ICFAI Foundation for Higher Education
(Deemed-to-be University under Section 3 of the UGC Act, 1956)

IcfaiTech
Faculty of Science & Technology (FST)

IcfaiTech Newsletter Vol 18, January 2023

From the Director`s Desk

I am pleased to present the first edition of IcfaiTech's Newsletter of 2023. We are marching ahead in our pursuit to become one of the best institutes in the field of Science and Technology. We smoothly completed our semester registration process in the month of January. I congratulated the registration team and all faculty and staff members involved in the registration process.

To our delight, this issue is overwhelmed by the achievement of our prodigious faculty members, who have showcased their scholarly abilities in various forums with their significant achievements. The newsletter also tells tales of the activities that encompass our vibrant campus. Further, I welcome the highly accomplished faculty members who joined in January.

Dr. K. L. Narayana
Director, IcfaiTech, Hyderabad

Campus Happenings

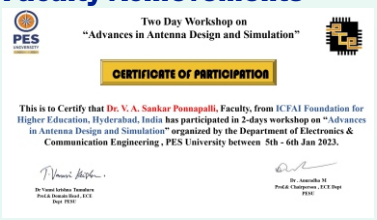
National Mathematics Day Celebrations

The Department of Mathematics celebrated National Mathematics Day on the birth anniversary of the Great Indian Mathematician Srinivasa Ramanujan Aiyangar on 22nd December 2022. Prof. K.L Narayana, Director, Faculty of Science and Technology, graced the occasion as the chief guest. Dean of Academics Dr.Suresh Grandhi, Dean of Student affairs Dr.J. R. Nayak, and Department coordinator Dr. Anjanna Matta were the guests of honor. FST Faculty and staff members also participated in the celebration. On this occasion, a Mathematics quiz conducted for the young minds of Sri Gayathri Junior college attracted around 80 participants. Mr. G. Adithya was the top scorer in the quiz competition and won a token of appreciation. Dr. T. Divya, along with other faculty members of the Department of Mathematics, coordinated the program.

National Youth Day

The Student Welfare Division organized the celebration of National Youth Day on the 12th of January to mark the Birth Anniversary of Swami Vivekananda at the FST Auditorium at 4:30 PM. Enlightening thoughts on the life and endeavours of Swami Vivekananda were shared by Dr. Srinivas Reddy Sir, Dr. Soumit Samadder Chaudhury and Dr. Vivekananda.

Faculty Achievements

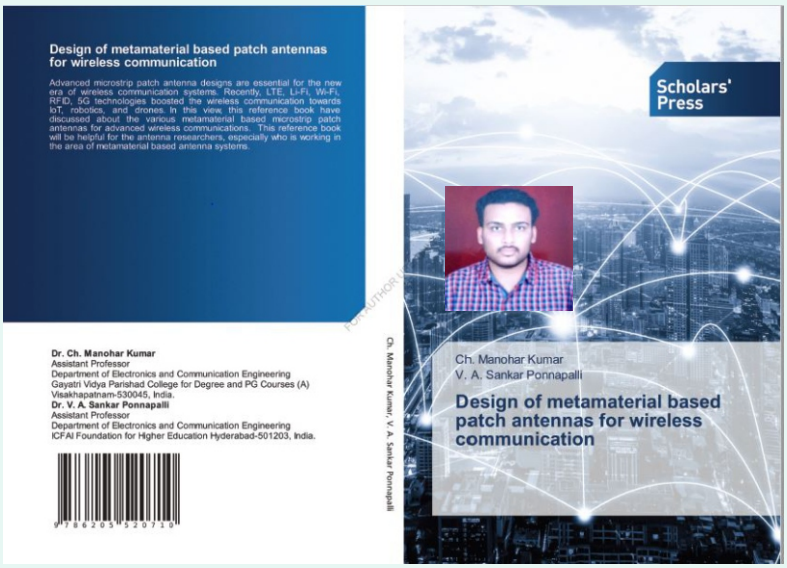

Two Day Workshop on
"Advances in Antenna Design and Simulation"

CERTIFICATE OF PARTICIPATION

This is to Certify that Dr. V. A. Sankar Ponnapalli, Faculty, from ICFAI Foundation for Higher Education, Hyderabad, India has participated in 2-days workshop on "Advances in Antenna Design and Simulation" organized by the Department of Electronics & Communication Engineering , PES University between 5th - 6th Jan 2023.

Dr. V. A. Sankar Ponnapalli, Dept of ECE, attended an online workshop on "Advances in Antenna Design and Simulation" at PES University Bangalore.

Dr. Ashwin Kumar Myakalwar, Assistant Professor, Dept. of Physics, is inducted to the PLOS ONE Journals Guest Editor role.



Dr. V. A. Sankar Ponnapalli, Assistant Professor, Dept of ECE, published a book titled "Design of Metamaterial patch antennas for wireless communications" by the Scholars Press.

Dr. V. A. Sankar Ponnapalli, Dept of ECE, has presented the Technical paper entitled "A Flexible Wideband Spiral Antenna using Polydimethylsiloxane Substrate for Wearable Applications" in the International Conference on Computer Communication and Informatics held from 23-25 January 2023

Dr. Movva Pavani has been appreciated for her effort and contribution as a Reviewer in the 2nd International Conference on Advanced Network Technologies and Intelligent Computing (ANTIC-2022) organized by the Department of Computer Science, Institute of Science, Banaras Hindu University, Varanasi, India in hybrid mode during December 22-24, 2022.

Dr. Movva Pavani has participated in the One Week National Level Online Faculty Development Program on Societal Applications of Machine Learning from 26-30 December 2022 organized by the department of CSE at Shri Vishnu Engineering College for Women (A), Bhimavaram. She has cleared the end exam successfully.

Dr. Movva Pavani, Assistant Professor, Department of ECE published a research paper titled “Adolescent Idiopathic Scoliosis Detection using a Novel Machine Learning Approach” in the Journal of Annals of Forest Research
Impact Factor: 1.50 (Q2)
Indexed: SCIE, Web of Science, Scopus
Publisher: Forest Research and Management Institute
Abstract: National Scoliosis Foundation (NSF) has found that 2 to 4 percent of people these days are suffering from scoliosis. Scoliosis is a disease which develops an abnormal curve in the spine region. This disease affects the population comprising all age groups. In the US alone about over 7 million people are diagnosed with scoliosis. Adolescent Idiopathic Scoliosis (AIS) is the most common scoliosis type that is typically found in patients belonging to the age groups of 40 years or more due to the problem of aging. Studies have revealed that about 64% to 68% are affected by this disease among the aged population groups. This has become a significant healthcare concern. Demographic, Radiographic and Coronal Cobb Angle measurements were collected to measure the angular difference between the neutral spine and the abnormal spine to estimate the probability of scoliosis disease in adults in the affected region. The experimental results were compared with the supervised algorithms kNN and SVM. The performance of Naïve Bayes proved prominent based on the results of prevalence, specificity, sensitivity, error rate and accuracy.

Dr. Bonala Kondal published a patent titled “'Effectiveness of Linguistic Grammar on ELT Speakers In Higher Education Institutes'” in the month of December 2022 with Application No.202241070702

Dr. Sirisha, Assistant professors, Department of Computer Science and Engineering awarded Outstanding Thesis & Dissertation - 2023 for her thesis entitled “Efficient Self-adaptive PSO and QOS based machine learning models for cloud service data”in the 1st International Conference on Advance Optimization Techniques and applications (AOTA)

Faculty Achievements

Mr. Avinash, Assistant Professor, Dept. of Mechatronics published a paper titled “Synthesis, Thermal Adsorption, and Energy Storage Calibration of Polysulfone Nanocomposite Developed with GNP/ CNT Nanofillers” in Sage Publishing along with Adsorption of Science & Technology Journal which is under Hindawi Group.

Dr. Sirisha, Assistant professors, Dept. of CSE, published a book chapter titled: Fuzzy-Based Edge AI Approach: Smart Transformation of Healthcare for a Better Tomorrow in John Wiley & Sons Scrivener Publishing- Fuzzy Computing in Data Science: Applications and Challenges Pages: 181-196, https://doi.org/10.1002/9781394156887.ch10

Dr.Sirisha Potluri, presented a paper titled “Classification of Fruit Essential Oils Using Machine Learning Practices” in the 2nd International Conference on Cognitive & Intelligent Computing (ICCIC-2022) 27-28 December 2022, Vasavi College of Engineering, Hyderabad, India.


Springer

2nd International Conference
on
Cognitive and Intelligent Computing (ICCIC)
27-28 December 2022, Vasavi College of Engineering, Hyderabad, India

Certificate

Congratulations & Gratitude to
Sirisha Potluri
from
Faculty of Science and Technology-IcfaiTech, ICFAI Foundation for Higher Education, Hyderabad
For presenting the paper 37 on
Classification of Fruit Essential Oils Using Machine Learning Practices

General Co-Chair
Dr. Amit Kumar

General Chair
Dr. T. Adilakshmi


1ST INTERNATIONAL CONFERENCE ON
ADVANCED OPTIMIZATION TECHNIQUES AND APPLICATIONS (AOTA - 2023)
Organised by Ramgarh Engineering College
In Collaboration with Sultan Moulay Slimane University, Morocco
City University, Malaysia

BEST PAPER AWARD

is presented to

Dr.Sirisha Potluri and Dr. B. Deevena Raju

For their paper entitled

"Optimized Test Coverage with Hybrid Bee Colony Firefly Algorithm in Model Based Software Testing Approach"

under technical track "Intelligent Optimization" presented at AOTA - 2023 held during 21st - 22nd January, 2023.

Dr. Sharbani Roy, Principal, REC, Jharkhand
Dr. Nazmul Islam, Vice Principal, REC, Jharkhand
Dr. B. B. Chattopadhyay, Organizing Chair AOTA - 2023

Dr. Sirisha Potluri and Dr. B. Deevena Raju, Assistant professors, Dept. of CSE, presented a paper titled “Optimized Test Coverage with Hybrid Bee Colony Firefly Algorithm in Model Based” in the 1ST INTERNATIONAL CONFERENCE ON ADVANCED OPTIMIZATION TECHNIQUES AND APPLICATIONS (AOTA - 2023) Organized by Ramgarh Engineering College, Jharkhand in collaboration with Sultan Moulay Slimane University, Morocco & City University, Malaysia, during 21st and 22nd January, 2023. Dr. Sirisha Potluri and Dr. B. Deevena Raju also received the best paper award.

Dr. S. Kaushik, Associate Professor, Dept. of CSE, presented a paper titled “A Methodology to Locate Image Falsification Using Adaptive Segmentation and Feature Extraction” in the ICKECS - International Conference on Knowledge Engineering and Communication Systems Conference Date: December 28th-29th, 2022


Sri Adichunchanagiri Shikshana Trust (R)
SJC Institute of Technology
Chickballapur - 562101, Karnataka, India
ESTD - 1986

IEEE International Conference on Knowledge Engineering and Communication Systems
(ICKECS-2022)

This Certificate is presented to Dr./Prof./Mr./Mrs.

S.Kaushik

For His/Her Paper Titled

A Methodology to Locate Image Falsification Using Adaptive Segmentation and Feature Extraction

Dr. B N Shobha
Organizing Chair, ICKECS-2022
Professor and Head, ECE
SJC Institute of Technology, Chickballapur, India

Dr. G T Raju
General Chair, ICKECS-2022
Principal
SJC Institute of Technology, Chickballapur, India

Faculty Seminars

Department of Computer Science and Engineering conducted the following faculty seminars.

Title: Efficient Task Scheduling Policy for Vehicular Fog Computing based on Link Weight

Speaker: Dr. Santosh Kumar Sahoo,Date: 5th January 2023

Abstract: Vehicular network has several applications in the smart city and IoT. Vehicular fog computing can be used to solve the issues of next generation computing and communication scenario. There are several issues in vehicular fog computing. Efficient task computing and data dissemination is an important issue. Several approaches are proposed by different authors to solve the issues, but none of them has addressed the service completion and failure rate which is very important in the vehicular scenario as the vehicles move very fast and its contact time with the RSU controller is limited. The task has to be completed by the vehicular server within that time period, otherwise computation will fail. Once the computation and communication fails, the RSU controller will reinitiate to form the vehicular fog resulting high overhead. We address this issue and proposed an efficient scheduling algorithm based on multiple parameters namely queue length, response time and link weight.

Title: Optimized Test Coverage with Hybrid Bee Colony Firefly Algorithm in Model Based Software Testing Approach

Speaker: Dr. Sirisha Potluri, Date: 12th January 2023

Abstract. The software testing process is an important practice to design flawless software and observes profits by using resources for the development of software. Software development life cycle observes approximately 60% of the total cost and time for the software testing phase. Test case generation is a technique to recognize the test data and by satisfying the criteria given in the software testing process. Test case generation is a significant model applied in the software testing process that derives from the user requirements specification. Using automatic programmed test case procedure, the system can determine test cases spontaneously by using search based optimization technique. In this research, an efficient hybrid technique using Bee Colony and Firefly Optimization Technique (BCFOT) is applied for the optimization of generated test cases. The efficiency and performance of the proposed model are showing better results when compared with the performance of prevailing methods such as Bee Colony Optimization and Firefly Optimization.

Title: Initiation, Innovation, Implementation and integration of CBDC in digital virtual payment systems

Speaker: Mr. K Vara Prasad Rao, Date: 30th January 2023

Abstract: There is a shift in digital payment system from digital money to virtual digital currency called CBDC (Central Bank Digital Currency). CBDC is programmable currency issued by central banks and sovereign authorities. CBDC is having combined features of cryptocurrency and fiat currency. The main objective of introducing digital virtual currency to minimize the operation cost of currency management which includes currency printing, distribution and storage. It also increases the accountability, traceability of currency. CBDC address the country major issues of the money laundering, counterfeit currency and terrier finance. Using CBDC we can provide the transparent and traceable government welfare schemas and subsidiary benefits to the common people. We propose a four stage model including initiation, innovation, implementation and integration of CBDC to make effective, efficient, secure, transparent and traceable global payment systems. The initiation model describes the need of digital virtual currency, introducing novelty to existing payment channels or processes, leading to increase the digitization. The innovation model enhances, upgrade and transform the payment systems to the global standard payment systems to solve the cross boarder payments. The implementation model describes the underlying technologies, distribution models and different form of CBDC. The integration model describes how we can integrate to existing payment systems or channels to enhance the performance, efficiency, security and privacy of user services.

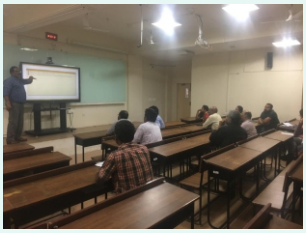
Department of Mechatronics conducted the following faculty seminars.

Title: Experimental Investigation and Soft Computing based Multi-Optimization of corner accuracy for Inconel 625 using WEDM: A Comparative Study

Speaker: Dr. Viveknand

Date: 17th Jan, 2023

Abstract: Wire Electrical Discharge Machining (WEDM) is a thermoelectric process that can have the potential to machine intricate shapes of electrically conductive materials with different hardness. The machining task becomes more complicated if the angled profile has to be a machine. The outcome of this cutting process offers an error as the die-corner error (CE). Such errors may affect the die and punch alignment. Moreover, a low cutting rate (MRR) is a major concern in this machining process. So the advanced industrial zinc-coated copper wire "(BroncoCut-X)" (Wire1) and uncoated brass wire (Wire2) are incorporated in their impact on cutting rate, but influences on corner die error (CE), and surface roughness (RA) of Inconel 625 are somewhat unexplored. The pulse on time (Son), Wire Tension (WT), Flushing Pressure (FP), and Discharge Current (Id) were selected to machine V-shape profile. The machining responses were examined using main-effect plots, SEM images, and ANOVA analysis. The result revealed that the use of Wire1 improves by 29.6%, 8.4% and 46.5% of CE, RA and MRR, respectively, from its counterpart. Additionally, a proposed smart-hybrid approach with "Multi-Objective Optimization on the Basis of Ratio Analysis" (MOORA) with "Fuzzy-Interference System" (FIS) coupled with JAYA was adopted for a multi-optimum parameter setting, and the result was compared with the TLBO-Algorithm to check the efficacy of the approach. The confirmation test is further conducted on the optimal machining conditions from the said hybrid approach and shows an overall improvement of 8.37% and 5.50% for the responses, viz., wire1 and wire2, respectively.



Department of Mathematics conducted the following faculty seminars.

Title: Similarity Solutions in Transport Phenomena using Lie Algebraic Methods

Speaker: Dr. Upendar Mendu, Date: 31-Jan-2023

Abstract: In transport phenomena courses (Mass Transfer, Heat Transfer, Fluid Mechanics), one is often faced with solving parabolic partial differential equations in which the coordinate defined by the highest derivative defines a semi-infinite domain. When the PDE is linear, with constant coefficients a solution can usually be found by applying the method of Laplace Transforms. In boundary layer theory, and convective heat transfer, the aforementioned simplifying assumptions rarely apply. The equations are typically nonlinear and may have variable coefficients. An alternative method for solving such equations is based on finding a similarity solution to the PDE. In this work we study the mathematical foundations for determining a similarity solution and show how Lie Algebra can be used.

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Welcoming New Faculty

Dr. L. Lakshmi

Dr. L. Lakshmi joined as an Associate Professor in the Department of Data Science and Artificial Intelligence. Dr. L. Lakshmi completed B.Tech.(CSE) in 2002 from RGM College of Engineering and Technology, Nandyal, JNTU Hyderabad and M. Tech (CS) in 2012 from St. Marys College of Engineering and Technology, Hyderabad JNTUH. She has been awarded a Ph.D. in 2018 from JNTUA Anantapur, India. She worked as Associate Professor in the Department of Computer Science and Engineering (CSE) in GITAM University Hyderabad prior to joining ICFAI. Her research interests include artificial intelligence, machine learning and data science. She has completed one research project in web query classification and ranking under DST (WOS-A). She has 35 google scholar publications, 15 Scopus and 1 SCI publication.

Dr. Kuncham Sreenivasa Rao

Dr Kuncham Sreenivasa Rao, joined as Associate Professor in the Department of Computer Science and Engineering, Faculty of Science and Technology, IFHE, Hyderabad on 11.01.2023. He did his Ph.D in Computer Science and Engineering in the year 2016 from Jawaharlal Nehru Technological University Hyderabad, Kukatpally, Hyderabad, did M.Tech in Computer Science and Engineering in the year 2009 from Jawaharlal Nehru Technological University Kakinada and did B.Tech in Computer Science and Engineering in the year 2005 from Jawaharlal Nehru Technological University, Kukatpally, Hyderabad. He has 18 years of experience and has published 25 research papers in various journals of national and international repute. His research interests include machine learning, artificial intelligence, data science and deep learning.

Dr. N. Prasad

N. Prasad joined as Assistant Professor in the Department of Computer Science and Engineering, Faculty of Science and Technology, IFHE, Hyderabad on 11.01.2023. He received his B. E in Electronics & Communication Engineering from Andhra University, Visakhapatnam in 2006, M. Tech, and Ph.D. in Electronics Communication Engineering from NIT Warangal, Warangal in 2009 and 2018 respectively. He has nine years of teaching and 6 months of industrial experience. He has successfully completed one DST-sponsored project entitled Development and Implementation of Telephony Speech Enhancement Algorithms Using Data Hiding Techniques for Hearing-Impaired People. He has published papers in 4 SCI journals and 5 Scopus-indexed journals and also has presented papers at 9 international conferences. He is acting as a reviewer for various international journals and conferences. His research interests include Speech bandwidth extension, Speech Enhancement, Adaptive Digital Signal Processing, and Telephony Speech Enhancement.

Admission Campaign

Intermediate students of Sri Gayatri Junior College-Adibatla visited the campus of IcfaiTech, Hyderabad on 22nd December 2022. We conducted a session through an engaging presentation that was followed by mock JEE test for those students at the campus. The young visitors earnestly enjoyed the campus tour as well as visited all the laboratories, and inquired much about the academic programs offered by IcfaiTech, Hyderabad.

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Lab

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