level competitive coding event for women held during Dec. 2021.
5. Demystifying Open Source - An interactive and guidance session held during Oct. 2021.

B.TECH CSE

PROGRAM OUTCOMES

Engineering Graduates will be able to:

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

2. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

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

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

10. 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.

11. 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.

12. 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

Computer Science and Engineering graduate should be able to:

1. Carry out engineering projects and develop new products in the area of computer science and engineering and pursue higher studies.

2. Innovate and be creative in the profession; apply analytical skills and demonstrate research capabilities in the field of computer science and engineering.

3. Work in multidisciplinary environments and be responsive to the changing needs of the society.

4. Communicate effectively, display leadership skills, and demonstrate professionalism.

5. Engage in lifelong learning, apply the knowledge judiciously and remain continuously employable..

PROGRAM SPECIFIC OUTCOMES

1. Analyze and solve real world problems by applying a combination of hardware and software.

2. Formulate & build optimized solutions for systems level software & computationally intensive applications.

3. Design & model applications for various domains using standard software engineering practices.

4. Design & develop solutions for distributed processing & communication.

M.TECH CSE

PROGRAM OUTCOMES

1. An ability to independently carry out research /investigation and development work to solve practical problems.

2. An ability to write and present a substantial technical report/document.

3. Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

4. Apply problem solving skills and advanced concepts in Computer Science to breadth of topics in industrial applications.

5. Use mathematical foundations and research based knowledge for facilitating novel contributions to contemporary areas of computer science.

PROGRAMME EDUCATIONAL OBJECTIVES

1. Analyze, design, and develop software solutions for multidisciplinary problems related to industry and societal needs.

2. Excel in industry, academia, and entrepreneurship exhibiting professional and leadership skills with ethical standards.

3. Contribute to the community through research and development in the field of computer science and engineering.