



8TH IEEE SPONSORED INTERNATIONAL CONFERENCE

ON SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS



ICONSTEM 2023

6th and 7th April, 2023

Theme

"Smart Systems and Innovative Technology for Industry 5.0"

SOUVENIR



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About ICONSTEM 2023

International Conference in Science, Technology, Engineering & Mathematics 2023 (ICONSTEM 2023) focuses on Smart Systems and Innovative Technology for Industry 5.0. Regarded as the next industrial evolution, Industry 5.0's objective is to leverage the creativity of human experts in collaboration with efficient, intelligent and accurate machines, in order to obtain resource-efficient and user-preferred manufacturing. ICONSTEM 2023 intends to provide a platform for academicians, students and industry experts to present their high-quality original research, innovative ideas and compelling insights on future trends in Smart Systems and Innovative Technology that include Edge Computing (EC), Digital Twins (DT), Internet of Everything (IoE), Big Data Analytics, cobots, 6G and Blockchain. This conference also broadly focuses on several innovation paradigms in system knowledge, intelligence and sustainability that can help to provide realistic solutions to various problems confronting society, the environment, and industry. Focusing on a variety of methods and systems as well as practical examples, this conference is a significant resource for post graduate-level students, decision makers, and researchers in both public and private sectors who are seeking research-based methods for modeling uncertain and unpredictable real-world problems.



INVITED SPEAKERS

Chief Guest



Dr. K. Porkumaran, M.E., Ph.D, CEng, PEng, Fellow(IE), SMIEEE

Chairman, IEEE Madras Section
Senior Professor & Principal,
Sri Sairam Engineering College

International - Guest of Honour



Ms. Ling Yun Tsai

Director of Taiwan Education
National Tsing Hua University – Taiwan

Invited - Guest of Honour



Dr. Ponnuraja C , Ph.D

Scientist E , ICMR –NIRT
Chennai



Dr. Vasudevan S , B.Sc, MA, FCMA, CMA(USA), PGDYN, Ph.D

Director - Business Development at Institute of Analytics, USA

INVITED KEYNOTE SPEAKERS



Dr. Raghunandhakumar

Cancer and Stem cell Research lab
Department of Pharmacology
Saveetha Dental College



Dr. Adithya Pothan Raj V

Lead Architect - Technology CTS



Dr. C Sudalaimani

Scientist E/Joint Director, Health Technology Group,
CDAC



Dr. Kannan B T

SRM Institute of Science and Technology



Dr. Smriti Murali Krishna

Atherothrombosis and Vascular Biology
Baker Heart and Diabetes Institute, Australia



Dr. Michael Dinesh

Technical Manager – Software Development
Verizon



Mr. Sethuraman Krishnamoorthy

Founder & Director
Prag Robotics Pvt Ltd



Dr. K. Venkatraman

Technical Architect
Hexaware Technologies



Dr. S. Kiruthika

SCOPE, Vellore Institute of Technology,
Chennai



Dr. T. Jaya

CSI Institute of Technology

**8TH IEEE SPONSORED
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Dr. M. Regeena J Murali, B.Tech, M.B.A, Ph.D

Founder & Chancellor, Jeppiaar University
Chairman & Managing Director,
Jeppiaar Group of Institutions

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Dr. J. Francis Xavier, M.Tech, Ph.D

Principal, Jeppiaar Engineering College

Dr. Shaleesha A. Stanley, MSc., M.Tech., Ph.D., D.Sc.,

Dean - Academics & HOD - BioTech,
Jeppiaar Engineering College

CONVENOR

Dr. J. Jebastine, M.E, Ph.D

SB Counsellor, IEEE SB JEC
Prof.& HOD - ECE, Jeppiaar Engineering College

FOUNDER & CHANCELLOR CHAIRMAN & MANAGING DIRECTOR MESSAGE



Dr. M. Regeena J Murali, B.Tech, M.B.A, Ph.D

Founder & Chancellor, Jeppiaar University
Chairman & Managing Director,
Jeppiaar Group of Institutions

I am delighted and honored to extend a warm welcome to all of you to the eagerly anticipated "8th International Conference on Industry 5.0 2023". We're thrilled to have such a passionate and knowledgeable group of attendees here today, as our mission is to facilitate knowledge-sharing and ignite innovation among like-minded individuals. This conference is a prime opportunity for participants to showcase their ideas and be inspired by others. First and foremost, I would like to express our heartfelt gratitude to our esteemed sponsors, partners, and volunteers for their invaluable support in bringing this event to fruition. We're also privileged to have a fantastic lineup of speakers and panelists whose expertise and insights are sure to amaze and captivate us all. The conference aims to bridge the gap between academia and industry, emphasizing the crucial role of Science, Technology, Engineering, and Mathematics (STEM) in the dynamic field of Industry 5.0. We're confident that this event will offer a wealth of opportunities for attendees to learn, connect, and grow professionally. So, I urge all of you to seize this remarkable opportunity and fully immerse yourselves in this exciting event. Let's explore new ideas, exchange knowledge, and make meaningful connections that will last a lifetime. Together, we can create a truly unforgettable conference experience!

PRINCIPAL'S MESSAGE



Dr. J. Francis Xavier, M.Tech, Ph.D
Principal, Jeppiaar Engineering College

I am thrilled to welcome you all to the ICONSTEM event and the unveiling of our souvenir. This event is an opportunity for us to share our knowledge and to showcase our innovative work. The international conference reminds me to share our knowledge the importance of science, technology, engineering and mathematics (STEM) field in driving innovation and progress. This souvenir is a testament to the creative and innovative minds that participate in this conference. It represents the hardwork, passion, and dedication of our colleagues, who have made significant contributions to their respective fields. I am honored to be a part of this conference that values and supports STEM education and research. Look to the future, I am excited to see the impact that the participants of this conference will continue to make in their fields. I have no doubt that they will lead the way in solving some of the world's most pressing problems and driving innovation that will benefit all of us. I want to extend my congratulations to all the researchers, faculty members and the students whose work is featured in this souvenir. I would like to congratulate the entire organizing team of ICONSTEM 2023 for this hardwork and commitment.

DEAN'S MESSAGE



Dr. Shaleesha A. Stanley, MSc., M.Tech., Ph.D., D.Sc.,
Dean - Academics & HOD - BioTech,
Jeppiaar Engineering College

I am absolutely thrilled to announce that the esteemed Jeppiaar Engineering College will be the proud host of the 8th International Conference on Science, Technology, Engineering, and Mathematics. This event is an unparalleled opportunity for both students and faculty members to showcase their exceptional talents and transcend the boundaries of their academic curriculum. In today's globalized world, it is not enough for individuals to possess technical prowess alone. Personal growth and a holistic perspective are just as important. The conference's primary objective is to bridge the gap between academia and industry professionals by delivering riveting research presentations and mind-bending keynote speeches that shed light on the latest technological advancements. Participants can also showcase their creativity and engage in insightful discussions with peers and industry experts. This conference places significant emphasis on the crucial importance of autonomous manufacturing and sustainability, two essential components of modern technological trends. This presents an exceptional opportunity for attendees to gain invaluable insights and expand their network with like-minded individuals. I express my heartfelt gratitude to the conference committee for their unwavering commitment and hard work in organizing this unparalleled event. I also thank all the authors, reviewers, and contributors for their remarkable efforts and their belief in the magnificence of ICONSTEM-2023.

CONVENOR'S MESSAGE



Dr. J. Jebastine, M.E, Ph.D
SB Counsellor
Prof.& HOD - ECE, Jeppiaar Engineering College

It is with great excitement and anticipation that I hereby announce that Jeppiaar Engineering College will be the proud host of the 8th International Conference on Science, Technology, Engineering, and Mathematics, slated to take place online on April 6th, 2023. ICONSTEM 2023 will bring together the finest minds in the field of Industrial Revolution 5.0, from both the academic and industrial spheres, to exchange ideas and discuss their latest breakthroughs. The conference's theme is nothing short of revolutionary, as it addresses one of the most pressing issues facing the fields of science and technology today. In order to succeed, it is vital that students possess a broad perspective that extends beyond their specialized areas of study, and engage in self-directed learning to become well-rounded individuals. Participants in this conference will have the opportunity to showcase their innovative ideas and gain invaluable knowledge, attracting top academics and inquisitive learners alike. By harnessing creativity and cutting-edge problem-solving techniques, participants will be able to overcome challenges and achieve remarkable feats of success. It is my sincerest hope that this conference will be an unparalleled success, and that its intended audience will be eager to attend. I implore all interested parties to seize this once-in-a-lifetime opportunity to expand their knowledge and gain a competitive edge in their respective fields.

CHIEF GUEST'S MESSAGE

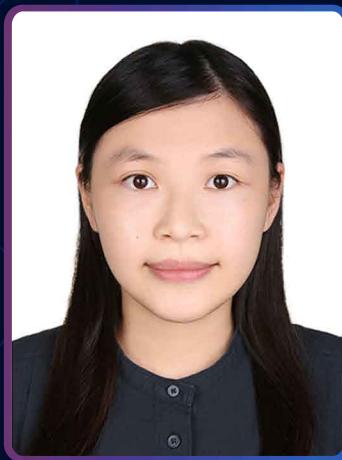


Dr. K. Porkumaran, M.E., Ph.D, CEng, PEng, Fellow(IE), SMIEEE

Chairman, IEEE Madras Section
Senior Professor & Principal,
Sri Sairam Engineering College

Excitement fills me as I learn of Jeppiaar Engineering College's plans to host the 8th International Conference on Science, Technology, Engineering, and Mathematics (ICONSTEM). With the conference's theme centering around "Smart Systems and Innovative Technology for Industry 5.0," I have no doubt that it will provide a plethora of opportunities for attendees to enhance their skills and knowledge in their respective fields. My warmest regards go out to all those who will be attending, and I am certain that this conference will prove to be a valuable learning platform. The emergence of Industry 5.0 has sparked an intriguing and expansive dialogue surrounding the possibilities and limitations it presents, as well as its future prospects for research. As such, it is an immense honor to have been invited by the Organizing Committee to serve as the Chief Guest for ICONSTEM 2023. The conference will cover a diverse range of fascinating topics and will provide an exceptional opportunity for experts from various fields to come together, exchange knowledge, and establish collaborative relationships. I strongly believe that this event will enable us to meet current needs while keeping future generations' needs in mind. I extend my deepest gratitude to the Organizing Committee of ICONSTEM 2023 for providing this extraordinary scientific platform that fosters interactions and collaborative work between individuals from different engineering and technology fields.

INTERNATIONAL - GUEST OF HONOUR MESSAGE



Ms. Ling Yun Tsai

Director of Taiwan Education
National Tsing Hua University – Taiwan

It gives me immense pleasure to receive an invitation as the esteemed chief guest for the 8th International Conference on Science, Technology, Engineering, and Management, convening to explore the innovative realms of Smart Systems and Innovative Technology for Industry 5.0. As industries grapple with escalating work schedules, the significance of innovative technology has risen to prominence, assuming a pivotal role in enhancing productivity. In this regard, future product generations shall be characterized by intricate integrated systems, necessitating the confluence of diverse technological strands for advancing overall system properties. The global landscape is in the throes of a rapid metamorphosis as innovations rewrite the script of human existence, infusing our lives with novel perspectives and ways of functioning. By propelling the fourth industrial revolution, smart systems and innovative technology converge the physical, digital, and biological domains, manifesting profound changes across communication, education, and business practices. They usher in convenience, safety, and interconnectedness, revolutionizing our world and fostering a conducive environment for socioeconomic progress, while underpinning environmental sustainability. To ensure their prudent application, concerted efforts must be directed towards regulation and education, which can impart a sense of awareness among the populace and maximize the benefits for the greater good.

INVITED - GUEST OF HONOUR



Dr. Ponnuraja C , Ph.D

Scientist E , ICMR –NIRT
Chennai.

The management, professors, staff, and students of JEPPIAAR Engineering College, deserve my sincere congratulations for hosting the IEEE Sponsored International Conference on Science, Technology, Engineering, and Management (ICONSTEM 2023) on April 6 and 7, 2023. I also appreciate the Conference Committee for identifying the theme of the Conference, "Smart Systems and Innovative Technology for Industry 5.0," which is incredibly appropriate given the current situation and anticipated developments. It is praiseworthy that a souvenir will be released on this occasion, and compliments are also deserved. My heartfelt wishes for this ICONSTEM 2023 to succeed, and additionally, it serves as an inspiration for future endeavours.

Greetings, ICONSTEM-2023

INVITED - GUEST OF HONOUR



Dr. Vasudevan S , B.Sc, MA, FCMA, CMA(USA), PGDYN, Ph.D

Director - Business Development at Institute of Analytics
USA.

It gives me immense pleasure and pride in congratulating the management, faculty, staff and students of JEPPIAAR ENGINEERING COLLEGE, Chennai - 600119, for organizing an IEEE Sponsored International Conference on Science, Technology, Engineering and Management (ICONSTEM 2023) on the 6 th and 7 th of April, 2023. I also appreciate the Conference Committee for choosing "Smart Systems and Innovative Technology For Industry 5.0", as the theme of the Conference, which is very appropriate in the current context and future expectations. The idea of releasing a souvenir on this occasion is laudable and congratulations for the same too. I hope and pray that this ICONSTEM 2023 not just becomes another success, but a success story to cherish upon and also a stimulant for further pursuits.

Wishing ICONSTEM 2023 all the success it deserves,

KEYNOTE SPEAKER'S MESSAGE



Dr. Raghunandhakumar

Cancer and Stem cell Research Lab
Department of Pharmacology
Saveetha Dental College

Dear distinguished guests and participants of ICONSTEM 2023, It is a wonderful honour for me to participate in ICONSTEM 2023, which focuses on Smart Systems and Innovative Technology for Industry. The biotechnology industry has always led innovation, and as we look to the future, it is apparent that the next phase of industrial evolution, Innovation, will have a significant impact on this field. Artificial intelligence and machine learning, two types of smart systems, are already being used in the biotechnology industry to quicken the pace of medication development, boost production efficiency, and better serve patients. These tools enable academics to get new insights and predictions by assessing enormous amounts of information. Innovations is also changing the biotechnology industry. Gene editing, 3D printing, and virtual reality are helping researchers develop and verify creative ideas more quickly and inexpensively. These technologies are also enabling the creation of personalized medicine, where treatments are tailored to the specific genetic makeup of individual patients. Managing and executing a large-scale event like ICON STEM 2023 also calls for a lot of effort, coordination, and careful preparation. Jepiaar EduCity's organising team has done a great job of gathering professionals from diverse industries to discuss their knowledge and insights. As we explore the newest trends, technologies, and ideas in this fascinating subject, I encourage you to establish open and constructive discussion, share your experiences and views, and actively seek out new collaboration and entrepreneurship opportunities. Together, we can build a better future. I appreciate your invitation to this amazing event and hope you a successful and fruitful conference.

KEYNOTE SPEAKER'S MESSAGE



Dr. Adithya Pothan Raj V

Lead Architect - Technology CTS

The rise of Industry 5.0 has paved the way for innovative technologies that aim to bridge the gap between the physical and digital worlds. Smart electronics, a crucial component of Industry 5.0, has contributed significantly to the growth of intelligence technologies across various sectors such as healthcare, aerospace, and automotive. The use of intelligence technologies in smart electronics has enabled devices and systems to analyze, understand and respond to their environment in real-time, leading to increased efficiency and improved customer experience. One of the core intelligence technologies used in smart electronics is artificial intelligence (AI), which has found numerous applications in fields such as predictive maintenance, autonomous driving, facial recognition, and natural language processing. They enable businesses to improve efficiency, reduce costs, and enhance the customer experience. For instance, AI-powered predictive maintenance can help to prevent equipment failures and reduce downtime, while real-time analytics can help businesses to make more informed decisions about inventory management and supply chain optimization. As these technologies continue to evolve, they will undoubtedly lead to more efficient and effective systems, ultimately improving the overall quality of life for individuals and society as a whole.

KEYNOTE SPEAKER'S MESSAGE



Dr. C Sudalaimani

Scientist E/Joint Director, Health Technology Group,
CDAC

I am delighted that the Jeppiaar Engineering College organizes an International conference on Science, Technology, Engineering and Management with a theme of Smart Systems and Innovative Technology for Industry 5.0. The revolution of industry 5.0 means that humans and machines are working together, improving the efficiency of industrial production. The future direction of industry 5.0 is the manufacturing of robots and industrial robots. The advancement of artificial intelligence and cognitive computing technologies is taking the manufacturing world to a high speed and increasing business efficiency. I would first like to thank the Organizing Committee for inviting me to act as a Keynote speaker. The ICONSTEM 2023 will provide a forum for academics and industrial scientists working in the area of Innovative Technology for Industry 5.0 and discuss their latest findings in this conference. I wish that this International conference would pave way for participants to learn from others and improve their own skills and knowledge about their field.

KEYNOTE SPEAKER'S MESSAGE



Dr. Smriti Murali Krishna

Atherothrombosis and Vascular Biology
Baker Heart and Diabetes Institute, Australia

Happy to witness ICONSTEM 2023 spearheading towards the emerging influence in exploring the innovations identified for Smart Systems and Innovative Technology for Industry 5.0. In fact, the world of business has experienced a huge transformation due to the continuous growth of industrial revolution in different phases. Presently, industry pioneers and business leaders are looking forward for the 5th Industrial Revolution (Industry 5.0) focused on leveraging the collaboration between human touch, innovation and efficiency. It is an alliance between increasingly powerful and accurate machinery from robots, AI, IoTs and the unique creative potential of the human being to bring it to practice. Are we ready to land our business landscapes fit in Industry 5.0? In order to explore the answers of these question, ICON STEM 2023 would be one of the promising platforms to challenge and explore the prospects and avenues that will provide an opportunity to the researchers, academicians, professionals, and students from cross-disciplinary interests to interact and disseminate information on industry 5.0 and its impact on business. At this outset, I would like to congratulate the efforts taken by the Management of Jeppiaar EduCity, the National and International speakers of ICONSTEM 2023, Organizers and Co-ordinators of ICONSTEM2023, Faculties, Staff and Students and wish ICONSTEM 2023 a magnificent triumph. May this conference be characterized by fruitful thought-provoking discussions, which will lead to the betterment of our society. Best wishes for the event's great grand success."

KEYNOTE SPEAKER'S MESSAGE



Dr. Michael Dinesh

Technical Manager – Software Development
Verizon

Dear distinguished guests and participants of ICONSTEM 2023,

I feel an immense pleasure to participate in ICONSTEM 2023 that focuses on Smart Systems and Innovative Technology for Industry 5.0. Industry 5.0 is expected to make a breakthrough revolution in the world very soon. This would also enable the doors for human interaction with the smart systems and robots in a large scale. It becomes inevitable for the industrialists, the employees and the students to keep their selves updated on the emerging trends such as Artificial Intelligence, Data Science, Robotics, etc. I feel really excited to know Jeppiaar EduCity's organising team has come up with a conference as an initiative to prepare the students towards the need of Industry 5.0. I wholeheartedly appreciate the efforts of the organising team for bringing together the professionals from various industries to share their knowledge and insights. I urge the participants to start an open and fruitful conversation as we study the most recent developments in this interesting field, to share your experiences and opinions, and to actively look for new chances for entrepreneurship and collaboration. I thank you for extending the invitation to this amazing event and wish you all the success.

KEYNOTE SPEAKER'S MESSAGE



Mr. Sethuraman Krishnamoorthy

Founder & Director
Prag Robotics Pvt Ltd

My Dear Engineers...!

Modern day of the 21st century has unique problems like depleting energy resources, population explosion, scarcity of food resources, global climate change and a typical situation where supply must meet the demand in any scenario. Millennial engineers must develop unique and sustainable solutions that last for ages. Engineers must use technologies such as Artificial Intelligence, Robotics, Block chain 5G, Cloud Computing and Advanced embedded and Biomedical systems to develop sustainable solutions. Keeping in mind about the growing population, food requirement, clean water, and air, it is my strong belief that we can change our existing urban and rural areas into smart neighborhoods or smart cities which can use these technologies to make an efficient society. To my beloved students, it is my pleasure to witness the IEEE sponsored International Conference on Science, Technology, Engineering and Management. I believe Upskilling in one of these innovative technologies along with their degree is a critical and quintessential trait of any millennial student to contribute and ride the wave of technology. I believe that ICONSTEM 2023 is a platform that brings students, industrialists, academicians, and business leaders under one roof to discuss advancements in technology, problems to be solved and solutions to be derived. ICONSTEM 2023 is a technological congress that has solutions directed towards smart systems, industrial and home automation technologies, Artificial Intelligence and many more. This is a great opportunity for all the stakeholders to collaborate and pave way for a modern society driven by smart solutions derived by sustainable technologies.

KEYNOTE SPEAKER'S MESSAGE



Dr.Venkatraman

Technical Architect
Hexaware Technologies

Dear distinguished guests and participants of ICONSTEM 2023,

It is a wonderful honour for me to participate in ICONSTEM 2023, which focuses on Smart Systems and Innovative Technology for Industry. The IT industry has always led innovation, and as we look to the future, it is apparent that the next phase of industrial evolution, Innovation, will have a significant impact on this field. New heights of efficiency, effectiveness, and originality in contemporary biotechnology will be unlocked with the help of smart systems and cutting-edge technology. Artificial intelligence machine learning, Robotics are current Netsch technologies that is being used in the IT industry to quicken the pace of software development, boost product delivery excellence efficiency to customers. Managing and executing a large-scale event like ICON STEM 2023 also calls for a lot of effort, coordination, and careful preparation. Jeppiaar EduCity's organising team has done a great job of gathering professionals from diverse industries to discuss their knowledge and insights. Collaboration and communication are crucial as we explore smart systems and breakthrough industrial technologies. Innovation is complicated, and solving its problems demands a multidisciplinary approach. Together, we can invent solutions that will shape industry for years to come. As we explore the newest trends, technologies, and ideas in this fascinating subject, I encourage you to establish open and constructive discussion, share your experiences and views, and actively seek out new collaboration and entrepreneurship opportunities. Together, we can build a better future. I appreciate your invitation to this amazing event and hope you a successful and fruitful conference.

KEYNOTE SPEAKER'S MESSAGE



Dr. S. Kiruthika

SCOPE, Vellore Institute of Technology,
Chennai

I am happy to be a part of the International Conference On Science, Technology, Engineering and Management sponsored by IEEE, with the theme of "SMART SYSTEM AND INNOVATIVE TECHNOLOGY FOR INDUSTRY 5.0". Hearty Congratulations for your initiation. Not only in the field of Computer Science and Engineering, Image Processing and Computer Vision plays a major role in leading the industry towards the innovation and automation process. The power of the computational device reached the next level of achievement with its artificial eyes. The flow of the automation process is as follows: These devices receive the signal from the artificial eyes as an image then it is processed (classification, prediction, detection,etc.,) with the help of machine learning models. Quality of the image plays a major role in the process of industry automation. I am happy to discuss the image quality assessment and its applications. Hope that will be a healthier discussion session in the computer vision domain. I am happy to share my research knowledge that might help to solve your research problem.

Wishing you a successful conference ahead.

KEYNOTE SPEAKER'S MESSAGE



Dr. T. Jaya

CSI Institute of Technology

Dear prominent guests and participants of ICONSTEM 2023,

It is a great pleasure for me to participate in ICONSTEM 2023, which focuses on Smart Systems and Innovative Technology for Industry. Our future vision is to create even greater value to all corners of the globe. This conference will be one for us to share our thoughts and exchange ideas on how to chart our journey forward to reach new heights. The conference theme, Smart system and innovative technology for industry 5.0 has been carefully chosen to mark such a milestone of our society. I am privileged to be a Keynote speaker of this important conference. I would like to thank all of the conference participants for their contributions which are the foundation of this conference. I appreciate your invitation to this astonishing event and hope you a flourishing and plentiful conference.

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Scientist E/Joint Director, CDAC, Thiruvananthapuram, India

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Dayananda Sagar College of Engineering, Bengaluru, Karnataka, India

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IEEE ED CoMaster of business administration tore Chapter Head,
Professor & Head, Department of ECE, Karunya Institute of Technology and Sciences

8. Dr. R. Venkatesan

Member EXECOM IEEE MAS and Former Chair IEEE OES India Section

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Professor & Head, Department of Science & Humanities

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0

Date : 06.04.2023

Time : 10.30 am - 12.00 pm

Mode of Presentation: Physical**Venue: IT Block- Hall - 1****Session Chair:**

1. Dr.S.Kiruthika, Assistant Professor, Scope, Vellore Institute Technology, Chennai.
2. Mrs.Vidhya.A, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	10.30am -10.45am	ICON23T117	Tamil-NLP: Roles and Impact of Machine Learning and Deep Learning with Natural Language Processing for Tamil	S. Gokila S. Rajeswari S.Deepa
2	10.45am-11.00am	ICON23T120	A Novel Deep Learning based Stress Analysis and Detection Scheme using Characteristic Data	R. Geetha N V Krishnamoorthy K.H. Shakthimurugan C.Gnanaprakasam M. Swarna
3	11.00am-11.15am	ICON23T233	Simulation and Comparison of Novel Triangle Slot Patch Antenna with Spiral Loaded Triangle Antenna to Enhance Return Loss and VSWR for L Band Applications	Tirupati Lakshmidhar Anitha G
4	11.15am-11.30am	ICON23T230	Evaluation of High Reliability in 5G Network using Novel SVM Comparison with LSVM to Improve Accuracy	Ravanala Subhashini Dr. V.Amudha Meenakshisundaram.N
5	11.30am-11.45am	ICON23T601	Transient Analysis of a Single Server Markovian Queue With Working Vacation Subject To Catastrophe.	Dr.B.Thilaka Dr.B.Poorani Dr.S.Udayabaskaran
6	11.45am-12.00pm	ICON23T226	Accuracy Improvement in the Attendance Marking System using Human Face Recognition with Inception Algorithm and Comparing with Light Gradient Boosting Machine (LGBM) Algorithm	K.Venkata Sai Nikhil T.J.Nagalakshmi

TAMIL- NLP: Roles and Impact of Machine Learning and Deep Learning with Natural Language Processing for Tamil

S. Gokila , S. Rajeswari , S. Deepa

Hindustan Institute of Technology and Science, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Christ University.

Abstract—Reading information in your mother tongue gives the feeling of enjoying juice of fruit. Researchers are working on regional languages to provide convenient and perfect automated tools to convert the content of knowledge from other languages. There exist many challenges based on the grammar of language. One of the classic regional languages, Tamil which is rich in Morphology, contains more processing challenges. The Natural Language Processing (NLP) technique along with Machine Learning (ML) and Deep Learning (DL) algorithms have been used to overcome those challenges. The accuracy of work is depending on the corpus provided to train the model. Among the reviewed papers using Support Vector Machine (SVM) of ML produced higher accuracy than other ML techniques. As DL techniques for NLP are booming one the researchers are working with different DL algorithms. Most of the NLP with Review Discussion in this paper will direct the researchers doing NLP in Tamil language to move further and to choose the right Machine Learning and Deep Learning algorithm to come out with accurate outcomes

Keywords— *NLP, Machine learning, Deep learning, Morphological analysis, Parser*

A Novel Deep Learning based Stress Analysis and Detection Scheme using Characteristic Data

R. Geetha, N V Krishnamoorthy, K.H. Shakthimurugan, C.Gnanaprakasam, M. Swarna

Saveetha School of Engineering

Abstract—One of the most time-consuming and complex study subjects in the present day is trying to anticipate the amount of stress experienced by working professions. Although short-term stress might help us perform under pressure, chronic or severe stress compromises our well-being and causes disruptions in our daily life. Many stress-related health issues are avoidable if identified and treated early. A person's stress level may be determined by monitoring changes in a variety of bio signals, including temperature, electromagnetic, resistive, acoustical, visual and so on. There are a plethora of studies that may help you figure out what causes your stress and what kinds of things help you deal with it. Previous studies had a number of drawbacks, including more design complexity, more mistakes, worse efficiency, and a higher rate of misclassification. This research aims to apply an enhanced deep learning technique called Learning based Novel Stress Analyzer (LNSA) to forecast the level of stress of industry professionals in an effort to address these problems. Included in the methods proposed by this study are information preparation, extraction of features, classification and LNSA-based identification. Professionals' logical characteristic data is gathered via sensors and used as a dataset for processing the complete system. The sensors known as 3-Axis Accelerometer, Electrocardiogram, Pulse Sensor, Body Temperature and Respiration Sensor collect the defining data. Specifically, it eliminates redundant characteristics and completes incomplete data in the relevant dataset through a process called pre-processing. This paper provides the final classification findings, in which it shows high accuracy in results and the technique of LNSA suggested in this paper accurately estimate the level of stress in a given situation.

Keywords— *Characteristic Data, Classification, Deep Learning, Feature Extraction, Stress Analysis, Learning based Novel Stress Analyzer, LNSA*

Simulation and Comparison of Novel Triangle Slot Patch Antenna With Spiral Loaded Triangle Antenna to Enhance Return Loss and VSWR for L Band Applications

Tirupati Lakshmidhar, Anitha .G

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences

Abstract—The study aimed to examine the Return Loss and Voltage Standing Wave Ratio (VSWR) of a novel triangle slot patch antenna and a Spiral loaded triangle antenna, on a 50Ω characteristic impedance at 1.8 GHz. Materials and Methods: The Return Loss and VSWR of the novel triangle slot patch antenna ($n=19$) and Spiral loaded triangle antenna ($n=19$) were evaluated on a 50Ω characteristic impedance. The total sample size for the study was 34. Result: The novel triangle slot patch antenna has better performance (Return loss: -17.5379 dB, VSWR:1.3062) compared to the Spiral loaded triangle antenna (Return loss: -13.0956 dB, VSWR: 3.9112). The adequate dimensions for the novel triangle slot patch antenna are 80mm X 75mm and the Spiral loaded triangle antenna is 85mm X 80mm. Attained significant RF performance of $p < 0.005$. Conclusion: The proposed novel triangle slot patch antenna gives better performance (-17.5379 dB) compared to the Spiral loaded triangle antenna (-13.0956). This states that the novel triangle slot patch antenna is applicable for the L band applications.

Keywords— *Novel Triangle Slot Patch Antenna, Spiral Loaded Triangle Antenna, Return Loss, VSWR, HFSS, Antenna Design.*

Evaluation of High Reliability in 5G Network Using Novel SVM Comparison With LSVM to Improve Accuracy

Ravanala Subhashini, Dr.V. Amudha, Meenakshisundaram.N

Saveetha School of Engineering

Abstract—In this particular investigation, the analysis was conducted out using two groups, and the sample size for each group was 20. Evaluation of high reliability in 5G networks utilising an unique support vector machine that has an accuracy of 85% and an LSVM that has an accuracy of 82% respectively. Using a G power of 80% and an alpha value of 0.001, the total sample size was computed. Using independent samples t-tests, it was determined that there is a significant difference in the accuracy of the two algorithms, which is 0.492 ($p > 0.001$). The performance of LSVM is much worse than that of Novel SVM.

Keywords— *5G network, Novel SVM, LSVM, High reliability, high-band, cellular networks*

Transient Analysis of a Single Server Markovian Queue with Working Vacation Subject to Catastrophe

B.Thilaka , B.Poorani ,S.Udayabaskaran

Sri Venkateswra College of Engineering, KCG college of Technology, , Vel tech Rangarajan Dr.Sagunthala R&D Institute of science and Technology

Abstract—A single server Markovian Queue with the server functioning in three modes – maintenance, sleep and active modes (busy, working vacation (WV) state) subject to catastrophe occurring only when the system is non-empty. Different service times for the active phase and the working vacation phase. A catastrophe is presumed to occur when there are customers in the system and wipes out the entire system which results the system being inactive for a random period of time. The transient probabilities of the system and mean sojourn time in sleep mode are derived.

Index Terms—Catastrophe, sleep mode, maintenance mode, working vacation, mean sojourn time.

Accuracy Improvement in the Attendance Marking System Using Human Face Recognition with Inception Algorithm and Comparing with Light Gradient Boosting Machine (LGBM) Algorithm

K.Venkata Sai Nikhil ,T.J.Nagalakshmi

Saveetha School of Engineering, SIMATS

Abstract—This research is about the human face recognition for attendance marking system using Inception algorithm compared with LGBM algorithm with respective accuracy. For this analysis 38 samples were taken in two groups with 19 samples each. Group 1 uses Inception algorithm and group 2 uses LGBM algorithm. By this research, the dataset is imported and then Inception code is implemented with the help of Google Collab software. The sample size is calculated from the values which are obtained from previous studies with the help of online statistical analysis tools with the pretest power 80% and the alpha value of 0.05. From simulation results, Inception algorithm accuracy is 88% and LGBM algorithm accuracy is 97% with a significance of 0.020 which is less than 0.05 ($p < 0.05$). For the given dataset LGBM algorithm gives better accuracy than Inception algorithm in terms of Prediction for the face recognition.

Keywords— Face Detection, Inception, Light Gradient Boosting Machine (LGBM), machine Learning, Deep Learning, Classification, Inclusive

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0

Date : 06.04.2023

Time : 12.45 pm - 3.00 pm

Mode of Presentation: Physical**Venue: IT Block- Hall -1****Session Chair:****1. Dr.S.Kiruthika,** Assistant Professor, Scope, Vellore Institute Technology, Chennai**2. Mrs.Vidhya.A,** Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	12.45pm – 1.00pm	ICON23T229	A Novel 2-Split SIW Antenna and Comparing Gain Characteristics with SIW Antenna for 5G Applications	Siva Narayana Reddy C R.Thandaiah Prabu
2	1.00pm – 1.15pm	ICON23T1234	Fetal Health Classification Using ML	Assifa A Pattapu Prathyusha Akshaya K Mrs.Jayanthi
3	1.15pm – 1.30pm	ICON23T1229	IOT Based Health Monitoring in Hospitals	Jagadesh T Rithik S Rithikraj P V Rithika R
4	1.30pm – 1.45pm	ICON23T257	Comparison of Linear Regression and Logistic Regression Algorithms for Ground Water Level Detection with Improved Accuracy	C. Gnaneswar Raju V. Amudha Sajiv G
5	1.45pm – 2.00pm	ICON23T1235	IOT based Smart Agriculture and Weather Forecasting System	Dr.K.S.Srinivasan Avula Sunee, Chemudugunta.AjayKumar Potu.Ganga Manoj Kumar
6	2.00pm – 2.15pm	ICON23T246	An Efficient Design and Performance Analysis of Novel 8 Bit Modified Wallace Multiplier Using Sklansky Adder in Comparison with Kogge-Stone Adder(KSA)	K Sathish P Jagadeesh
7	2.15pm – 2.30pm	ICON23T244	Edge Detection of Satellite Image for Water Body Identification using Marr - Hildreth Algorithm and comparing with Canny edge Detector Algorithm to Enhance Accuracy and Contrast	Suhail Ahamed.T Nalini.N
8	2.30pm – 2.45pm	ICON23T152	Fuzzy Arc Weights - Shortest Path Problem Solution by Cheetah Chase Algorithm	M. Goudhaman, D. Beulah David S. Sasikumar N. Vanathi
9	2.45pm – 3.00pm	ICON23T248	Detection of Malicious Social Bots with reinforcement learning technique with URL Features in Twitter Network with KNN in comparison with RNN	Ram Kumar.M P. Shyamala Bharathi

A Novel 2-Split SIW Antenna and Comparing Gain Characteristics with SIW Antenna for 5G Applications

Siva Narayana Reddy C, R.Thandaiah Prabu

Saveetha School of Engineering, SIMATS

Abstract—This research work aims to design and improve high Gain of a Novel 2-Split shaped SIW Antenna and compare the Gain with the Slotted SIW antenna. A novel type of transmission line that has gained popularity in recent years is the substrate integrated waveguide (SIW). The Novel 2-Split shaped SIW Antenna has gain over 12.5 dB at 40 GHz, 11.87dB at 38GHz, 10.87dB at 34 GHz, 10.34dB at 32GHz, 9.42dB at 28GHz, 9.03dB at 26.5GHz, 8.68 dB at 25 GHz frequency, which is a significant value when compared to SIW Antenna gain value is 3dB. The obtained significance value was less than 0.05. Analysis, samples were calculated as 32 with a pretest power of around 80% with alpha as 0.05 and beta 0.02 as in the proposed design, a high Bandwidth Novel Triangular Split-Ring shaped SIW Antenna. Antenna was considered as group 1 with 16 samples and group 2 of a Slotted SIW antenna with 16 samples.

Keywords – *Novel 2-Split shaped SIW Antenna, VSWR, Slotted SIW Antenna, Return Loss, Gain.*

Fetal Health Classification Using ML

Assifa A, Pattapu Prathyusha, Akshaya K, Mrs.Jayanthi

Mohamed Sathak A.J. College of Engineering

Abstract—Health complications during the gestation period have evolved as a global issue. These complications sometimes result in the mortality of the fetus, which is more prevalent in developing and underdeveloped countries. The genesis of machine learning (ML) algorithms in the healthcare domain have brought remarkable progress in disease diagnosis, treatment, and prognosis. Around 800 women die every day due to pregnancy and childbirth-related issues. Maternal health and fetal health are closely associated with each other because every year approximately 3 million newborn babies die. So there is a need for proper care including the prediction of risk levels before, during and after the delivery for the safety of both mother and child. Data mining is a commonly used technique for processing enormous data. Researchers apply several data mining and machine learning techniques to analyse huge complex data, helping health care professionals to predict fetal health. Different algorithms are compared and the best model is used for predicting the fetal health.

Keywords— *machine learning, fetal health , Classification, data mining.*

IOT Based Health Monitoring in Hospitals

Jagadesh T, Rithik S, Ritthik Raj PV, Rithika R,

KPR Institute of Engineering and technology,

Abstract—This paper presents a real-time mobile-based health monitoring system for emergency purposes using IoT. The proposed system utilizes wearable devices to continuously monitor vital signs such as heart rate, blood pressure, and oxygen saturation levels. In case of an emergency, the system can automatically send an alert to designated emergency contacts and emergency services through a mobile application. The system also allows for real-time monitoring and communication with healthcare professionals for remote diagnosis and treatment. The use of IoT technology in this system allows for seamless and efficient monitoring and communication, potentially saving lives in emergency situations. Healthcare delivery is a complex and demanding field that requires reliable and efficient tools to support the work of healthcare providers and ensure the best possible outcomes for patients. This project aims to address these needs by creating a comprehensive and user-friendly solution for hospitals.

Keywords— *IoT, Mobile Application, Reports and Data Collection*

Comparison of Linear Regression and Logistic Regression Algorithms for Ground Water Level Detection with Improved Accuracy

C. GnaneswarRaju , V. Amudha , Sajiv G

Saveetha School of Engineering

Abstract—Comparison of the innovative Linear Regression and Logistic Regression Algorithms for Ground Water Level Detection with Improved Accuracy is the goal of this study, which was designed to investigate that question. A total of 30 Specimens are split up into their respective groups. Every person received 15 different samples. The Novel Linear Regression Algorithm is used for Group 1, whereas the Logistic Regression Algorithm is used for Group 2. The accuracy of the model generated by the Novel Linear Regression Algorithm is (93.27%), which is higher than the accuracy generated by the Logistic Regression Algorithm, which is (86.5%). It is determined using an independent sample T-test, and the Significance Value is 0.439, which indicates that the hypothesis is not significant. This is shown by the fact that $p>0.01$ is returned. Therefore, the accuracy of the Novel Linear Regression Algorithm, which was found to be 93.23%, is discovered to be greater than the accuracy of the Logistic Regression Algorithm, which was found to be 86.5%.

Keywords— *Novel Linear Regression Algorithm, Logistic Regression Algorithm, Groundwater Level, Irrigation.*

IoT based Smart Agriculture and Weather Forecasting System

Dr.K.S.Srinivasan, Avula Suneel , Chemudugunta. AjayKumar , Potu.Ganga Manoj Kumar

Mohamed Sathak A.J. College Of Engineering

Abstract—In India, agriculture is the most essential occupation for most Indian families. Water is the most important resource for agriculture. Irrigation is a water supply method, but a lot of water can be wasted. In this regard, we proposed a project called IoTbased Smart agriculture and weather forecasting system to save water and time. The proposed system uses various sensors such as temperature, humidity, soil moisture sensors and Rain Sensor to detect different parameters of the soil and automatically irrigate the land by turning the motor on and off based on the soil moisture value. Will be done. These collected parameters and engine status are displayed in the user's Android application.Based on data analysis humidity, temperature and precipitation can be considered as some of the climatic parameters. In this project, only the temperature and humidity is considered in the experimental analysis. DHT11 sensor which is a temperature/humidity sensor is used to collect data for the same. The temperature and humidity analysis of a particular region can be done by this sensor. Weather forecasts are attempts by meteorologists to predict weather conditions that are expected to be meteorological conditions at a later date.

Keywords— Node MCU, Temperature Sensor, Soil Moisture Level, rain Sensor, Weather analysis.

An Efficient Design and Performance Analysis of Novel 8 Bit Modified Wallace Multiplier Using Sklansky Adder in Comparison With Kogge-Stone Adder(KSA)

K Sathish, P Jagadeesh

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University

Abstract—This study aims to compare the delay performance of an 8-bit modified Wallace multiplier utilising the proposed Sklansky Adder and the Kogg-Stone Adder. The ModelSim simulation software was used to simulate the design. This software allowed the researcher to visualize the output waveforms and evaluate the performance of the multiplier. VHDL was used to implement the design of an 8-bit modified Wallace multiplier utilising suggested Sklansky Adder and the Kogge-Stone Adder. During the simulation, input data was collected and used to test the multiplier. Different-sized input data were used to evaluate the multiplier's performance under diverse settings. The performance of the multiplier was evaluated in terms of speed and power consumption. The research involved 20 sample data sets, with 10 from each of two groups. The Sklansky Adder and Kogge-Stone Adder were applied to the modified Wallace multiplier, with an equal number of samples for each adder. The performance evaluation was carried out using the G-power software with alpha and beta values of 0.05 and 0.20, respectively. The results were based on a 95% confidence interval. The propagation delay of the novel modified Wallace multiplier utilising the Sklansky adder is 55 ns, which is significantly less than the propagation delay of the Wallace multiplier utilising the Kogge-Stone adder, which is 85 ns. The significance value that was obtained from the analysis was 0.0436 (P less than 0.05), which indicates that there is a statistically significant difference between the two multipliers in terms of the amount of time it takes for propagation .In conclusion, this study demonstrated the effectiveness of the Sklansky Adder in improving the performance of the modified Wallace multiplier. The results of this research could be helpful to designers who are developing applications for digital signal processing and computer arithmetic that demand high-speed operations that consume a modest amount of power.

Keywords— Novel Modified Wallace Multiplier, Wallace Multiplier, Sklansky Adder, Kogge-Stone Adder, Propagation Delay, Modelsim, Productive.

Edge Detection of Satellite Image for Water Body Identification Using Marr - Hildreth Algorithm and Comparing with Canny Edge Detector Algorithm to Enhance Accuracy and Contrast

Suhail Ahamed.T, Nalini.N

Saveetha School of Engineering

Abstract—To Utilize the Marr-Hildreth algorithm and comparing it to the Canny Edge Detector Algorithm to accurately forecast the water bodies from satellite photos. Materials And Methods Which is used to analyze a software undertaking by utilizing Image processing algorithms such as Marr-Hildreth and Canny edge detection. Here, 80% of the pretest power was used in the power analysis, and the sample size for the two groups is 20. The power analysis was held up with 80% and the sample amount for the two factions is 40. The Results Software effort analysis was done using Marr-Hildreth algorithm and Canny edge detector algorithm with the accuracy of 20 and 20 respectively. By using dominating samples t-tests, it can be seen that the statistically 2-tailed significant difference in precision between the two methods is 0.047 ($p < 0.05$). The Conclusion is that Marr-Hildreth algorithm performs significantly better than the Canny edge detector algorithm.

Keywords— *Marr-Hildreth Algorithm, Canny Edge Detector Algorithm, Detection, Water Bodies, Satellite Image, Accuracy and Contrast*

Fuzzy Arc Weights - Shortest Path Problem Solution by Cheetah Chase Algorithm

M. Goudhaman , D. Beulah David , S. Sasikumar, N. Vanathi

Saveetha Institute of Medical and Technical Sciences, Saveetha School of Engineering, KCG College of Technology. Saveetha Engineering College

Abstract—In modern design with state of the art technology, the domain of shortest path problem is one of the mainstream topics in theoretical approach of graph. A variety of applications of the SPP are like google maps, road network, logistics frameworks and design path planning of VLSI and so on. The suggested method uses the Cheetah Chase Algorithm whose foundation is the concept of swarm intelligence used to dynamically allocate nodes between the start and destination nodes in an effort to find a more effective resolution for the SPP that lies in between the start and end positions. A fuzzy-based Cheetah Chase Algorithm with various fuzzy arc weights is presented in this paper for solving shortest path problems. According to the findings, the fuzzy arc weights-based enhanced CCA algorithm achieves higher convergence rates than the other metaheuristic algorithm.

Keywords – *Fuzzy Arc Weights, Shortest Path Problem, Cheetah Chase Algorithm*

Detection of Malicious Social Bots with Reinforcement Learning Technique with URL Features in Twitter Network with KNN in Comparison with RNN

Ram Kumar.M, P.Shyamala Bharathi

Saveetha School of Engineering, Saveetha Institute of Medical And Technical Sciences,
Saveetha University

Abstract—The objective of the analysis is the Real time identification of spiteful Social Bots Utilize reinforcement learning technique with URL aspects in Twitter networking with Novel K-Nearest Neighbors in comparison with Recurrent Neural Network. Real time noticing of destructive general bots operate reinforcement knowledge technique with uniform resource locator factor in Tweet webwork with K-Nearest Neighbors in comparison with Recurrent Neural Network. In this case, pre-test power analysis was done with 80% and the test size for the two groups are 20 and each group having the size of 10. **Result:** Real-time classification of suspicious spammers in the Online social network using reinforcement learning technique method and Webpage capabilities with K-Nearest Neighbors with the accuracy 93.89% and then compared with Recurrent Neural Network with the accuracy of 92.11% respectively. There is a statistical significance variance in the precision for two methods 0.007($p < 0.05$) by the use of independent sample test. **Conclusion:** To conclude that KNN algorithm performs significantly better than the RNN algorithm.

Keywords— *Recurrent Neural Network, Novel K-Nearest Neighbors, Social Bots, Reinforcement learning technique, Machine learning.*

PROGRAMME SCHEDULE (ICONSTEM 2023)***Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0***

Date : 06.04.2023

Time : 10.30 am – 12.00 pm

Mode of Presentation: Online**Venue: IT Block- Hall -2****Session Chair:**

1. **Dr. George Fernandez .I**, Associate Professor, School of Engineering Dayanada Sagar University, Bangalore.
2. **Mr.Saravanan.T**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	10.30am -10.45am	ICON23T103	Design and Implementation of Pet Care and Tracking	Aditya Antony Lambert Gowtham J K Dr. Prasath R Harikrishnan
2	10.45am-11.00am	ICON23T104	E-Governance and Public Sector Services in Chennai District	M Nirmalkumar CH Prajet Nihal Vasantha Kumar V Kokesh
3	11.00am-11.15am	ICON23T105	Investigation on Optimization of Lifetime of Energy Constrained Protocols in Wireless Sensor Networks	Mr.Palani Kumar Mr.Asokan
4	11.15am-11.30am	ICON23T110	Evasion and Poison attacks on Logistic Regression based Machine Learning Classification Model	Lourdu Mahimai Doss P Dr. M Gunasekaran
5	11.30am-11.45am	ICON23T112	Predicting Health Insurance Claim Frauds Using Supervised Machine Learning Technique	Veena K Supriya S D Deepa J Cruz Antony Karpura Dheepan Ayila Sri Dharmasiva Pavan
6	11.45am-12.00pm	ICON23T115	Classification Of PCOS Using Machine Learning Algorithms Based on Ultrasound Images of Ovaries	Poorani.B Rashmita Khilar

Design and Implementation of a Pet Care and Tracking System

Aditya Antony Lambert, Gowtham JK, Dr.Prasath R, Harikrishnan,

KCG College of Technology

Abstract—Pet care is progressively gaining more attention. With the advent of wireless technology in the modern age, applications solely dedicated for pets have not been much researched and have not been part of the general conscience. Pet Care Mobile Applications have been a widespread nomenclature in western countries for nurturing their pets and tracking their whereabouts. The adaptation of such a pet owner friendly environment in a developing country like India is a necessity. The Paper proposes a multi featurette Pet Care and Tracking System to be enforced using an Android Application. The aim of the operation is to make sure the pet can be safely taken care of by its pet proprietor when they aren't beside them. The System was developed with help from pet care and health experts who give their experience in making a cohesive system. The findings are therefore divided into 2 parts: building the pet care and tracking mobile apps for advising users and breaking down the functionality of the operation, for exploration reasons.

Keywords—Mobile App Development, Machine Learning, Pets, Tracking, Location Mapping

E-Governance and Public Sector Services in Chennai District

M Nirmalkumar, CHPrajet Nihal, Vasantha Kumar, V Kokesh

KCG College of Technology

Abstract— In this paper, we propose E-Governance and public sector services in the Chennai district. The main reason for creating this project is to increase people's awareness of social activities and responsibility in order to solve day-to-day problems such as street light issues, road damage issues, water connection issues, rain water issues, and others. This project makes it easier for our clients to raise their concerns. In this project, we innovated a new concept called map viewing so that our users can easily mention the exact spot for solving their issue as soon as possible. This concept is also very useful for higher officials to find the right place to take the appropriate action regarding that specific user's issue. Then there are the additional benefits in this project

Keywords— E-governance, Information and Communication Technology (ICT), Google Mapping.

Investigation on Optimization of Lifetime of Energy Constrained Protocols in Wireless Sensor Networks – A Review

Mr.Palani Kumar ,Mr.Asokan ,

Kongunadu College of Engineering and Technology

Abstract—Wireless Sensor Network (WSN), which provides the platform for the Internet of Things (IoT), is a cutting-edge methodology that captures and scans environmental conditions that are surrounded by various applications. In WSN, each sensor node is connected together and transmits data. The improvement of the sensor lifetime, while transmitting the data during the communication process is the challenging one. Distributed sensor nodes have small-sized battery backups for performing transmission. This leads to a shrinking of sensor nodes lifetime and it also decreases the sensors performance. We present an efficient and broad assessment of Software Defined Network as an efficient energy technique in this paper. In addition to that, the various WSN clustering methods are exposed and analyzed in terms of novel efficient energy optimization dimensions. An extensive investigation of the consumption of energy by wireless nodes in the WSN is being carried out in order to improve the lifetime of network's through the use of advanced efficient protocols. Thus, it becomes a suitable option to setup in remote areas where energy constrained devices play a vital role. Finally, we conclude with further research direction in WSNs.

Keywords – WSN, Software Defined Network, Cluster, IoT, Energy Optimization

Evasion and Poison Attacks on Logistic Regression based Machine Learning Classification Model

LourduMahimai Doss P ,Dr. M Gunasekaran

Saveetha School of Engineering

Abstract—The research aims to attack a Logistic Regression-based Machine Learning Model using the Evasion and Poison technique. An adversarial attack is a strategy to fool machine learning models with small perturbations. The Logistic Regression algorithm is the most commonly used Machine Learning algorithm for binary classification. We proposed the evasion and poison attack technique against Logistic Regression classification because of the significance and popularity of Logistic Regression. First, the Logistic Regression (LR) model is trained and tested by the MNIST handwritten digits dataset and gives better accuracy during training and testing time. After that, the Machine Learning model is attacked by the Evasion and Poisoning method using Projected Gradient Decent (PGD) technique against the trained Logistic Regression (LR) classifier model. Before the evasion attack, we found 93.40% accuracy in classifier testing, 8.00% accuracy in classifier testing after the evasion attack, 93.40% accuracy on the train set before the poison attack, and 80.00% accuracy on the train set after the poison attack.

Keywords—Machine Learning, Poison Attack, Evasion Attack, Logistic Regression, Projected Gradient Decent technique, Loss function

Predicting Health Insurance Claim Frauds Using Supervised Machine Learning Technique

**Veena K, Supriya S, D Deepa, J Cruz Antony, Karpuram Dheepan,
Ayila Sri Dharma Siva Pavan, PagadalaHariprasad**

Sathyabama Institute of Science and Technology

Abstract—The healthcare sector is growing quickly, making it a complex system. At the same time, fraud in this sector is becoming a serious issue. Misuse of the medical insurance systems is one of the problems. The automated detection of healthcare scams uses data mining and machine learning approaches. In this work, an effort is made to provide a review of healthcare industry frauds and the methods for spotting them. A machine learning model is suggested to address the problems with health insurance claims with an emphasis on the methods utilized, determining the significant sources, and properties of the healthcare data. The univariate and bivariate analysis are applied on the data to know the features pattern and then proper visualization of data is done to know which feature affects the most and a machine learning model is built on the pre-processed data. The model is compared with 4 different algorithms i.e., Logistic- Regression, Random- Forest, Decision -Tree - Classifier and Naive -Bayes. The best accuracy obtained was with the algorithm Decision Tree Classifier with 97.03% accuracy.

Keywords— *Insurance Fraud; Supervised Learning; Unsupervised Learning, Stacking, Decision tree, Random forest*

Classification of PCOS Using machine Learning Algorithms Based on Ultrasound Images of Ovaries

Poorani.B, RashmitaKhilar

Saveetha School of Engineering, SIMATS University

Abstract—Polycystic Ovary Syndrome is a metabolic endocrine lifestyle disorder. It can be found in women after their puberty. Multiple number of follicles occurred in the ovaries which leads to irregular in menstrual cycle, imbalance BMI/Obesity, numerous hair fall, unwanted hair growth in face and other parts of the body. The above issue influences the women to a risk of infertility and also causes diabetes type II, heart disease, chances for ovarian cancer and endometrial cancer, etc. Main objective of this paper is to classify the whether the women is affected with PCOS or not without any doctors supervision. To diagnose that, the machine has to analyze the ultrasound images of ovary contains the PCOM or not. In order to identify, classification is done based on finding the similarity images an, analyze the minimum distance, finding the edges and contour of an image. In existing systems classification is performed with minimal number of datasets. This paper uses a large amount of datasets for training the images thereby giving a better PCOM results. Classification algorithm such as Support Vector Machine (SVM), K-Nearest K-neighbor (K-NN) and Convolution Neural Network (CNN) algorithm used thereby the conclusion shows that CNN algorithm gives an accuracy of 0.99.

Keywords— *Machine Learning, Polycystic Ovary Syndrome, Image Classification, SVM,KNN,CNN.*

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0

Date : 06.04.2023

Time : 12.45 pm - 3.00 pm

Mode of Presentation: Online**Venue: IT Block- Hall -2****Session Chair:**

1. **Dr R. Thandaiah Prabu**, Associate Professor, Institute of ECE, Saveetha School of Engineering SIMATS, Chennai.
2. **Mr.Saravanan.T**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	12.45pm – 1.00pm	ICON23T118	Advanced VANET Technology for Emergency Vehicle Safety in Time-Critical Scenario	Murali N Dr. Beulah David
2	1.00pm – 1.15pm	ICON23T119	Detection and Classification of Malware for Cyber Security using Machine Learning Algorithms	Judy Rashmita Khilar
3	1.15pm – 1.30pm	IICON23T121	Design and Implementation of Multi-Retinal Disease Classification Using Deep Neural Network	K.Karthik N. Shanmugapriya
4	1.30pm – 1.45pm	ICON23T123	Dependable Mobile Federated Learning Classifications Focused for Mobile Intelligent Source Distribution System for Big Data Analytics and Artificial Internet of Things	G.Anitha Dr.A.Jegatheesan Dr.E.Baburaj
5	1.45pm – 2.00pm	ICON23T124	An Analytical Survey on Multimodal-Biometric Authentication System for enhancing security levels in cloud computing	Mahalakshmi.B Dr.Beulah David
6	2.00pm – 2.15pm	ICON23T128	Classifying Indian Rivers Surface Water Quality using Principal Component Analysis Combined with Principal Component Weighted Arithmetic Index Techniques	V.Karpagam S.Christy
7	2.15pm – 2.30pm	ICON23T129	Deep Neural Network-based Crime Scene Detection with Frames	Nandhini T J K Thinakaran
8	2.30pm – 2.45pm	ICON23T130	An analysis of Intrusion Detection Systems in IIoT	Latha R R.M. Bommi
9	2.45pm – 3.00pm	ICON23T131	Parameter-optimized noninvasive speech test for Parkinson's disease Severity Assessment	P.Deepa Rashmita Khilar

Advanced VANET Technology for Emergency Vehicle Safety in Time-Critical Scenario

Murali N , D. Beulah David

Saveetha School of Engineering

Abstract—Intelligent Transportation Systems give top priority to Emergency vehicles. We are here to ensure low communication latency between infrastructure and emergency vehicles. Here especially crossing the intersection road and dangerous turning is an essential task for ITS poor environment, and complex turning .most of the EV need constant monitoring for proper warnings and road maps to reach their destination goal on time. Our research opens the doors to apply search, and machine learning algorithms deep short on enormous data generated from different applications in VANET .Machine Learning is an approach where the system automatically learns and improves quick object finding stage in insectection crossing and road turning scenarios to avoid accidents. Our algorithms provide efficient unsupervised learning of these collected data, which effectively implements a vehicle-ad-hoc network. In this paper, we proposed a novel automatic finding vehicle gap method using the (Deep short) algorithm in real-time to alert warring for EV in two-way merging technology in urban area dangers turning. We highlighted safety and communication using merging v2i technology and v2v technology with the central traffic light control system. Worst-case assures we use a v2v technology sensor to identify the vehicle which will cross the intersection road and their implementation in feasibility and explore two-way merging technology can overcome these issues in transparent object tracking in the turning system. In addition to a case study showing a VANET-based scenario of Critical urban road turning, receiving the quick earliest warning to escape from a road accident, perfect EV moment, we also explored future direction and obstacles at this point in here emergency vehicles get high priority in intelligent transportation system.

Keywords—Intelligent Transport System, IOT, EM root map, VANET, quick warning system, Object Dedication, Traffic light control, Wireless Network

Detection and Classification of Malware for Cyber Security using Machine Learning Algorithms

Judy, RashmitaKhilar

Saveetha School of Engineering

Saveetha Institute of Medical and Technical Sciences, Saveetha University,

Abstract—The operating system faces a very high level of unintended security risk. System exploitation that is prohibited could pose a security risk. For instance, PayPal is frequently imitated because hackers can profit significantly from obtaining consumers' PayPal login information. The main drawback of existing system is that, it takes more time to process and they are less efficient. To overcome the above drawbacks current research arena proposes a way that businesses detect threats, adapt and implement numerous cyber security techniques in combination with Machine learning and IOT approaches. But still there are lot of issues occurring in the above-mentioned techniques i.e., the Signature based detection is unattainable. The conclusion stated was that no machine is able to detect the malwares of the new generation with complete preciseness. A threat's mitigation is intended in addition to its identification and prevention. This study gives an insight about the various detection and classification techniques that were proposed using Machine Learning algorithms.

Keywords— Malware, Malware Detection,Cybersecurity, Machine Learning Algorithms

Design and Implementation of Multi-Retinal Disease Classification Using Deep Neural Network

K.Karthik , N. Shanmugapriya

Dhanalakshmi Srinivasan University

Abstract—Automated approaches are needed to monitor retinal disease. This study is to develop computational screening strategies for retinopathy (DR) and distressing attention deficits using informed learning. A strategy for detecting retinal disease using DNN is included. DNN can also be added to the data by extracting applications according to search patterns. A method based on fundus color images has been proposed, and the authors use this training to recognize retinal disease accordingly. Without prompt diagnosis and treatment, retinal problems can lead to a permanent loss of imagination and hope. Symptoms should be diagnosed early under discipline to find appropriate treatment and cure. The Deep Diction model remains out-of-date with guidance and confirms statistics under Kilter for Marshall-specific retinal diseases, a prerequisite for which myriad common retinal diseases are still labeled and normalized. You can also This knowledge seems to indicate which retinal photographs may have aged, suggesting problems with group communication when using DNNs. More than 6 different retinal diseases are included in this dataset because a DNN model adapted from Retrained on Classification of uncertain ImageNet retinal diseases was used. A DNN implemented using the ResNet model is designed for retinal images with varying risk features and depths. The recommended method has been observed to be more than 80% true.

Keywords —Deep Neural Networks (DNN), Image Processing, uncertain ImageNet dataset, pretrained model

Dependable Mobile Federated Learning Classifications Focused for Mobile Intelligent Source Distribution System for Big Data Analytics and Artificial Internet of Things

G.Anitha, Dr.A.Jegatheesan , Dr.E.Baburaj

SaveethaSchool of Engineering ,BuleHora University

Abstract—Latest Mobile Federated learning (MFL) is an enormous procedure for confidentiality and limitations using Artificial Internet of Things (AIOT) tenders in Future-generation mobile networks (FGMN), the latest generation of 6G and 5G is created on the Latest radio (LR) knowledge, the Many-In(data) and Many-Out(data) (MIMO) amenities assorted for AIOT strategies have been accomplished. The independent reserve distribution then the smart excellence of facility group uniqueness in mobile networks founded on MFL schemes are grateful to encounter the rations of secrecy limitations of AIOT applications. In enormous MFL infrastructures, the heterogeneous local strategies broadcast their representations in locally and the parameters accomplished 5G and 6G networks to the aggregation servers in edge devices. Therefore, the quality of network consistency is required to simplify the NodeEnd-to-NodeEnd (NE2NE) consistency of MFL transportations deliver that gratification of various choices. This paper proposed a Mobile smart trivial system built the orientation Domain-defined networking (DDN) architecture to grip more huge MFL transportations upon customers as well as collectors for encounter stated viewpoints. The management technique regulates the typical restrictions and groups extent of the discrete consumer to reproduce the deceptive network circumstances secret by the Node K-nearest neighbours (NKNN) algorithm. The proposed scheme presented famous verified metrics, counting the NE2NE MFL message latency, quantity, system dependability, and model correctness

Keywords—Big data Analytics, Mobile federated learning, Latest radio, Artificial Internet of Things.

An Analytical Survey on Multi-Biometric Authentication System for Enhancing the Security Levels in Cloud Computing

Mahalakshmi.B , Dr.Beulah David

Saveetha School of Engineering

Saveetha Institute of Medical and Technical Sciences

Abstract—Cloud computing has emerged as a popular computing model, with numerous advantages both to end users and providers. The obvious huge advantage is that customers can outsource their infrastructures and benefit of the best technologies and characteristics at low costs. The cost benefits offered by cloud technologies is one of the major reasons that stimulate the growth of cloud computing in many industries. In few years, cloud computing acceptance from enterprises is increasing but businesses are now finding that there is a number of issues related to security that have to be addressed when venturing into the cloud. Multimodal Biometric authentication provides one of the promising methods for authentication in a cloud environment. This paper is a survey based review that summarize the recent schemes used for Multibiometric authentication in the cloud computing and highlights their pros and cons to find the best approach for this purpose. Result of this survey recommended that the multimodal biometric authentication improves and reduces its complexity and computation time with the use of Biometric-as-a-service (Baas).

Keywords — *Cloud Security, MultiBiometric Authentication, Deep Learning, Biometric-as-a-service.*

Classifying Indian Rivers Surface Water Quality Using Principal Component Analysis Combined with Principal Component Weighted Arithmetic Index Techniques

V.Karpagam,S.Christy

Saveetha School of Engineering

Abstract—River water contamination is a major challenge in India and around the world, directly impacting not only living organism's health but also economy of the whole community. This study did exploratory analysis by using the Principal Component analysis of water quality parameters through water quality index and classifies the quality according to the index calculated from the samples that were collected from Indian rivers. Principal component analysis (PCA), a multiple-variable decision method, is among them. PCA are mainly used for the comprehensive analysis of high dimensional data in environmental studies and also widely used in data contains temporal and spatial changes over variety of water bodies in India. From the results all samples could be evaluated by using four major principal components, which are explaining the total variability of 81.33%. Water quality was assessed using the principal component weighted Arithmetic index (PCWAI), which is defined as the sum of principal component scores weighted by their eigenvalues. These are working under the principle of Simple Additive Weighting (SAW) Model. We observed that the total quality of water in Indian rivers was stable but contamination in the state of Punjab, Odisha, Haryana, Pondicherry, and Gujarat sampling stations were of highly concern. The outcome of PCWAI explores the key sample points requiring additional control in Indian Rivers. This study confirmed about interpolation of PCA and PCWAI performs an effective tool for identifying surface water quality. This tool was of highly efficient for maintaining water quality in Indian Rivers and also reduces the effects from contamination in Indian Rivers.

Keywords— *Indian Rivers, Principal Component Analysis (PCA), Principal Component Weighted Arithmetic Index (PCWAI), Eigenvalues, Simple Additive Weighting (SAW).*

Deep Neural Network-Based Crime Scene Detection with Frames

Nandhini T J, K Thinakaran

Saveetha institute of medical and technical Sciences (SIMATS)

Abstract—The field of computer vision stands to benefit significantly from automated crime scene detection. In this work, we demonstrate the application of DNN (Deep Neural Network) to identify a knife, blood, and gun in a picture and forecast whether a crime has occurred. Improving the accuracy of the system's detection capabilities was a top priority for us since we wanted to make the system as helpful as possible. To get a detection result, DNN's Non-linearity ReLu (Rectified Linear Unit), a Convolutional Neural Network Layer, a Fully Connected Layer, and a Dropout Function are employed. Additionally, this research makes use of a Dropout Function. To get the outcomes we want from Neural Networks, we use the open-source platform Tense or Flow. Our system has a test accuracy of about 92.1% for the datasets that are currently accessible, which puts it in a very competitive position compared to other systems specifically created for this task.

Keywords— Deep neural network, convolutional neural network, crime scene, Tensorflow.

An analysis of Intrusion Detection Systems in IIoT

Latha R, R.M. Bommi

Saveetha School of Engineering SIMATS

Abstract—The Industrial Internet of Things (IIoT) uses Internet of Things (IoT) technology in industrial systems to improve the reliability, quality, and efficiency of business processes. Since many isolated IoT networks have been deployed in a variety of industries, this has exposed several vulnerabilities to security incidents and posed dangers to IIoT security. An intrusion detection system (IDS) is a security monitoring tool that encourages information system cyber security solutions. The system's job is to identify suspicious behaviour from intruders and enable risk-avoidance strategies. Due to the IIoT's unique characteristics, including resource constraints, data privacy, and heterogeneity, deploying a typical IDS-based solution is difficult. Researchers are deploying an efficient and adaptable IDS for various IIoT operating scenarios using new developing technologies such as Fog/Edge computing, Machine Learning (ML), and Deep Learning (DL). The development of IDS in certain industrial situations is the main emphasis of this study. To achieve this, we present a holistic assessment that tackles IDS deployment tactics, detection strategies, evaluation methodologies, and data sources. We also outline several recommendations and difficulties to consider while developing IDS-based security for Industrial IoT in future studies.

Keywords— Intrusion detection system (IDS), Internet of thing (IoT), Industrial Internet of Things (IIoT), Cyber security, Machine learning (ML), Deep Learning (DL).

Parameter-Optimized Non-Invasive speech test for Parkinson's disease Severity Assessment

P.Deepa, Rashmita Khilar

Saveetha Institute of Medical and Technical Sciences, SIMATS,

Abstract—Parkinson's disease (PD) has a significant impact on people's lives following Alzheimer's, the most common neurological condition. It causes some or all loss of the ability to move, speak, behave, think, and perform other essential tasks. Monitoring the patient's condition on a frequent basis is one of the essential elements of a successful treatment. In order to track the evolution of a condition, physiological analysis results are translated to a metric, the Universal Parkinson's Disease Rating Scale (UPDRS). It is a scoring system that measures the existence and severity of the symptoms. It ranges from 0-176 for patients who are not receiving treatment, with 0 denoting a healthy condition and 176 denoting entire disability. It is divided into three categories: motor activities, everyday living activities, and thought, behavior, and mood. The motor UPDRS measures the functions including speech, facial expression, stiffness, and tremor on a scale of 0 to 108, with 0 signifying normal status and 108 denoting significant movement disorders. Speech spans from 0 to 8, where 8 indicates incoherent speech. Nowadays, in health care environments, noninvasive tele-monitoring is a growing alternative that may allow for reliable, affordable disease screening and relieving the strain of frequent, clinic visits. As a result, the burden on the costs is reduced, and the clinical evaluation of the subject's condition is evaluated more accurately. The information acquired from the patients can be utilized to accurately anticipate how severe a patient's PD symptoms will be. The proposed study uses a variety of models such as linear regression, decision tree, random forest, gradient boost and xgboost with parameter optimization for maximizing the prediction accuracy. The random forest model has the highest R2 value and the lowest RMSE .We also investigate the relationship between the two dependent target variables, total UPDRS and motor UPDRS. The two dependent target variables were found to have a 0.947 correlation coefficient. Therefore, any of the two target variables is enough and be used to train a model.

Keywords – *Parkinson's disease, UPDRS, Feature Selection, Hyper Parameter Optimization.*

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0

Date : 06.04.2023

Time : 10.30 am - 12.00 pm

Mode of Presentation: Online**Venue: IT Block- Hall -3****Session Chair:**

1. Dr. P.Sridevi Ponmalar, Assistant Professor, Computational Intelligence, SRM Institute of Science and Technology, Chennai

2. Dr.Nithisha.J, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	10.30am -10.45am	ICON23T132	Data-driven ML Approaches for the concept of self-healing in cellular wireless networks, including its challenges and possible solutions	Caleb.S S.John Justin Thangaraj
2	10.45am-11.00am	ICON23T133	Movie Reviews using Sentiment Analysis with Natural Language API	Athish V Rajeswari D Sree Nandha S
3	11.00am-11.15am	ICON23T134	Design And Implementation Solar Powered Smart Irrigation Using IOT	C.Santhosh Kumar J.Krishnamoorthy G. Saranya S.Brindasri B.Vidhya K.Madhan
4	11.15am-11.30am	ICON23T135	Design And Implementation Of Patient Monitoring System Based on IOT Using Oxygen Saturation	C.Saravanan S. Vanakavarayan G.Saranya N.V.Krishnamoorthy K.Madhan
5	11.30am-11.45am	ICON23T140	Multifusion sensor and improved Relief-F Algorithm based violence detection schools	NarenthiraKumar Appavu C.Nelson Kennedy Babu
6	11.45am-12.00pm	ICON23T141	Anomaly detection using multisource CNN with handcraft features	NarenthiraKumar Appavu C.Nelson Kennedy Babu

Data-driven ML Approaches for the concept of self-healing in cellular wireless networks, including its challenges and possible solutions

Caleb.S, S.John Justin Thangaraj

Saveetha School of Engineering, Saveetha institute of medical and technical Sciences(SIMATS),

Abstract—The idea of a self-organizing network, or SON for short, was developed to facilitate the autonomous deployment and administration of cellular networks. SON capabilities have the potential to improve service quality, increase network performance, and lower operating and capital expenditures (OPEX and CAPEX). Self-healing refers to a network paradigm in which faults in intended networks are repaired through the execution of a predetermined set of steps, such as detection, diagnosis, and compensation. Self-healing is an important component in SON and is defined as a network paradigm. Self-healing is defined as an important component in SON. It is now widely acknowledged that data-driven machine learning is an effective method for infusing Networks with intelligence and enabling them to repair themselves., there are significant obstacles to overcome before practical implementations of machine-learning approaches for self healing may be developed. In the first part of this essay, we will begin by dividing these difficulties into Data imbalance, data insufficiency, data cost insensitivity, data reaction time, multi- source data fusion, and data latency are the five main areas of concern. Then, after identifying these difficulties, we provide viable technological solutions to overcome them. In addition, a case study of cost-sensitive defect detection using unbalanced data is presented as a means of demonstrating the practicability and efficiency of the offered methods

Keywords— Auto-repair, ML, Data Asymmetry, CPI Sensitivity ,Predictive Learning, Hybridization

Movie Reviews using Sentiment Analysis with Natural Language API

Athish V , Rajeswari D, SreeNandha S

SRM Institute of Science and Technology,

Abstract—Sentiment Analysis is the process of analyzing sentiment of a piece of text by identifying polarity or writer attitude towards any topic or product such as positive, neutral or negative. This paper uses sentiment analysis on movie reviews in twitter data, which is the most dominant public social media and its data is accessible using their own Twitter API. Words and misspellings make sentiment analysis fort witter data, harder due to the existence of slang words and bad spelling. This work uses Had oop for the various features it provides over the API. The proposed work uses the knowledgebase approach using lexica analyzer for sentiment analysis of movie reviews. The assigned score for movies is 100. The proposed work get all the positive, negative and neutral comments to judge “how good” or “how bad” the movie is.

Keywords— Natural Language API, movie reviews,sentiment analysis, lexical analyzer, twitter data.

Design and Implementation Solar Powered Smart Irrigation Using IOT

C.Santhosh Kumar ,J.Krishnamoorthy, G. Saranya, S.Brindasri ,B.Vidhya, K Madhan

Er.Perumal Manimekalai College of Engineering,Sri Krishna College of Engineering ,Hindustan Institute of Technology and Science, Mailam Engineering College

Abstract—The farming is one concerning the indispensable assets due to the fact of advent of ingredients but assumes sizeable portion about the economic regulation about each and every United States on America via which include after Today, coast owners hold a snack troubles within agribusiness appropriate according to the fact of non-appearance about downpours after shortage about water. So between that task, we wish raise external computerized wind law case due to the fact bank lords as like intention maintain time, value then after on Manual inclusion is wished due to the fact the farmland strategies. By construction use over soil humidity sensor degrees involving ground dampness/mugginess may additionally keep checked. At some also is an harmony the trade yet sends signal in conformity over the microcontroller or relying upstairs to be robotized effectively by using construction use of regulators yet no assistance over guide intervention among accordance about flirt apparatus ON then OFF.

Keywords— Internet of things, Node MCU, Relay, Automatic water valve(AV).

Design and Implementation of Patient Monitoring System Based on IOT Using Oxygen Saturation

C.Saravanan, S.Vanakovarayan, G.Saranya , N.V.Krishnamoorthy, K.Madhan

Manakula Vinayagar Institute of Technology, Sri Krishna College of Engineering and Technology, Mailam Engineering College

Abstract—SpO₂ levels must be continuously monitored in patients with cardiac and pulmonary conditions as well as those undergoing surgery. SpO₂ monitoring is frequently employed in a clinical context to assess how well lung medicines and ventilator assistance are working. A pulse oximeter is a piece of medical gear that measures how much oxygen is in a person's bloodstream, or how much of the oxygen carrying molecules (known as hemoglobin) are actually used to move oxygen about the body. If the observations are made on the pulsatile component of the signal, pulse oximetry is predicated on the idea that two wavelengths may be used to determine arterial blood oxygen levels. Here, the device continuously measures the temperature and the SpO₂ level in order to create a machine learning-based algorithm for patient severity prediction and upload it to a private server after a predetermined amount of time. Therefore, the doctor or caregiver can see the patient's status remotely.

Key words — SPO₂Monitoring, Oxygen saturation, Pulse Oximeter, Thing speak.

Multifusion Sensor and Improved Relief-F Algorithms Based Violence Detection in Schools

Narenthira KumarAppavu, C.Nelson Kennedy Babu

Saveetha School of Engineering,

Saveetha Institute of Medical and Technical Sciences

Abstract—A widespread social problem is bullying in primary schools. Compared to school violence globally, primary school violence is seen as more harmful. Fusion and improved Relief-F algorithms are recommended as a multi-sensor-based method for early school violence detection. Data is collected by two motion sensors that play a major role in detecting violence in elementary school and in our daily life activities. A total of 9 types of violence related activities are checked. Time and frequency provide characteristics, Using the improved relief-F approach, features are recovered and filtered. The authors then create a classifier with two levels. Random Forest is first level classifier which splits the jump function from others. In the previous paper the author used decision tree classifier but in this proposed work random forest classifier is used and the following level identifies the remaining 8 categories of functions using network with radial basis functions. The recognition outcomes of the two sensors are then combined using a decision layer fusion method. Our research has shown that, on average, primary school violence can be recognized with an accuracy of 84.4%, whereas daily life can be recognized with an accuracy of 97.3%.

Keywords— Primary School Violence, Artificial Intelligence, Enhanced Relief-F, Activity Recognition, System Recognition, System Recognition.

Anomaly Detection using Multisource CNN with Handcraft features

NarenthiraKumar Appavu,C.Nelson Kennedy Babu

Saveetha School of Engineering,

Saveetha Institute of Medical and Technical Sciences

Abstract—Today's latest video surveillance technology has recently been used to monitor human interactions in automated processing systems. They play an important part in security matters. Numerous difficulties problems in separating violent from non-violent behavior. Supernatural activities Like crowded areas and camera view. In this article, we recommend a deep novel technique detect violence against this structural system Built on particular traits resulting from artisan techniques and through which violence is detected. These features are related to the representation of the image, the appearance of the image, and their motion speed, and are fed as input to a neural network (CNN), which transforms them into spatial, temporal feature, and feature streams, trained a network through this spatial stream to recognize contextual patterns in each frame of video. This temporal stream consisted of three consecutive frames for learning each dynamic pattern of violent actions. Differential optical flow measurement. Furthermore, we added a distinguishing characteristic with a new kinetic graphic of energy to depict violence acts distinct from others in a spatio-temporal stream. The approach incorporates different facets of violent actions by combining the outcomes of these streams is also called violence and trained label. They include hockey, movie and VP datasets that are crowded and not. These experimental results demonstrate that the proposed in terms of precision and speed of processing, the violence detection technique outperformed the prior study's results.

Keywords— Convolutional neural network ,Computer-vision, Deep-learning , Analyzing human behavior

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0

Date : 06.04.2023

Time : 12.45pm - 3.00 pm

Mode of Presentation: Online**Venue: IT Block- Hall -3****Session Chair:**

1. Dr. M. Tamilselvi, Assistant Professor, SRM Institute of Science and Technology Ramapuram Campus, Chennai.

2. Dr.Nithisha.J, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	12.45pm – 1.00pm	ICON23T142	Activity Based Learning System Educational Institutions for Measuring Performance using Machine Learning Technique	Amit Gupta Shaik Meeravali Arun Singh Chouhan K.Y.Srinivas
2	1.00pm – 1.15pm	ICON23T143	Skin Cancer Classification Based on Machine Learning Techniques	N. ShunmugaKarpagam P. Sumathi G.Saranya S.Sindhuj P.Yogananth K.Madhan
3	1.15pm – 1.30pm	ICON23T144	Design and analysis of Digital Certificate Verification and Validation Using Block chain-Based Technology	M.Shakila A.Rama
4	1.30pm – 1.45pm	ICON23T145	A replica-aware optimal path based data transfer scheduling on cloud using adaptive sunflower optimization algorithm	Ms.Pavithra P Dr.B.Hariharan
5	1.45pm – 2.00pm	ICON23T155	Traffic Sign Recognition and Voice-Activated Driving Assistance Using Raspberry Pi	V. ThamaraiKannan, M. Vigneshkumar C.Kavitha
6	2.00pm – 2.15pm	ICON23T156	Keeping Track of Coal Mine Safety using IOT Technology	Dhanalakshmi V Vimalraj S
7	2.15pm – 2.30pm	ICON23T157	Predicting Earthquake Measurements using Deep Learning	Sheik Jamsheer Basha T Kavitha C Gnadesigan V
8	2.30pm – 2.45pm	ICON23T158	LARVIS : Linux AI Relied Virtual Intelligent System	M Thanga Subha Devi Dr. M Nirmala Yogesh Gowda K Nithish S N Vidyasaga
9	2.45pm – 3.00pm	ICON23T159	Detection of Plant Disease Using Machine Learning And Deep Learning Algorithms	Kalyani Gollapudi Preethi Varigonda Dr.S.Jancy Dr. Viji Amutha Mary.A Dr.Suji Helen Dr.S.Pushpa Latha

Activity Based Learning System Educational Institutions for Measuring Performance using Machine Learning Technique

Amit Gupta ,Shaik Meeravali, Arun Singh, Chouhan K.Y.Srinivas

Malla Reddy University , Malla Reddy Institute Technology

Abstract—Artificial intelligence and Machine Learning, also, dominate appreciable pledge for academic environment similar as outdistance knowledge and postsecondary institutions. Postsecondary institutions established on secondary data exploration and evidence investigation, gratified scrutinys, and fundamental principal research, the contemplate study tries to authorize its eventuality and use areas in advanced postsecondary institutions. Different educational academic, experimental, and economics business commencement were occupied as cross-reference issues for this investigation to acquire a further extensive image of the exploration issue. As a result, 120 students in different research scholars were investigation to get data learn on how significant AI and ML student research scholars had to decide better the possibility eventuality and embarrassments affiliated with AI and ML in postsecondary institutions. Collaborative wisdom and stations of exploration bases against AI in postsecondary institutions apart from delegated practices for utilizing AI.

Key words—Artificial Intelligence, Machine Learning; E-Learning. Project-based learning, reflection

Skin Cancer Classification Based on Machine Learning Techniques

N. ShunmugaKarpagam, P.Sumathi, G.Saranya, S.Sindhuja, P.Yogananth, K.Madhan

Er.Perumal Manimekalai College of Engineering, Sri Krishna College of Engineering, Mailam Engineering College

Abstract—Nevus and melanoma is recognized as kinds of skin cancer are there however, skin deadly kind of disease is though un Acurable skin cancer compare to the other skin most common skin disease is melanoma, melanocytes are cancers because it will spread easily to the other healthy part of the body, if it is not treated well or not diagnosed earlier, it will easily spread to the other part of the body. The death rate is higher compared to other cancers if it is detected sooner. The mortality rate becomes higher, for diagnosing all patients the time and cost are high, so here we recommend the image processing intellectual technique to differentiate and detect the infected disease from the skin cancer in the initial stage can reduce the nevus. The initial step is removing the noise from the damaged skin from the attained image using a spreading rate. The researchers found that detecting the Gaussian filter, SVM is used for the nevus and melanoma classification. Our main goal is to check classification of melanoma at an early stage is the efficiency of the suggested dissection technique, and obtain the features, and evaluate the result with the other methods, In the current field we used. The suggested technique is verified on the collected data by the overall figure of 402 collected data disease e image: 205 are nevus and melanoma are nevus 197. Our suggested technique achieved an accuracy of 97%..

Keywords— Melanoma, SVM, k-means, Machine Learning

Design and analysis of Digital Certificate Verification and Validation Using Block chain-Based Technology

M.Shakila, A.Rama

Saveetha School of Engineering

Abstract—The educational institution's digital certification In the current scenario of digital certification with a digital signature, a blockchain technology server is utilized. There is a chance of updating or creating phony certificates in order to prevent the organization's use of digital certification in the future. By enabling tamper-proof data storage, this blockchain technology will prevent server hacking and data modification. In order to prevent counterfeiting in blockchain technology offers the electronic data file that is formed in the ledger using the hash function it tampers with. A secured, unchangeable, authenticated certificate is produced by this method. In the transparent network, a document that has been digitally signed and approved by peers is exchanged. They are granted these certifications. The blockchain is attracting intense media and scientific interest while igniting interest in its possible applications and function in promoting social decentralization [9] and independence from centralized authorities. The impact that the widespread use of this technology will have on our societies, both positively and negatively, has received a lot of attention. Despite all of this thought, there isn't much literature that addresses the issues it might present, except for technological ones. The introduction of blockchain can be likened to the development of the Internet, demonstrating the potential for profound changes in a variety of industries. Although, in accordance with presented a first analogous example of this technology. Finally, the system will use smart contracts to automate processes and ensure data accuracy. Smart contracts are self-executing programs that are stored on a blockchain and can be used to facilitate transactions and agreements between two parties, without the need for a third party. Smart contracts will ensure that the data is accurate and up to date, as well as provide an additional layer of security. This will ensure that the transactions are secure and can be verified by anyone on the network.

Keywords—Digital certificate, Centralized, Blockc, Verification, Validation and QR Code.

A replica-aware optimal path based data transfer scheduling on cloud using adaptive sunflower optimization algorithm

Ms.Pavithra P ,Dr.B.Hariharan

SRM University

Abstract—High-performance computing and mass storage are two of the key factors of cloud computing, and it provides these factors at a more affordable, scalable, and elastic platform compared to other traditional distributed systems. Due to disaster in the cloud, the stored data will be lost. To avoid this problem, replica management-based data transfer scheduling is proposed in this paper. For the scheduling process, the adaptive sunflower optimization (ASFO) algorithm which is select the optimal path among the number of paths. The selected path should be taken at a minimum distance. The entire work consists of solution encoding, fitness evaluation, and updation. The effectiveness of the suggested methodology is evaluated using response time, turnaround time, and waiting time, and our suggested method also produces better outcomes when compared to other methods.

Keywords:- Data transfer scheduling, Replica management, adaptive sunflower optimization, disaster, recovery, fitness function.

Traffic Sign Recognition and Voice-Activated Driving Assistance Using Raspberry Pi

C.Kavitha, V. Thamaraikannan,M.Vigneshkumar

IFET College of Engineering

Abstract—Traffic sign recognition and voice-activated driving assistance systems are crucial technologies for enhancing road safety and improving the driving experience. This paper presents a design and implementation of a low-cost, real-time traffic sign recognition system and voice-activated driving assistance using Raspberry Pi. The system consists of a camera module, a Raspberry Pi, and an interface board that connects the camera and Raspberry Pi. The Raspberry Pi runs an image processing algorithm to identify traffic signs and provides audio feedback to the driver. The voice-activated driving assistance system allows drivers to control the system with voice commands, such as adjusting the volume and changing the mode of operation. The image processing algorithm uses a deep Learning-based approach for traffic sign recognition and includes a convolutional neural network trained on a dataset of traffic signs. The system was tested on a variety of road scenarios and achieved an accuracy rate of over 95% for traffic sign recognition. The voice-activated driving assistance system was integrated with the Amazon Alexa Voice Service, allowing drivers to interact with the system through voice commands. The proposed system is highly cost-effective, as it utilizes a Raspberry Pi, a low-cost single-board computer, as the main processing unit. This makes the system suitable for widespread deployment and accessibility to a larger audience. Additionally, the system has low power consumption and is portable, making it suitable for use in various road scenarios and vehicles. In conclusion, the traffic sign recognition and voice-activated driving assistance system using Raspberry Pi presents a practical solution for improving road safety and enhancing the driving experience. The system's low cost, portability, and real-time performance make it a promising technology for widespread deployment in vehicles.

Keywords— *Raspberry pi, Conventional Neural Network, GTSRB Dataset, Traffic Sign Detection, Classification, Voice Alert.*

Keeping Track of Coal Mine Safety using IoT Technology

Dhanalakshmi V, Vimalraj S

IFET College of Engineering

Abstract—The wireless sensor network (WSN) and Internet of Things (IoT) based system for monitoring coal mine safety that you mentioned can be a valuable tool in enhancing the safety and health of coal miners. The use of microsensor nodes that are connected wirelessly can make it easier and less expensive to monitor various environmental factors in a coal mine, including temperature, humidity, gas concentrations, fire and light. The system can detect the presence of toxic gases, extreme temperatures, and dust, and send alerts to the miners, giving them the opportunity to take action and avoid potential hazards. Furthermore, the wireless network of sensors can provide real-time data and instant communication between the sensors and the monitoring station, allowing for quick responses to any detected issues. This kind of system can help improve the degree of surveillance of the mine and ensure that miners are alerted to any potential dangers promptly. It is worth noting that while such a system can help to enhance the safety and health of miners, it is not a substitute for proper mining practices and adherence to safety regulations. Employers should ensure that miners are well-trained and equipped with appropriate personal protective equipment to minimize exposure to hazards, and that they follow established safety procedures. Overall, the use of WSN and IoT-based systems for monitoring coal mine safety can be a promising approach to improve the working conditions of coal miners and reduce the risks of accidents and illnesses associated with coal mining.

Keywords— *Internet of Things (IoT) Technology, Sensors, Arduino UNO, Wireless Sensor Network (WSN), Node MCU, Coal Mine Safety, Monitoring, Alerting, ThingSpeak*

Predicting Earthquake Measurement using Deep Learning

Kavitha C , Sheik Jamsheer Basha T, Gnadesigan

IFET College of Engineering

Abstract—In order to prevent loss of life during an earthquake that the 3S-AE-CNN model can provide an innovative approach to predicting earthquake parameters quickly and accurately, which can be very useful for early warning systems to prevent earthquake-related deaths and damages. It is impressive that the model can determine earthquake size and location just three seconds after the P-wave begins, using wave features that can be easily identified. The model's small errors in predicting magnitude, latitude, and longitude for the most probable locations show its potential for accurate earthquake parameter prediction. Moreover, the ability to produce in 3S-AE-CNN model to deliver the estimated earthquake parameters to a centralized IoT system for timely reactions can be very valuable for disaster management and earthquake risk reduction. The fact that this model outperforms the benchmark in size and position determination makes it a promising tool for EEWs. Overall, the 3S-AE-CNN model described in this study can offer an effective and efficient approach to earthquake parameter prediction and help reduce earthquake-related risks and losses.

Keywords—Predict Earthquake, Deep Learning, Internet of Things, Location.

LARVIS - Linux AI Relied Virtual Intelligent System

M Thanga Subha Devi, Dr. M Nirmala, Yogesh Gowda K, Nithish S, N Vidyasaga,

New Horizon College of Engineering

Abstract—The purpose of this paper is to propose a solution to a long-standing challenge in the Linux desktop operating system, which is the absence of a built-in Intelligent Virtual Assistant (IVA) across popular distributions like Ubuntu, Mint, and Fedora. The proposed IVA framework offers a range of functionalities, including file management, fact retrieval, system volume control, internet speed testing, and time and date reporting, among others. This framework, called LARVIS, has been developed using the Speech Recognition, TTS, and Keras libraries, and it can be deployed on any Linux distribution. One of the unique features of LARVIS is its exceptional ability to navigate the file system and execute file manipulation tasks, setting it apart from existing IVAs such as Cortana. With the implementation of LARVIS, Linux desktop systems can become more user-friendly, streamlined, and efficient, providing a valuable solution to the challenge of a lack of IVA on this platform.

Keywords- Linux, Intelligent Virtual Assistant, Intelligent Personal Assistant, Speech Recognition, Digital Assistant

Detection of Plant Disease Using Machine Learning and Deep Learning Algorithms

Kalyani Gollapudi, Preethi Varigonda , Dr.S.Jancy, Dr. Viji Amutha Mary.A, Dr.Suji Helen , Dr.S.Pushpa Latha

Sathyabama Institute of Science and Technology

Saveetha School of Engineering, SIMAT

Abstract—Agriculture performs an acritical position in India's economic system. Early detection of plant illnesses ais acritical to save you crop damage and similarly spread of diseases. Most plants, along with apple, tomato, cherry, grape, show symptoms of leaf ailment. These visible patterns may be found to correctly predict the disorder and take early movement to save you it. This can be triumph over with system getting to know and deep getting to know algorithms. Wetherefore recommend aa method thatdetermines tomato plant disease from pix of leaves. Thisamethod ais performed with aid vector device a(SVM), random woodland gadget studyinalgorithm, and look at algorithms ConvolutionalNeural Network a(CNN), Recurrent Neural Network a(RNN), and ResNet that ais one of the switch learning techniques Snoring. After the facts set ais processed aby away of the algorithms, theaccuracy of the algorithms ais compared and thenap shots are categorized.

Keywords- *Plant diseases, machine learning, deep learning, CNN, RNN, ResNet, SVM, RandomForest*

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0

Date : 06.04.2023

Time : 10.30 am - 12.00 pm

Mode of Presentation: Physical**Venue: CSE Block- Hall -4****Session Chair:**

1. **Dr. K. Venkatraman**, Technical Architect, Hexaware Technologies, Chennai.
2. **Dr. J.Anitha Ganaselvi**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	10.30am -10.45am	ICON23T225	Airline Passenger Satisfaction Prediction Using Novel Hybrid Random Forest Model Comparison With K-Nearest Neighbour Model	Bhargav R.Thandaiah Prabu
2	10.45am-11.00am	ICON23T227	Accuracy Improvement in Chondrosarcoma Detection using Decision Tree Algorithm (DT) and Comparing with Support Vector Machine (SVM)	A.Bhanu Veekshith T.J.Nagalakshmi
3	11.00am-11.15am	ICON23T1230	Chroma Vision: A Comprehensive Solution for Vision Enhancement	Rajasekaran Arun Sekar Sasi Varunan G Sudharsan NS SugaibuRahuman K Tharani S
4	11.15am-11.30am	ICON23T240	Edge Detection of Satellite Image for Water Body Identification using Novel Marr -Hildreth Algorithm and comparing with Hough Transform Algorithm to Enhance Accuracy and Contrast	Suhail Ahamed.T Nalini.N
5	11.30am-11.45am	ICON23T234	Simulation and Comparison of RF Performance of the Novel Inverted F SIW Antenna with Triangular Split Rings SIW Antenna for X Band Applications	Sanju Priya B.R Anitha G
6	11.45am-12.00pm	ICON23T1233	Building Collapse Alert System using IOT	Balamurali S Aravind M Kailesh K Karthick K Chandramohan S

Airline Passenger Satisfaction Prediction Using Novel Hybrid Random Forest Model Comparison With K-Nearest Neighbour Model

Bhargav, R.Thandaiah Prabu

Saveetha School of Engineering , SIMATS , Chennai Technology

Abstract—The objective of this study was to analyze the passenger satisfaction questionnaire using existing machine learning algorithms and methods, in this case, KNN, and compare their performance with the model. Random Forest Novel Hybrid. 50 samples were taken for this analysis with two groups of 25 samples each. Group 1 uses a hybrid random forest model and group 2 uses K-nearest neighbor (KNN). Through the workflow of this study, the dataset was imported using the Kaggle engine and trained with the Novel Hybrid Random Forest algorithm using Jupiter Notebook. The sample size was calculated from values obtained in previous studies using an online statistical tool with a pre-test power of 95% and an alpha value of 0.016.

Keywords—Novel Random Forest, K-Nearest neighbour, Prediction, Passenger, Classification, Machine learning.

Accuracy Improvement in Chondrosarcoma Detection Using Decision Tree Algorithm (DT) and Comparing With Support Vector Machine (SVM)

A.Bhanu Veekshith, T.J.Nagalakshmi

Saveetha School of Engineering, SIMATS

Abstract—This research is based on the improvement of accuracy in detection of chondrosarcoma the decision tree is taken and comparing the results with the support vector machine from deep learning algorithms. The total set of samples taken for these processes are 38 to analyze the two groups. Group 1 for the decision tree consisting of 19 samples and Group 2 for the support vector machine also containing 19 samples. The dataset has been imported and python code is implemented using Google Collab software. The sample has been calculated from the values obtained from the prior studies with help of some online statistical analysis tools with the pretest power of 80% and the alpha of 0.05 value. From simulation results of machine learning algorithms, the decision tree gives output accuracy of 95% which provides better output than the other used machine algorithm in this research support vector machine gives output of accuracy 81% ($p < 0.05$). For the above used dataset decision tree algorithm provides significantly more effective results than support vector machine from machine learning.

Keywords—Support vector machine(SVM), Decision tree(DT), Machine learning, Chondrosarcoma.

Chroma Vision: A Comprehensive Solution for Vision Enhancement

Rajasekaran Arun Sekar , Sasi Varunan G , Sudharsan NS, SugaibuRahuman K, Tharani S

KPR Institute of Engineering and Technology

Abstract—Blind people are incapable of seeing, which is crucial for daily life. Blind people have limited autonomy due to their lack of eyesight. There are many methods for helping blind people navigate that are based on RFID, GPS, and computer vision modules. Computer Vision and Machine Learning have also seen tremendous growth in recent years and have been employed in the past to produce helpful systems. The system described in this paper provides word, object, and color recognition, fall detection, and location-based warnings for visually impaired and color-blind people using a Raspberry Pi 3B+ board, a GPS module, Accelerometer sensor and Twilio API. By giving colorblind and visually impaired people more freedom and security, the suggested technology aims to enhance their quality of life.

Keywords—GPS, RFID, Twilio API, Sensor.

Edge Detection of Satellite Image For Water Body Identification Using Novel Marr -Hildreth Algorithm and Comparing with Hough Transform Algorithm to Enhance Accuracy and Contrast

Suhail Ahamed.T, Nalini.N

Saveetha School of Engineering

Abstract—ToUtilize the Marr-Hildreth algorithm and comparing with the Hough Transform Algorithm Materials And Methods Which is used to analyze a software undertaking by utilizing Image processing algorithms such as Marr-Hildreth and Hough Transform Algorithm. Here the pretest power analysis was carried out with 80% and there are totally 2 groups and the sample size is 20. The power analysis was held up with 80% and the sample amount for the two factions is 40. The Results of Software effort analysis was done using Marr-Hildreth algorithm and Hough Transform Algorithm with the accuracy of 10 and 10 respectively. There is a statistical significant variation in precision for two algorithms is 0.045 ($p<0.05$) by conducting dominant samples t-tests. The Conclusion is that the Marr-Hildreth algorithm performs significantly better than the Hough Transform Algorithm.

Keywords—Marr-Hildreth Algorithm, Hough Transform Algorithm, Detection, Water Bodies, Satellite Image, Accuracy and Contrast.

Simulation and Comparison of RF Performance of the Novel Inverted F SIW Antenna with Triangular Split Rings SIW Antenna for X Band Applications

Sanju Priya B.R, Anitha G

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences

Abstract—To evaluate the RF performance of X band application using an inverted FSIW(Substrate Integrated Waveguide) antenna and triangular split rings SIW antenna on 50Ω characteristics impedance at 10 GHz. Materials and Methods: The effectiveness of two new antenna designs, the inverted F SIW antenna and the triangular split ring SIW antenna, was assessed in regards to their radio frequency (RF) performance. This included analysis of return loss, voltage standing wave ratio (VSWR), and gain. The antennas were tested on a 50Ω impedance with specific values for alpha (0.05) and beta (0.2), and a pre-test power of 80%. The total sample size is 54. Result: In comparison to a triangular split rings SIW antenna (return loss: -13.4897 dB, VSWR: 1.5368, gain: 2.75 dBi, bandwidth: 28.1 MHz), an inverted F SIW antenna performs substantially better (return loss: -24.4889 dB, VSWR: 1.126, gain: 4.76 dBi, bandwidth: 89.4 MHz). Inverted F and triangular split ring SIW antennas both have optimized dimensions of 19.8 mm x 16.8 mm. Significant RF performance of p<0.05 is obtained. Conclusion: The RF performance of the inverted F SIW antenna appears to be higher than that of the triangular split rings SIW antenna.

Keywords— *Novel Inverted F SIW Antenna; Triangular Split Rings SIW Antenna; HFSS; Return loss; VSWR; Gain.*

Building Collapse Alert System using IOT

Balamurali S, Aravind M, Kailesh K, Karthick K, Chandramohan S

KPR Institute of Engineering and Technology

Abstract—"Structural Health Monitoring" (SHM) is developing into an essential study topic to improve human safety and lower maintenance costs of structurally complex structures as a result of the development of modern technologies in the civil engineering area. This entails the process of discovering and detecting interior cracks and damages in the infrastructures well in advance so that a preventive cure can be applied before it crumbles as a result of ageing, a natural disaster, or any other cause that was caused by humans. However, the bulk of SHM systems now in use have trouble functioning in a real-time context due to their lack of portability and resilience. Also, the technology for remote and continual monitoring is still not fully integrated. As a result, we have proposed a portable and reliable Internet of Things-based SHM solution (IoT). A concrete beam, a metal structure, a slab, a bridge joint, gusset plates, a beam-column joint, etc. can all be used to mount our suggested device. Before providing the data to a smartphone app for real-time viewing using Bluetooth Low Energy, this gadget analyses bends and calculates inclinations where it is installed (BLE). It can also use a Wi-Fi module to send raw data to cloud storage for upcoming research and analysis. Flex sensors are used by this device to track even the smallest bending from the surface to which it is attached. The system continuously monitors without human input and alerts the occupants whenever deformation occurs by buzzing an alarm and lighting the LED. Each set of unprocessed data is put through an internal processor.

Keywords— *Flex sensor; buzzer; Internet of Things (IOT); Bluetooth Low Energy (BLE); Arduino; Structural Health Monitoring (SHM)*

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0

Date : 06.04.2023

Time : 12.45 pm - 3.00 pm

Mode of Presentation: Physical**Venue: CSE Block- Hall -4****Session Chair:**

1. **Dr. Venkatraman**, Technical Architect, Hexaware Technologies, Chennai
2. **Dr. J.Anitha Ganaselvi**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	12.45pm – 1.00pm	ICON23T228	Design of Novel SSE Shaped Microstrip Patch Antenna using Polyester Material and Comparing the RF Performances with Polyflon Copper for S-Band Applications	L.Prakash Anitha G
2	1.00pm – 1.15pm	ICON23T502	Awareness and Satisfaction Towards Commercial Banking & Services in Chengalpattu Region Tamilnadu	Dr R Akila Dr R Sasikala
3	1.15pm – 1.30pm	ICON23T218	Security Based Object Detector Using YOLO Algorithm in Neural Networks	Santhiya A Keerthika A Sakthivel E Graceline Sheeba R
4	1.30pm – 1.45pm	ICON23T219	Effective Hybrid Precoder Logic with mm Wave Massive MIMO using Novel Deep Learning Scheme	Ranjith S Jesu Jayarin P Chandrasekar A
5	1.45pm – 2.00pm	ICON23T262	Machine Learning Approach for Personality Prediction from Resume using XGBoost Classifier and Comparing with Novel Random Forest Algorithm to Improve Accuracy	K.Maheswar Reddy R.Thandaiah Prabu
6	2.00pm – 2.15pm	ICON23T264	Uplink Multiuser Scheduling in Cognitive Radio Network using Group-based SVM Scheduling and Comparing with a Linear Classifier	Bhuvanesh Pamidakula P.Shyamala Bharathi
7	2.15pm – 2.30pm	ICON23T2106	Partially Shaded PV Powered Bridgeless Quadratic DC-DC Chopper with Smart Electrified Stand-alone Drive	Dr.M.Sasikumar
8	2.30pm – 2.45pm	ICON23T239	Detection of Steatosis Disease using Region Based Segmentation of Growcut Algorithm and Comparing with Region Growing Algorithm to Enhance the Accuracy	M.Ahamed Mansoor N.Nalini
9	2.45pm – 3.00pm	ICON23T241	FPGA Implementation of Novel Triple Data Encryption Standard for High Speed Network Security Comparison with DES	M Siddhardha P Jagadeesh

Design of Novel SSE Shaped Microstrip Patch Antenna Using Polyester Material and Comparing the RF Performances With Polyflon Copper for S-Band Applications

L.Prakash, Anitha G

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences

Abstract—This article compares the radio frequency performance of a novel SSE shaped microstrip design using polyester and Polyflon copper at 3.6 GHz for S band applications. The RF performance (Return loss, VSWR, Impedance, Gain) of Polyester material with Polyflon copper material at 3.6 GHz frequency. A Polyester material has significantly high performance (Return loss: -26.077 dB, VSWR: 0.9656, Gain: 5.76 dB, Impedance: 44.95 Ω) than Polyflon Copper material (Return loss: -25.77 dB, VSWR: 0.8951, Gain: 5.04 dB, Impedance: 49.07 Ω). The patch dimensions developed using Polyester and Polyflon copper have been 38.03 mm X 29.28 mm. The attained significance value is $p < 0.05$. The Polyester has better RF performance compared with the Polyflon copper material.

Keywords – *Novel SSE Shaped Patch Antenna, Polyester Material, Return Loss, VSWR, Impedance, Antenna Design, RF Performance.*

Awareness and Satisfaction towards Commercial Banking & Services in Chengalpattu Region Tamilnadu

Dr R Akila, Dr R Sasikala

Jeppiaar Engineering College, S.A College of Engineering

Abstract—The research intends to measure the level of financial awareness and inclusion among people in Chengalpattu region in Tamilnadu state. As financial awareness and inclusion play a key role in facilitating growth of economy in especially in developing country. Enhanced banking services to the world will be possible only with a holistic financial inclusion. This study also covers various government schemes launched by government. This study focus on financial inclusion major four areas like Awareness on financial products, Significance of Level of satisfaction, Banking habits of customers and Awareness of government schemes. A structured questionnaire is framed for this study and data are collected through online survey form specific region in Tamilnadu. This study uses various statistical tools to analysis the data to depict the conclusion. The statistical tools like average, percentages, ANOVA, Independent t-test, Chi-square and charts and tables were used for interpretation. From the study it is very lucid that customers in Chengalpattu regions have only a medium level of awareness about various banking services and products but satisfaction level of banking services and products were high. The customer awareness about government financial schemes also studied.

Keywords— *Financial Inclusion, Banking habits, Financial Scheme*

Security Based Object Detector Using YOLO Algorithm in Neural Networks

Santhiya A, Keerthika A, Sakthivel E, Graceline Sheeba R

Jeppiaar Engineering College,

Abstract—Object detection is the main issue in the security field. In general, entity detection is based on a combination of categorization and localization algorithms. Today, AI and neural network methods detect instances of entities of a particular class in an image or video. An existing loss-based system and a recursive detector are used to detect instances of the abounding object. One of the main disadvantages of real-time object detection algorithms is very slow image processing. To overcome them, we use Security based You Only Look Once (SYOLO), one of the most important model architectures and object detection algorithms. It uses the best neural network architectures to produce high accuracy and overall processing speed, which is the main reason why it is so popular. It is compatible for applications such as CCTV, self-driving motors and augmented reality. Furthermore, SYOLO has a simple architecture and entails minimal training information, making it easy to deploy and adapt to new tasks.

Keywords— *Object detection, Categorization, Localization, Neural Networks, SYOLO*

Effective Hybrid Precoder Logic with mmWave Massive MIMO using Novel Deep Learning Scheme

Ranjith S, P Jesu Jayarin, Dr A. ChandraSekar,

Jeppiaar Engineering College, Saveetha School of Engineering, SIMATS,
St.Joseph's College of Engineering, Chennai,

Abstract—For establishing a high efficient signal communications, a Millimeter-Wave-Massive-MIMO (mmWave-MMIMO) logics are helpful and more speculated. Although current hybrid precoding schemes are computationally complex, however, they are not using all of the spatial details. The combination of analog and digital precoding logics are considered to be a significant methodology to deal with complexities over hardware area and the higher consumption of energy in association with combination of signal elements. But the basic degradation of the traditional hybrid-precoding methodologies has some issues such as processing complexities and has a lacking to explore the spatial data regarding the channels. To address these limitations, this paper suggests a Novel Deep Learning Scheme (NDLS), in which it is enabled by mmWave-MMIMO system for successful Hybrid Precoder Logic (HDL). As well as each Precoder selection is used to obtain the The optimised-decoder is perceived in the Novel Deep Learning Scheme as a mapping relation. To be more precise, a Hybrid Precoder Logic is extracted via Novel Deep Learning Scheme training for optimizing the Millimeter-Wave-Massive-MIMO precoding method. Additionally, a detailed simulation results are presented to demonstrate the proposed scheme ;s superior efficiency and the resulting section demonstrate that the Novel Deep Learning Scheme based methodology is competent of lowering the Bit-Error-Rate (BER) and increasing the effectiveness of the frequency of Millimeter-Wave Massive-MIMO (mmWave-MMIMO), gaining a competitive advantage in faster convergence as compared to traditional schemes while significantly reducing the necessary computational difficulty

Keywords— *mmWave, Massive MIMO, mmWave-MMIMO, Novel Deep Learning Scheme, NDLS, Hybrid Precoder Logic,HDL*

Machine Learning Approach for Personality Prediction from Resume Using XGboost Classifier and Comparing with Novel Random Forest Algorithm to Improve Accuracy

K.Maheswar Reddy, R.Thandaiah Prabu

Saveetha School of Engineering

Abstract—The aim of this research is to analyze personality prediction from resumes using XG-boost algorithm and comparison with the novel Random forest model to increase the accuracy value in predicting the personality using resumes. Materials and Methods: For this analysis 80 samples were collected in two groups of 40 samples each. novel Random forest is used in group 1 while the XG-boost classifier algorithm is used in group 2, The dataset was imported using the Kaggle tool in this study's workflow, and Jupiter notebook was used to train the dataset using the Novel Random Forest algorithm. Using an online statistical tool with a pretest power of 95% and an alpha value of 0.039, the sample size is determined from the results of the previous studies. Result: From simulation results, the novel Random Forest algorithm has an accuracy of 90% and XG-Boost has an accuracy of 86% with a significance level of 0.846 ($p>0.05$) which shows that the hypothesis is insignificant and is carried out using an independent sample T-test. Conclusion: Random Forest and xgboost are also excellent machine learning algorithms that can be used to predict personality for the given dataset but novel random forest algorithm has more accuracy value when compared with xgboost algorithm.

Keywords— *Random Forest Algorithm, Novel XGBoost Algorithm, Ensemble Learning, Decision Tree, Gradient Boosting, Quality Jobs.*

Uplink Multiuser Scheduling in Cognitive Radio Network Using Group-Based SVM Scheduling and Comparing with a Linear Classifier

Bhuvanesh Pamidakula, P.Shyamala Bharathi

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University

Abstract—To study the uplink multiuser scheduling in cognitive radio networks using group-based SVM scheduling and compare it with a linear classifier utilizing the machine learning approach. Materials and Methods: The performance analysis for improving accuracy in uplink multiuser scheduling in cognitive radio network using the Novel group-based SVM scheduling ($N=10$) compared with a linear classifier ($N=10$). Calculation is used to calculate the sample size. G power of 0.80 with pre-test power of 0.80 and alpha of 0.05. Result: The mean throughput of the group-based SVM scheduling, at 89.33%, is significantly higher than that of the linear classifier Algorithm, at 81.52%. Despite the insignificance, the accuracy and loss rate was 0.77 ($p>0.05$). Conclusion: The novel group-based SVM scheduling algorithm outperforms the linear classifier Algorithm in terms of mean throughput.

Keywords: *Cognitive Radio Network, Signal-to-Noise Ratio, Novel group-based SVM scheduling, Spectrum Sensing, Channel Capacity, Machine learning*

Partially Shaded PV Powered Bridgeless Quadratic DC-DC Chopper with Smart Electrified Stand-alone Drive

Dr.M.Sasikumar,

Principal, Jeppiaar SRR Engineering College, Chennai.

Abstract—The Partially Shaded Photovoltaic System (PSPS) can be implemented in Stand-Alone Villages (SAV) with magnifying demanded electricity with high input power factor and combined reliability with compact connectivity in specified applications. MATLAB simulink model can be simulated for the demanded parameter in the correlated hardware implementation. The input voltage, current and power factor of the standalone system can be analyzed with required inverter configuration and parameterized analysis to be helpful in the preventive as well as protective village electrification system. Rectified Solar PV System Voltage (RSPVSV) is again configured with proper chopper circuitries and inductive capacitive filtered. The magnified voltage should be improved in the creative triggered inverter with suitable power electronic constructions. The harmonic fundamentals may be focused in the delay of inverter as well as rectification with delay angle of $\alpha = 90$ degree and $\alpha = 60$ degree .The derived voltage and current from Solar PV System (SPVS) is correlated with combined power circuitries in the stand-alone villages.

Indexterms:- Partially Shaded Photovoltaic System (PSPS), Stand-Alone Villages (SAV), Rectified Solar PV System Voltage (RSPVSV), Solar PV System (SPVS), Green Energy Initiatives (GEI), Electrical Power Economic Promotion Reliability (EPEPR), Light Emitting Diode (LED), Insulated Gate Bipolar Transistor (IGBT).

Detection Of Steatosis Disease Using Region Based Segmentation of Growcut Algorithm and Comparing with Region Growing Algorithm to Enhance the Accuracy

M.Ahamed Mansoor, N.Nalini

Saveetha School of Engineering

Abstract—To detect steatosis disease using region based segmentation of growcut algorithm and comparing with the Region Growing Algorithm. Materials and Methods includes steatosis disease images, growcut algorithm and Region Growing Algorithm. The images were segmented using the growcut algorithm and the accuracy of the segmentation was compared with the Region Growing algorithm. The segmentation process was done by using MATLAB Software in the digital image processing lab and the total sample size for the 2 groups is 40 and the sample amount is 20. The results showed that the growcut algorithm was more accurate than the region growing algorithm for segmenting the steatosis disease images. The conclusion is that the growcut algorithm is a better method for segmenting the steatosis images than the Region Growing Algorithm. The accuracy of the growcut algorithm was higher than that of the Region Growing Algorithm. Thus, this is recommended as a better segmentation method for steatosis images.

Keywords- Steatosis, Fatty liver disease, growcut algorithm, Region Growing algorithm, Fatty liver images.

FPGA Implementation of Novel Triple Data Encryption Standard for High Speed Network Security Comparison with DES

M Siddhardha , P Jagadeesh

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University

Abstract—This research presents the implementation of Novel Triple Data Encryption Standard (Novel Triple DES) on Field-Programmable Gate Arrays (FPGAs) for high-speed network security. The proposed implementation is compared with the traditional Data Encryption Standard (DES) to demonstrate the improved security and performance of Novel Triple DES. Materials and Methods: The proposed Novel Triple DES implementation on FPGAs is tested using a Xilinx Virtex-7 device and compared to the traditional DES algorithm using simulation tools and performance metrics, such as encryption/decryption time and time delay analysis. The implementation requires a computer with VHDL synthesis tool and Modelsim software. The encryption and decryption processes are implemented in VHDL, while the key generation is executed using Modelsim. A time delay analysis and power consumption was conducted using 10 sample data sets, with an equal number of samples from two groups, and the results were compared using G-power with a 95% confidence interval. The research was conducted with alpha and beta set at 0.05 and 0.2. Results: In the proposed Novel Triple DES implementation, it was found that the time taken to encrypt a text data was 33.6 nanoseconds and the power consumed was 0.254 Watts. In comparison, the traditional DES algorithm had a time delay of 44.3 nanoseconds for text data encryption and consumed 0.467 Watts of power. The significance value obtained was 0.0249 which is ($P < 0.05$). Conclusion: These results demonstrate a significant improvement in terms of both processing speed and energy efficiency for the Novel Triple DES implementation compared to the traditional DES algorithm.

Keywords : Encryption, Decryption, Data Encryption Standard, Communication, Novel Triple DES, Cryptography, ModelSim, Delay, Power, Technology.

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0

Date : 06.04.2023

Time : 10.30 am - 12.00 pm

Mode of Presentation: Online**Venue: CSE Block- Hall -5****Session Chair:**

1. **Dr. B.Sreedevi**, Professor & Head , Sri Sai Ram Institute of Technology, Chennai.
2. **Dr.Safia Naveed**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	10.30am -10.45am	ICON23T160	Covid-19 Future Forecasting Using Supervised Machine Learning Models	Bassetti.Lakshmi lavanya Vemula.katyayani Dr.S.Jancy Dr. Viji Amutha Mary Dr.Mercy Paul Selvan Dr.S.Pushpa Latha
2	10.45am-11.00am	ICON23T161	Brain Tumour Detection From MRI Images Using Deep CNN	Dr. Josephin Shermila P
3	11.00am-11.15am	ICON23T162	Pneumonia detection from X-Ray images using convolutional neural networks	Dr. P. Josephin Shermila Alapati Devi Anusha Akila M Abirami. S
4	11.15am-11.30am	ICON23T163	False Detection For Online Reviews By Using Deep Neural Network	Libina M Logesh D
5	11.30am-11.45am	ICON23T166	Clogging-Free and Shortest-Safe Path Evacuation System Using IoT Devices	Libina M Sanjay K
6	11.45am-12.00pm	ICON23T167	Credit Card Fraud Detection Using Machine Learning Based On Support Vector Machine	T.Priyadarshikadevi E.Praveena S.Vanakavarayan V.Mathavan S.Prasanna K.Madhan

Covid-19 Future Forecasting Using Supervised Machine Learning Models

**Bassetti, Lakshmilavanya, Vemula.katyayani Dr.S.Jancy, Dr. Viji Amutha Mary.
Dr.Mercy Paul Selvan , Dr.S.Pushpa Latha**

Sathyabama Institute of Science and Technology,

Saveetha School of Engineering

Abstract— The outbreak of the unconventional coronavirus or COVID-19 is affecting the whole global in various parts of the arena and has resulted in hundreds of thousands of deaths. This stays an ominous public fitness caution and may be celebrated as certainly one of the largest pandemics in world history. This file targets to better recognize how special machine mastering fashions may be applied in actual-international situations. Apart from the global overall performance solution, this paper additionally analyzes the present day fashion or transmission pattern of Covid-19 in India. With the assist of datasets from the Ministry of Health and Family Welfare of India, this observe gives diverse tendencies and patterns located in one-of-a-kind parts of the arena. The statistics for the study became carried out for 154 days, that is, from January 22, 2020 to June 24, 2020. For further use the facts may be similarly analyzed and further outcomes received.

Keywords— *Forecasting, machine learning, deep learning,*

Brain Tumour Detection from MRI Images Using Deep CNN

Dr. Josephin Shermila P

R.M.K. College of Engineering and Technology

Abstract—The brain is one of the most important organs in humans. Abnormal growth in the brain occurs, which may be a tumor. In this world, humans in any age group suffer from brain tumors. Stress is also a cause of brain tumors. Early detection can cure completely, which became the main objective of the work. In this research work, brain tumor detection from its images is investigated. Experiments are done using deep learning, wherein a convolutional neural network is used. The brain is one of the active parts of the central nervous system. Detecting a tumor in the brain is very difficult as the size, shape, and location of the tumor differ for each individual. If the tumor is diagnosed and detected early, the chance of patients' treatment is very high. Normally, diagnosis is made using magnetic resonance imaging. Our methodologies predictive models obtained very promising visual and quantitative results at real-time speed.

Keywords— *CNN, Keras, convolutional layer, deep learning, Magnetic Resonance Imaging.*

Pneumonia Detection from X-Ray images Using Convolutional Neural Networks (CNNs)

Dr. P. Josephin Shermila, Alapati Devi Anusha, Akila M, Abirami.S

R.M.K College of Engineering

Abstract—Pneumonia is an infection that inflames the air sacs in one or both lungs. It makes the lungs' air sacs, or alveoli, swell with fluid or pus. Pneumonia may be caused by bacteria, viruses, or fungi. From an estimate it estimated that 450 million individuals worldwide contract pneumonia every year, making it one of the most common respiratory infections. Mild to severe symptoms might range from having a cough that produces mucus (a sticky substance), to having a fever, chills, and difficulty breathing. Your age, general health, and the cause of your illness all affect how serious your case of pneumonia is. During 2020, COVID pandemic, pneumonia had been a life-threatening disease. Many people have expired during the COVID crisis. However, 50% of the people full of COVID were recovered by medication. On the opposite hand people faced with pneumonia, if tormented by COVID -19 hopelessly lost their lives. The patients littered with pneumonia were 54.64% among severe COVID-19 cases and 5% among mild to moderate COVID-19 cases.

Keywords – Machine Learning, CNN, ANN.

False Detection for Online Reviews by Using Deep Neural Network

Libina M, Logesh D

IFET College of Engineering

Abstract—Online reviews usually have the most significant impact on a customer's decision to buy a good or service. Therefore, manufacturers and retailers are anxious and concerned about customer feedback and reviews regarding this critical component and its impact on items. Unfortunately, the greater reliance on online reviews has an immediate effect on product sales since it may encourage false reviews that promote or disparage the goods and services. Opinion (Review) Spam happens when spammers fabricate and manipulate negative and false reviews to make money or gain an advantage. Machine learning approaches for categorization, and evolutionary algorithms for feature selection are used to extract meaningful information from text. Supervised learning techniques, which need labelled data, have been the focus of the most recent research. However, there needs to be more when addressing online review spam. Customer reviews on a product are becoming exponentially in number. The integrity of online opinions is a serious issue that is routinely disregarded. To make appropriate and accurate decisions or to gather marketing and commercial knowledge, it is crucial to have a technique for evaluating the trustworthiness of reviews. The product manufacturer gains knowledge about the benefits and drawbacks of their own and their competitors' goods, as well as consumer preferences and interests, which may help them decide how to maximise profits. Furthermore, it's crucial to find trust worthy consumer reviews. Bio-inspired algorithm-based feature selection is proposed to address the problem of categorising spam reviews.

Keywords— Machine Learning(ML), Support Vector Machine (SVM), Deep Neural Network(DNN), Weighted Average Mark(WAM), and Nota Bene(NB).

Clogging-Free and Shortest-Safe Path Evacuation System Using IoT Devices

Libina M, Sanjay K

IFET College of Engineering

Abstract— The Early Evacuation System (EES) that have described is a for how technology can be utilized to enhance public safety and mitigate the risks associated with emergencies in tall structures. The integration of the Internet of Things (IoT) and sensors can enable early detection and monitoring of potential hazards, while the warning siren and mobile app can quickly communicate the necessary information to people in the building. By leveraging the EES, people can be alerted to the presence of an emergency and provided with clear instructions for safe evacuation, minimizing the risk of harm and reducing the number of casualties. Additionally, the EES can facilitate a more efficient evacuation process, which is especially critical in high-rise buildings where time is of the essence. It is important to note that the successful implementation of the EES requires the collaboration and participation of all stakeholders involved, including building owners, occupants, and emergency response teams. Regular training and practice drills should be conducted to ensure that people are familiar with the system and know how to respond in the event of an emergency. The EES is a promising solution that can greatly enhance public safety in tall structures. By leveraging technology and IoT, it can provide early detection, warning, and communication capabilities that can reduce the risk of harm and save lives during emergencies.

Keywords—Internet of Things, Guidance Routing, Emergency Evacuation, Shortest Safe Path, Clogging Frer

Credit Card Fraud Detection Using Machine Learning Based On Support Vector Machine

T.Priyadarshikadevi, E.Praveena S. Vanakavarayan, ,V.Mathavan, S.Prasanna , K.Madhan

Mailam Engineering College, Mailam

Abstract—The usage of machine learning algorithm in the detection of fraudulent transactions is becoming more common. Most application systems, on the other hand, only catch fraudulent activity after it has already taken place, rather than in real time. Detecting fraud is difficult because there are considerably fewer erroneous transactions than legitimate ones. This data imbalance necessitates methods other than machine learning to handle it. Quantum machine learning (QML) has been used to develop a detection framework, which was then, implemented using SVMs supplemented with quantum annealing solvers. A total of twelve machine learning algorithms have been applied to test QML's detection capability, and their results have been compared to those of the QML application on two datasets: a non-time series of Israeli credit card transactions and a time series of Israeli bank loan applications. The results reveal that, using the bank loan dataset, the quantum augmented SVM overtakes the others in relationships of both speed and accuracy. The detection accuracy is comparable to those that use Israel credit card transaction data. By the detection time can be greatly improved for both datasets by using feature selection, although the increase in accuracy is minor. QML applications on time series data with significant imbalance have been shown to have promise, whereas standard machine learning methodologies have been shown to have worth when dealing with non-time series data, as these results show. This research sheds light on how to choose the best technique for various datasets while keeping in mind the trade-offs between speed, accuracy, and price.

Keywords— Fraud detection, deep learning, machine learning, CCF.

PROGRAMME SCHEDULE (ICONSTEM 2023)***Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0***

Date : 06.04.2023

Time : 12.45 pm - 3.00 pm

Mode of Presentation: Online**Venue: CSE Block- Hall -5****Session Chair:**

1. Dr. Amirthalakshmi.T.M , Assistant Professor, SRM Institute of Science & Technology, Chennai.
2. Dr.Safia Naveed, Assistant Professor, Jeppiaar Engineering College, Chennai.

z	Time Schedule	Conference Id	Paper Title	Authors
1	12.45pm – 1.00pm	ICON23T168	Leaf Disease Detection Using Machine Learning Algorithm	T.Priyadarshikadevi R.Ananthi R.Mohan T.Ragupathi S.Prasanna K.Madhan
2	1.00pm – 1.15pm	ICON23T169	A IOT Edge Advanced VANET Technique for Vehicle Communication and Improve Safety in Hill Station Critical Scenario	Murali N D. Beulah David
3	1.15pm – 1.30pm	ICON23T170	Automated Framework For Effective Identification of Oral Cancer Using Improved Convolutional Neural Network	Manikandan J Brahmadesam Vishwanathan Krishna Varun N Vishal Yugant.S
4	1.30pm – 1.45pm	ICON23T172	Leveraging Blockchain Technology to alleviate Problems of Music Industry	J. N. Benedict H. D. Zafar Sadik S. Vikram Krishna P. Vishva Prasad
5	1.45pm – 2.00pm	ICON23T173	Handwritten Text Recognition using Machine Learning and Deep Learning	Sudarchanan MS Sujan G Akila Devi R
6	2.00pm – 2.15pm	ICON23T175	Speech Recognition using Quantum Convolutional Neural Networks	Thejha B Yogeswari S Vishalli A Jeyalakshmi J
7	2.15pm – 2.30pm	ICON23T176	Flight Ticket Prediction Using Gradient Boosting Regressor Compared With Linear Regression	N.Sri Sai Venkata Subba Rao S.John Justin Thangaraj V Sheeja Kumari
8	2.30pm – 2.45pm	ICON23T177	Flight Ticket Prediction using Gradient Boosting Regressor Compared with AdaBoost Regressor	N.Sri Sai Venkata Subba Rao S.John Justin Thangaraj V Sheeja Kumari
9	2.45pm – 3.00pm	ICON23T178	Anomaly Detection for Vertical Plant Wall System using Novel Support Vector Machine in Comparison with Artificial Neural Network for improving accuracy	M. Meghana S. Radhika V Sheeja Kumari

Leaf Disease Detection Using Machine Learning Algorithmn

T.Priyadarshikadevi , R.Ananthi, R.Mohan ,T.Ragupathi,S.Prasanna, K.Madhan

Mailam Engineering College, Mailam

Abstract—Agriculture plays a significant part in a developing country like India. Agricultural intervention in rural India's livelihood accounts for around 58% of the total. The production of the crop is affected by different diseases in plants. Plant diseases are one source of obstructing plant quality and productivity, leading to a food supply crisis. As a result, the classification of plant diseases is critical in the agriculture industry. Early detection of the plant disease may reduce crop yield loss; hence, in this system, image processing, and machine learning algorithm is used to classify the plant leaf disease recognition is presented. This system uses the Plant Village dataset, which comprises apple, corn, grape, and tomato plant leaves with healthy and diseased categories. The texture and shape features are extracted from the plant leaf and classified using a decision tree and Gradient boosting algorithm. The performance of the system is evaluated using the accuracy parameter.

Keywords— *Decision tree, GLCM, Machine Learning, Plant disease detection, SVM.*

A IOT Edge Advanced VANET Technique for Vehicle Communication and Improve Safety in Hill Station Critical Scenario

Murali N, D. Beulah David

Saveetha School of Engineering, SIMATS

Abstract—The safety of the vehicles is given great importance by advanced intelligent transportation systems. We are here to make sure that swift transit vehicles and infrastructure communicate with one other quickly. The majority of the vehicles need regular monitoring for appropriate warnings and road maps to achieve their ultimate objective in a timely manner in the hill station bad environment, and travel in hairpin bends and risky turning in particular is a duty that is vital for ITS. Here, my study will provide a strategy for preventing accidents by applying a sophisticated early warning system before notifying the car in a certain circumstance. In order to prevent accidents, machine learning is a technique where the system automatically learns and enhances the rapid object detection stage in bobby pin road turning scenarios. Here, my study offers effective unsupervised learning of these characteristics based on the acquired data, which in turn serves as the foundation for the clustering I performed, which successfully builds a mobile ad hoc network. In this work, we suggested an innovative automated discovering vehicle prior that uses the UNetXST technique in real-time to notify warring for vehicle in three-way shining LED light with blinking mode, slowing warring message in display unit, and beep alarm sound. By combining V2I and V2V technologies and sending messages to the central traffic light management system, we highlighted safety and communication. In worst-case scenarios, we employ a v2v technology sensor to detect the vehicle that will cross the junction road, and we investigate two-way merging technology's potential to implement and resolve these problems in transparent object tracking in the turning system. We looked at future direction and hurdles at this time in addition to a case study illustrating a VANET-based scenario of a critical urban road turning, receiving the earliest notice to flee from a traffic collision, and experiencing the perfect EV moment.

Keywords— *IOT, EM root map, VANET, rapid warning system, object dedication, wireless network, and Intelligent Transport System*

Automated Framework for Effective Identification of Oral Cancer Using Improved Convolutional Neural Network

Manikandan J , Brahmadesam Vishwanathan Krishna, Varun N, Vishal V,Yugant S

Rajalakshmi Engineering College

Abstract—Oral cancer is one of the most prevalent cancers worldwide, influencing and originating from the mouth and neck, and its prevalence is rising in many communities. Tobacco usage and smoking cigarettes are the leading causes of mouth cancer. A major issue continues to be the high incidence rate, delayed diagnosis, and inadequate treatment planning. Early diagnosis is crucial for a better prognosis, course of therapy, and chance of survival. Machine learning techniques have been hailed for improving diagnosis, which would subsequently reduce cancer-specific mortality and morbidity. In order to provide the effective identification of oral cancer, numerous machine learning algorithms have been used over the decade. Though machine learning algorithms are producing high level accuracy in classification task, but feature extraction is quite limited. Hence our current research utilised deep learning approach and developed the automated framework which encompasses of Pre-processing, feature extraction and classification. For effective pre-processing, contrast-limited adaptive histogram equalization (CLACHE) is used, which helps to intensify the contrast property over images and transforms the images into higher resolution. Then Gray Level Cooccurrence Matrix (GLCM) is used for feature extraction which helps to determine the features with respect to statistical texture. Finally Improved version of Convolutional Neural Network (ICNN) were employed for effective categorization of oral cancer. For analyzing the performance of developed framework, an oral cancer dataset has been used which was extracted from Kaggle Repository. Also, comparison has been made with various high performance existing approaches. As a result, our proposed framework achieves the accuracy of 97.32%, which was comparably better result than existing state-of-art approaches.

Keywords— *Machine Learning, Deep Learning, CLACHE, GLCM, ICNN.*

Leveraging Blockchain Technology to alleviate Problems of Music Industry

J. N. Benedict1, H. D. Zafar Sadik, S. Vikram Krishna, P. Vishva Prasad

Rajalakshmi Engineering College,

Abstract—The transition from sales to streaming began with the debut of Spotify, and the context of income-generated streams in the music industry has been sporadically examined. The music that artists have produced has greatly enriched people's lives. Despite the industry's record-breaking earnings, musicians are concerned about the reduced royalties they receive. When artists release their works, the majority of people download and reproduce them, raising copyright concerns as well as issues with music sharing. Furthermore, it is getting harder and harder to comprehend how royalties are calculated in the music business. This will have a hugely detrimental effect on the passion and motivation of artists. This article analyses fundamental problems in the music industry and suggests a solution that tries to address these problems. The solution uses a smart contract to quickly and effectively pay musicians' royalties by keeping music-relevant information on the blockchain network. Our solution makes it easier for copyright income to be awarded to artists, which will aid in preventing the illicit uploading of music to other platforms.

Keywords: *Blockchain, Music, Ethereum, Copyright, Music industry.*

Handwritten Text Recognition using Machine learning and Deep Learning

SudarchananMS, Sujan G, Akila Devi R

Rajalakshmi Engineering College.

Abstract—A new area of computer vision is character recognition. A common research topic is the growing use of digital and modern technologies in practically all industries and daily activities to store, transmit, and recognise handwritten characters for usage in digital formats. Any style of handwriting can be recognised by people. The handwritten transcription cannot actually be recognised by the machine. We require the computer to recognise the handwritten text because of this. A computer system may recognise and digitize handwritten input from sources including pictures, handwritten documents, and other sources of text by using handwritten character recognition. The development is based on a machine learning and artificial intelligence subfield known as deep learning. There are many different approaches and strategies used to construct handwritten character recognition systems. Yet, only few of them concentrate on neural networks. Compared to earlier methods, the use of neural networks for handwritten character recognition is more efficient. The Handwritten Character Recognition System is described in this system, along with its architecture, design, and testing procedures. The objective is to show how well neural networks recognise characters in handwritten text. In order to read handwritten notes from students and instructors, this system will report on the development of a handwritten character recognition system. This system turns a handwritten transcription's image into a digital text

Keywords – Convolutional Neural Network (CNN).

Speech Recognition Using Quantum Convolutional Neural Network

Thejha B, Yugeswari S, Vishalli A Jeyalakshmi J

Rajalakshmi Engineering College.

Abstract—Quantum machine learning (QML) has emerged as an exciting new technology that explores challenging machine learning issues by relying on advances in quantum computing. A convolutional neural network is primarily used in the classical portion of the QNN-based Speech Recognition System, which is made up of both classical and quantum components. The quantum component is based on the equation's quantum circuits with a certain learnable parameter. Speech recognition technology is one of the quickly evolving technologies, along with Siri on the iPhone, chatbots, Alexa on the Amazon Echo, etc... The research uses a quantum convolutional neural network (QCNN) to identify voice and convert it to text. The use of Quantum filters will reduce the input into qubits and then it will be further moving into the feature extraction and classification process. QCNN gives more accurate results and will increase the scalability by adding more layers into the model

Keywords— QML, QNN, QCNN, Qubits.

Flight Ticket Prediction Using Gradient Boosting Regressor Compared With Linear Regression

N.Sri Sai Venkata Subba Rao, S.John Justin Thangaraj, V Sheeja Kumari,

Saveetha School of Engineering,

Saveetha Institute of Medical and Technical Sciences

Abstract—The purpose of this project is to predict airfare for ticket bookings using the Gradient Boosting. Regression device learning is the set of rules as opposed to a brand new linear regression. Materials and Methods: New Linear Regression Algorithm (with a sample size of ten) and Gradient Boosted Regression (with a sample size of ten). These algorithms are calculated on this picture using a total of 20 examples for the algorithm, and there are two firms that are used to calculate them. The size of the sample was determined to be 10, and it was compared with a group using a G Power value of 80%. Results: Values achieved in terms of accuracy are decided by Gradient Boosting regression (82.5%), as opposed to new Linear Regression (62.5%). This is because Gradient Boosting regression is more accurate than new linear regression. In a test with one tail, the statistically significant difference between the new linear regression algorithm and the Gradient Boosting Regressor was found to be 0.00. This result was obtained With in Significance level of p 0.05. Conclusion: After going through all of the methods, it has been determined that the airfare forecast is more accurate than the brand new linear regression. This was revealed after going through all of the procedures.

Keywords- Reliability, Machine Learning, Gradient Boosting Regression, Novel Linear Regression, Flight Ticket Prediction, Flight Fare, and Flight Fare Prediction.

Flight Ticket Prediction using Gradient Boosting Regressor Compared with AdaBoost Regressor

N.Sri Sai Venkata Subba Rao, S.John Justin Thangaraj, V Sheeja Kumari

Saveetha School of Engineering,

Saveetha Institute of Medical and Technical Sciences

Abstract—To use GradientBoosting Regression instead of AdaBoostRegressor to predict flight prices. Materials and Methods: Gradient Boosting Regression (N=10) and AdaBoostRegressor method (N=10) results are computed using 2 groups and 20 samples for algorithm and accuracy. The sample size (N) was 10 per group with a G Power value of 80%. Results: GradientBoosting Regression (82.5%) outperforms AdaBoostRegressor (48.7%) in accuracy. GradientBoosting Regressor and AdaBoostRegressor had a 0.00 2-tailed test difference ($p < 0.05$). Discussion and Conclusion: GradientBoosting Regression's novel flight price prediction seems more effective than AdaBoostRegressor after all the processes.

Keywords— Machine Learning (ML), GradientBoosting Regression, AdaBoostRegressor, Flight Ticket Prediction, Novel Prediction, Flight Fare.

Anomaly Detection for Vertical Plant Wall System using Novel Support Vector Machine in Comparison with Artificial Neural Network for improving Accuracy

M. Meghana, S. Radhika , V Sheeja Kumari

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University

Abstract—New Support Vector Machine and Artificial Neural Network are used to construct a plant wall system for indoor climate management. Materials and Methods: To detect indoor climatic changes in vertical plant wall systems, a Machine Learning Method that compares Artificial Neural Network and Innovative Support Vector Machine was created. The G Power calculator yielded 534 samples. 1068 samples and 80% Pretest Power. Results: Innovative Support vector machine had the highest accuracy in indoor changes at 68.42% and the lowest mean error at 58.58%. Groups are statistically insignificant. Conclusion: New Support Vector Machine technique outperforms Artificial Neural Network in indoor control.

Keywords— *Anomaly Detection, Artificial Neural Network, Indoor Climate Control, Machine Learning, Novel Support Vector Machine, Plant Recognition System.*

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0

Date : 06.04.2023

Time : 10.30 am - 12.00 pm

Mode of Presentation: Online**Venue: CSE Block- Hall -6****Session Chair:**

1. Dr.Mohammad Faseehuddin, Assistant Professor, Symbiosis Institute of Technology, Pune.

2. Mrs.Jeevitha, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	10.30am -10.45am	ICON23T179	Anomaly Detection for Vertical Plant Wall System using Novel Support Vector Machine in comparison with Linear Regression for improving accuracy	M. Meghana S. Radhika V Sheeja Kumari
2	10.45am-11.00am	ICON23T180	Improved Accuracy for exploring text-based emotion recognition in social media conversation Generalized linear model compared with Random Forest	K. Likhitha K. Sashi Rekha S Ramesh
3	11.00am-11.15am	ICON23T182	Improved Accuracy for Exploring Text-Based Emotion Recognition in Social Media Conversation Generalized Linear Model Compared with Decision Tree	K. Likhitha K. Sashi Rekha M.Kalaiyarasi
4	11.15am-11.30am	ICON23T183	Improving Efficiency in Anticipating the spread of Covid based on Geographical Location Identification over Online Social Network Analysis using Novel Logistic Regression Algorithm comparing Random Forest Algorithm	Arani Girish A. Shri Vindhya M.Kalaiyarasi
5	11.30am-11.45am	ICON23T184	Detecting Cyber bullying Behavior in Cyber Data using Bagging Classifier and Comparing its Capability over Support Vector Machine Algorithm	P. Pavan V S N Manikanta Dr.R.Bhavani Dr. K. Anbazhagan
6	11.45am-12.00pm	ICON23T185	Classification of Newspaper Article Classification by Employing Support Vector Machine in Comparison with Perceptron to Improve Accuracy	Manoj.V Devi.T Dr.K.Anbazhagan

Anomaly Detection for Vertical Plant Wall System using Novel Support Vector Machine in comparison with Linear Regression for improving accuracy

M.Meghana , S.Radhika , V Sheeja Kumari

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University,

Abstract—The purpose of the study and the goal is to create a plant wall system that can regulate the temperature and humidity of an interior environment by utilising a novel support vector machine in contrast to linear regression. Materials and the Methods: In order to identify the alterations in the indoor climate that are caused by vertical plant wall systems, a Machine Learning method for the regulation of indoor changes has been presented and developed. Results: This method compares Linear Regression with Novel Support Vector Machine. The number 534 was selected as the size of the sample after being calculated with the G Power (80%) calculator. The total number of samples utilised is 1068. The results showed that the Novel Support Vector Machine had the highest accuracy in predicting indoor changes (68.42%), while Linear Regression had the lowest mean error (52.46%), and the significant value was 0.543. It demonstrates that there is no statistically significant difference between the groups. Conclusion: When it comes to accuracy in indoor control, the cutting-edge Support Vector Machine technique outperforms the more traditional Linear Regression method.

Keywords— *Anomaly Detection, Indoor climate control, Linear Regression, Machine Learning, Novel Support Vector Machine, Plant wall system*

Improved Accuracy For Exploring Text - Based Emotion Recognition In Social Media Conversation Generalized Linear Model Compared With Random Forest

K. Likhitha , K. Sashi Rekha, S Ramesh

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University,

Abstract—The primary goal of this research was to evaluate the efficacy of the New Generalized Linear Model (GLM) and the Random Forest Algorithm in identifying the sentiment of social media posts. Materials and Methods: We estimate numerous times using the Generalized Linear Model with a sample size of 10, and using the Random Forest with a sample size of 10, to predict with an accuracy of 93.01%. Results: In this study, the accuracy of the Generalized Linear Model (GLM) Algorithm was found to be 70%, which is significantly higher than the accuracy of the Random Forest Algorithm (85.18%). With a pre-test probability of 80%, $p=0.824$ ($p<0.005$) is not statistically significant. Conclusion: In summary, the Generalized Linear Model (GLM) outperformed the Random Forest algorithm when it came to examining text-based emotion recognition in social media interaction.

Keywords— *Novel Generalized linear model, Random Forest, Machine Learning, Emotions, Social media, covid, sentiment.*

Improved Accuracy for Exploring Text - Based Emotion Recognition in Social Media Conversation Generalized Linear Model Compared with Decision Tree

K. Likhitha 1 , K. Sashi Rekha 2 , M.Kalaiyarasi

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University,

Abstract—The objective of this work is text-based emotion recognition of social media conversation by comparing Novel Generalized linear model (GLM) and Decision Tree Algorithm. Materials and Methods: The Generalized linear model sample size=10 and Decision Tree sample size=10 the estimation has been done iteratively to obtain the accuracy of 98.01% Results: Generalized linear model(GLM) methodology produced better accuracy of 93.01% when correlated with the Decision Tree accuracy algorithm. In this experiment, $p=0.828$ ($p < 0.05$) it is statistically insignificant parameter with a pretest power of 80% is used. Conclusion: For exploring text - based emotion recognition in social media conversation the Generalized Linear Model (GLM) performed significantly with better accuracy than Decision Tree algorithm.

Keywords— *Generalized linear model, Decision Tree, Machine Learning , Emotion, Social media, covid, sentiment.*

Improving Efficiency in Anticipating the spread of Covid based on Geographical Location Identification over Online Social Network Analysis using Novel Logistic Regression Algorithm comparing Random Forest Algorithm

AraniGirish A. Shri Vindhya, M.Kalaiyarasi

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—The purpose of study is to intensify the efficacious percentage of identifying a geographic place to alleviate impact of covid 19 utilizing machine learning heuristic by correlating novel LR and RF algorithm. Materials and Methods: LR and Forest Methodology with sample size of 10, G-power (0.8) has been forecasted numerous times to determine the performance percentage. The weights and configurations of Logistic Regression are used to assess it. Results and Analysis: LR algorithm has good efficiency (53%) in comparison to RF Algorithm efficiency (27%). The outcomes obtained with $p=0.501$ ($p > 0.05$) significance value show that two groups are relatively irrelevant. Conclusion: The LR algorithm outperformed the RF algorithm by a wide margin.

Keywords- *Novel Logistic Regression Algorithm, Random Forest Algorithm, Covid, Geographical Location Identification, Covid Hotspot.*

Detecting Cyberbullying Behavior in Cyber Data using Bagging Classifier and Comparing its Capability over Support Vector Machine Algorithm

P. Pavan V S N Manikanta, Dr.R.Bhavani , Dr. K. Anbazhagan

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University

Abstract—The suggested research will attempt to perform novel cyberbullying detection by classifying between offensive and non-offensive tweets from Twitter and from its dataset using Bagging Classifier and Support Vector Machine. Materials and Methods: A dataset of abusive and non-offensive tweets is used to develop the Bagging Classifier. Bagging Classifier uses and develops a machine learning method to identify tweets as offensive or not. The sample size was calculated to be 40 per set, and the quality was verified and recorded using Gpower of 80%. Results: The accuracy was maximum in classifications of offensive and non-offensive tweets using Bagging Classifier (94.2%) with a minimum mean error and compared to Support Vector Machine (89.4%). The differences between the classifiers are statistically negligible ($p=0.44$). Conclusion: In the classification of offensive and non-offensive tweets, the study shows that the Bagging Classifier algorithm outperforms the SVM approach.

Keywords— *Support Vector Machine, Bagging Classifier, Novel Cyberbullying Detection, Machine Learning, Tweets, Classification*

Classification of Newspaper Article Classification by Employing Support VectorMachine in Comparison with Perceptron to Improve Accuracy

Manoj.V , Devi.T , Dr. K. Anbazhagan

Saveetha School of Engineering

Abstract—The study's goal is to carry out text classification analysis. Materials and Methods: Accuracy is analyzed for text classification. It helps to organize the data entry data. The perceptron is mainly classified into two parts of data. Inaccurate newspaper articles have a low text classification accuracy rate and the classification is performed in various sectors in text analysis. Analysis of news articles is used to identify the text analysis whether the text in the article is negative or positive impressions are neutral and to identify the accuracy comparison between SVM and perceptron. Classification of text is performed on SVM statistical distribution of ($N=42$), acquired by statistical power at a rate of 80%. Results: The SVM's accuracy is 82.71%, which is higher than the Perceptron's (PER) accuracy of 75.86%. The significant value for accuracy is 0.196 ($p>0.05$). Conclusion: SVM performs better inaccuracy with the comparison of the perceptron. We can predict that the support vector machine which was proposed had better accuracy than the existing system perceptron.

Keywords- *Machine Learning (ML), Novel Text Classification, Perceptron (PER), Support Vector Machine (SVM), Text Analysis, Article classification*

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0

Date : 06.04.2023

Time : 12.30 pm - 3.00 pm

Mode of Presentation: Online

Venue: CSE Block- Hall -6

Session Chair:

1. Dr.P.Jagadeesh, Assistant Professor, Saveetha School of Engineering, Chennai.

2. Mrs.Jeevitha, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	12.45pm – 1.00pm	ICON23T186	Iris Flower Species Identification Using Support Vector Machine Over Logistic Activation Function	Bhavanam Bhavya Sri S. Sridhar
2	1.00pm – 1.15pm	ICON23T187	Accurate Short Text Classification for Improving Accuracy by using Bi-LSTM in comparison with LSTM	Krishan Reddy Devi.T
3	1.15pm – 1.30pm	ICON23T188	An Intelligent Traffic Management System in Vehicle-to-NH Road (V2N) using Dynamic Optimal Random Access (DORA) protocol in comparison with Zone Routing Protocol (ZRP) to Improve Packet Delivery Ratio	C.Sai raghavendra N.Deepa
4	1.30pm – 1.45pm	ICON23T189	Accurate SMS Spam Detection Using Support Vector Machine in Comparison with Logistic Regression	Ram Bheemesh.K Deepa.N
5	1.45pm – 2.00pm	ICON23T190	A Novel Host Based Intrusion Detection System using Supervised Learning by Comparing SVM over Random Forest	N. Hemanth Kumar R. Dhanalakshmi
6	2.00pm – 2.15pm	ICON23T191	An Effective Approach for Newspaper Article Classification using Multi-Class Support Vector Machine in Comparison with Binary Classifier to improve Accuracy	Manoj.V Devi.T
7	2.15pm – 2.30pm	ICON23T192	Analysis of Handwritten Equation Recognition System for Comparing Decision Tree and support Vector Machine Algorithm	P Jyothsna, R. Dhanalakshmi
8	2.30pm – 2.45pm	ICON23T193	Detection of Plant Disease using ResNet framework in Comparison with Neural Network Classifier to Improve Classification Accuracy	Nindra Chandu N. Bharatha Devi
9	2.45pm – 3.00pm	ICON23T194	Improved Prediction Accuracy of House Price Using Decision Tree Algorithm over Linear Regression Algorithm	Pammi Chandu N. Bharatha Devi

Iris Flower Species Identification Using Support Vector Machine Over Logistic Activation Function

Bhavanam Bhavya Sri , S. Sridhar

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University

Abstract—The primary objective of this study is to determine which iris flower species can be classified using support vector machines (SVM) rather than logistic activation functions (LAF). Both the Materials and the Methods: This research effort makes use of Support Vector Machines as well as Logistic Activation Function. The number of samples needed for the pretest power analysis is computed to be 10 for each group, with a g power of 80%, a threshold of 0.05%, and a confidence interval of 95%. Results: We utilised Novel SVM to analyse the dataset, and it was able to detect network anomalies with an accuracy of 98.64%, which is significantly greater than the accuracy of 97.86% that Logistic Activation Function achieved. The significance level of 0.027 (P less than 0.05) indicates that there is a statistically significant difference between two groups. When compared to Logistic Activation Function, Novel Support Vector Machines have been shown to have superior performance in terms of accuracy in discovering support vectors.

Keywords— *Logistic Activation Function, Petal Width, Petal Length, Sepal Length, Sepal Width, Support Vector Machine.*

Accurate Short Text Classification for Improving Accuracy by using Bi-LSTM in comparison with LSTM

Krishan Reddy, Devi.T

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University

Abstract—Improvement of accuracy is the goal in every term consisting text methods by using Bi-LSTM and to perform comparison with LSTM. For the short text classification, the proposed system Bi-Directional Long Short Term Memory will have a comparison with Long Short Term Memory as well as result becomes decided by major roles. Machine Learning algorithms based Bi-LSTM (N=26) and LSTM (N=26) were used for the implementation of the research. The research work uses 52 samples for testing. The test is calculated using two groups which are associated with the value of G power 80%. Statistical analysis for two groups is considered where SPSS software is utilized for observing the performance. The comparison shows that Bi-LSTM has better mean accuracy taking value as 85.62% when compared with LSTM where mean accuracy produced is 78.15% with significant value takes 0.302 ($p>0.05$). Bi-LSTM has better accuracy than the LSTM while considering the results obtained from experiments.

Keywords— *Bi-directional Long Short Term Memory, Long Short Term Memory, Machine Learning, Natural Language Processing (NLP), Novel Short Term Classification, Recognition.*

An Intelligent Traffic Management System in Vehicle-to-NH Road (V2N) using Dynamic Optimal Random Access (DORA) protocol in comparison with Zone Routing Protocol (ZRP) to Improve Packet Delivery Ratio

C.Sairaghavendra, N.Deepa

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—To find the traffic management system in Vehicle To NH Road to analyze packet delivery ratio using Dynamic Optimal Random Access in comparison with Zone Routing Protocol. Low Packet Delivery Ratio are performed with traffic dataset. classification of Dynamic Optimal Random Access protocol where a number of the samples are ($N=26$) and Zone Routing Protocol where a number of the samples ($N=26$) along with computation of G-power becoming 80%. Dynamic optimal random access packet delivery ratio is 16.19 which is comparatively higher than Zone Routing Protocol with the packet delivery ratio of 14.38 as well as taking the value related to significance as 0.457 ($p>0.05$) Dynamic optimal random access generates results better while comparing with Zone routing protocol.

Keywords— *Dynamic Optimal Random Access, Low Packet Delivery Ratio, Novel Traffic Management System, Vehicle to nth Road, Wireless Networking, Zone Routing Protocol.*

Accurate SMS Spam Detection Using Support Vector Machine in Comparison with Logistic Regression

Ram Bheemesh.K, Deepa.N

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—For performing SMS Spam Detection incorporating Support Vector Machine as well as logistic regression (LR) is done here. Depending on accuracy, analysis for sms spam detection dataset associated with 5573 sentences. Classification of sms spam detection is performed by a support vector machine whose sample takes ($N=27$) as well as Linear Regression whose sample takes ($N=27$), G-power generation is performed whose value takes 80%. SVM accuracy is 97.67% whereas LR takes accuracy to be 97.02%. Significant value of accuracy is 0.02 ($p<0.05$). SVM performs better in tracking down precision when contrasted with Logistic Regression.

Keywords— *Accuracy rate, Machine Learning, Logistic regression (LR), Novel SMS Spam detection, Support Vector Machine(SVM)*

A Novel Host Based Intrusion Detection System using Supervised Learning by Comparing SVM over Random Forest

N. Hemanth Kumar, R. Dhanalakshmi

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University

Abstract—In order to foresee future developments in host-based intrusion detection systems, this research compares the efficacy of SVM and Random Forest, two supervised-learning-based models. Classification is performed using an SVM algorithm with a sample size of $n = 10$ and a Random Forest algorithm with a sample size of $n = 10$, both with a g-power value of 80% and datasets collected from various web sources with recent study findings and threshold 0.05%, confidence interval 95% mean and standard deviation iterated 20 times to obtain data. For the implementation, a further test will be used. According to the data analysis, SVM outperforms Random Forest in terms of accuracy (95.89). (94.12). ($p > 0.05$) In this investigation, no significant differences were found between the groups. Support Vector Machine method outperformed the Random Forest method in the intrusion detection system

Keywords—Machine Learning, Logistic regression (LR), Random Forest.

An Effective Approach for Newspaper Article Classification using Multi-Class Support Vector Machine in Comparison with Binary Classifier to improve Accuracy

Manoj.V, Devi.T,

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University

Abstract—Machine. Materials and Methods: Accuracy stands as result for the classification of text analysis. Factual texts merely attempt to inform, whereas virtual texts try to amuse or combative readers by inventive language and imagination. The rate of correct classification of novel texts is low and classification occurs in the areas of text analysis and classification of multiple articles. The binary classification and the separation of data points into classes. The multiclass SVM is used for splitting the multiple into severely binary classification. The Novel Text Classification is checked by sample size ($N = 42$) Support Vector Machine obtained with G-Power taking value equal to 80%. Results: Accuracy is the outcome, Support Vector Machine accuracy rate is 82.71%, which is relatively higher than the Binary Classifier (BC) with 71.48%. Significance value accuracy becomes 0.101 ($p > 0.05$). Conclusion: SVM works and gets more accurate than the Binary Classifier. And this research is evaluated to predict accuracy for a system that is proposed Support Vector Machine is higher than existing comparison utilizing Binary Classifiers.

Keywords—Binary Classifier(BC), Machine Learning, Novel Text Classification, Support Vector Machine, TextAnalysis, Article classification

Analysis of Handwritten Equation Recognition System for Comparing Decision Tree and support Vector Machine Algorithm

P Jyothisna, R. Dhanalakshmi

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—The primary objective of this study is to compare and contrast the performance of the decision tree and support vector machine methods in the context of handwritten equation recognition and to present a fresh approach to this problem. Twenty iterations were performed using a (N=10) for SVM sampling and (N=10) at 80% g-power datasets gathered from a variety of web sources to obtain data in the decision tree technique. For implementation, the additional test will be utilized. Findings indicate that, contrasted with the Decision-making Tree Method (83.8%), the Support Vector Machine approach (91.0%) is more accurate. The statistical significance of the innovative handwritten equation recognition difference of 0.032 (p<0.05) indicates that the study's results are statistically significant. The outcomes proved that when it comes to handwritten equation recognition, the support vector machine technique is superior to the decision tree algorithm.

Detection of Plant Disease using ResNet framework in Comparison with Neural Network Classifier to Improve Classification Accuracy

Nindra Chandu, N. Bharatha Devi,

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University

Abstract—In order to reach the objective of enhancing the accuracy of plant disease diagnosis, the suggested study seeks to make use of ResNet as opposed to a New Neural Network classifier. This will be done in order to achieve the goal. In the process of identifying plant diseases, the algorithms ResNet (N=10) and New Neural Network classifier (N=10) are used as diagnostic tools. The sample size for each sample is determined with the use of a G power calculator, and the sample size that is taken into consideration for each sample is 10. The findings acquired by the New Neural Network classifier were only 90% accurate, while the ResNet approach displayed significantly greater performance, with an accuracy of 95%. This was in comparison to the results obtained by the New Neural Network classifier. A significant accuracy value of p=0.001 (p<0.05) was discovered to be acquired via the use of SPSS Statistical Analysis. This was proven to be the case. As compared to the New Neural Network classifier, the ResNet classifier performs much better when used to the categorization of plant diseases.

Keywords— *Plant Disease Detection, ResNet Framework, Novel Neural Network Classifier, Classification, Accuracy, Neural Network.*

Improved Prediction Accuracy of House Price Using Decision Tree Algorithm Over Linear Regression Algorithm

Pammi Chandu, N. Bharatha Devi

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University

Abstract—As a direct outcome of this research, it is planned that the accuracy of house price projections will be enhanced by using a novel decision tree algorithm rather than linear regression. This will be done in order to achieve the desired result (LR). The N=10 iteration of the Decision Tree Algorithm is put to use in order to generate the prediction. The size of the sample is figured out with the use of a G power Calculator, and a cutoff of 80% is decided upon as the minimum need for sufficient analytical power. The Linear Regression Method can be found in Group 1, whereas the New Decision Tree Algorithm can be found in Group 2. The confidence interval for the pre-test power is from 95% to 80%, the alpha value is 0.05, the beta value is 0.2, and the total number of participants in the study is twenty. In contrast, the accuracy of the New Decision Tree (DT) Algorithm was 90%, while the accuracy of the Linear Regression Algorithm was 80%. The findings of the statistical analysis that was carried out with the assistance of SPSS showed that the value of accuracy was insignificant: p=0.618 (p>0.05). The Innovative Decision Tree Algorithm outperforms the Linear Regression approach when it comes to estimating the value of real estate in the future.

Keywords— *Linear Regression, Machine Learning, Novel Decision Tree, House Price Prediction, Real Estate, Price.*

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 2: Advancements in Intelligent Technologies in Smart Electronics

Date : 06.04.2023

Time : 10.30 am – 12.00 pm

Mode of Presentation: Physical**Venue: ECE Block- Hall -7****Session Chair:**

1. **Dr.Adithya Pothan Raj.V**, Lead Architech-Technologies, CTS, Chennai.
2. **Mrs.C.Anitha**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	10.30am -10.45am	ICON23T258	Efficient Human Action Recognition using Novel Logistic Regression Compared over Linear Regression with Improved Accuracy	S Bhanu Prakas V. Amudha Meenakshisundaram.N
2	10.45am-11.00am	ICON23T259	Early Detection and Quantification of Osteoarthritis severity in Knee using Support Vector Machine with improved Accuracy compared to Convolutional Neural Network.	K.Sagar Raju V.Amudha Meenakshisundaram.N
3	11.00am-11.15am	ICON23T507	An Analysis on increasing Awarness of Kabaddi post introduction of Pro-Kabaddi league	Dr.Durgarani.M Dr.Gokilavani.R
4	11.15am-11.30am	ICON23T508	An Investor's Opinion About Equity Market	Dr. E. Gopi Mrs. Benita MJ
5	11.30am-11.45am	ICON23T261	Enhancing Optimization of Photovoltaic Devices Performance using Artificial Neural Network (ANN) Comparing with Thermoelectric Generators (TEGs) to Improve Power Efficiency	Mani Joshi Ch P.Shyamala Bharathi
6	11.45am-12.00pm	ICON23T247	An Efficient Design and Performance Analysis of Novel 8 Bit Modified Wallace Multiplier Using Kogge-Stone Adder (KSA) in Comparison with Ripple Carry Adder (RCA)	K Sathish P Jagadeesh

Efficient Human Action Recognition Using Novel Logistic Regression Compared Over Linear Regression With Improved Accuracy

S Bhanu Prakash , V. Amudha, Meenakshisundaram.N

Saveetha School of Engineering

Abstract—The purpose of this study is to perform efficient human action recognition utilising novel logistic regression, as compared to linear regression, with improved accuracy. There are a total of 30 samples, which are split between the two categories. Each received a total of 15 different samples. The Linear Regression Algorithm is responsible for Group 1, whereas the Novel Logistic Regression Algorithm is in charge of Group 2. The accuracy of the model generated by the linear regression algorithm is (87.77%), which is higher than the accuracy generated by the novel logistic regression algorithm, which is (90.42%). The hypothesis is validated by the use of an independent sample T-test. The mean accuracy detection is +2SD, and the Significance Value is 0.970 ($p>0.01$). Both of these results indicate that the hypothesis is accurate. As a result, the accuracy of the Novel Logistic Regression Algorithm, which was measured at 90.42%, was discovered to be higher than that of the Linear Regression Algorithm, which was measured at 87.77%.

Keywords—*Linear Regression Algorithm, Novel Logistic Regression Algorithm, Groundwater Level, Accuracy, Artificial Intelligence*

Early Detection and Quantification of Osteoarthritis Severity In Knee Using Support Vector Machine with Improved Accuracy Compared to Convolutional Neural Network

K.Sagar Raju, Dr.V. Amudha, Meenakshisundaram.N

Saveetha School of Engineering, SIMATS, Chennai, India.

Abstract—This study will make use of a classifier that has improved accuracy for support vector machines in order to build a strategy for the early detection and quantification of osteoarthritis. In terms of both the Materials and Methods: A total of 350 samples were taken, and those were split up between the two groups in a manner that was completely random. Each participant received a total of 175 samples during the course of the study. When it comes to Group 1, the SVM algorithm is in charge, but the CNN algorithm is in charge of Group 2. Results: The significance value of 0.197 indicates that the null hypothesis is correct ($p>0.01$); this was determined by using an independent sample T test with a confidence interval of 95%, an enrolment ratio defined as 1, g power of 80%, and a threshold value of 0.5G; the test also includes a threshold value of 0.5G. The significance value of 0.197 indicates that the null hypothesis is correct ($p>0.01$). The fact that the significance value is greater than 0.01 indicates that the hypothesis is correct ($p > 0.01$); The accuracy of the innovative SVM was determined to be 87%, which was higher than the accuracy of the CNN algorithm, which was determined to be 83%. The significance value also indicates that the hypothesis is correct.

Keywords—SVM , CNN , OsteoArthritis, Arthritis, Bone Density,Mortality rate, Increased life expectancy.

An Analysis on increasing Awareness of Kabaddi post introduction of Pro-Kabaddi league

Dr.Durgarani.M, Dr.Gokilavani.R

Jeppiaar Engineering College,, REVA University

Abstract—Kabaddi,a combative sport has been most popular in South Asia since 1900's. Many sport have emerged and had occupied the preference of the sports viewers all over the world. Kabaddi, though an very old sport, since the past 50 years ,there has been a progressive but prominent change in the trends of the game. Pro kabaddi league has progressed in homegrown through its visibility, created aspirational value among youth and created revenue through india's own sports. This study aims at finding out the increasing awareness about Kabaddi among the sports viewers and their perception towards the same. The study also focuses on identifying demographic differences for making suitable suggestions. The sample area is Chennai and the sample size is 200. The study is of descriptive in nature. The instrument used to collect data is questionnaire. Secondary data is also used togather relevant information.

Key Works— Awareness, Perception, ProKabaddi

An Investor's Opinion About Equity Market

Dr. E. Gopi , Mrs. Benita MJ

Jeppiaar Engineering College,

Abstract—A growing number of companies are offering equity awards based not only on your continued employment or rising stock prices, but also on your earnings. Because the company takes a "portfolio approach" to equity compensation, you may receive performance shares, which are only awarded if specific goals are met.

Investment decisions involve determining where, when, how and how much to spend capital and/or acquire debt to pursue profit. Investment decisions are generally made between an investor and their investment advisor. Factors that affect investment decisions include, but are not limited to: funds available, projects or opportunities available, terms and conditions market conditions, and a specific investment strategy. The project focused, “A Study on investment decision based on performance of securities from selected sector’s wise” the financial service agent the major problem towards those analyses for offline traders facing high risk in allocation in investment option. The agencies compensate the loss to retain the investors. The investment avenues of individual investors depend mainly on annual income as well as risk taking capacity of the individuals. Regularity in investing, percentage of savings also has a major impact in choosing the investments. The study on investor’s opinion in equity market also gives an idea of the investor’s choice based on returns and risk. The researcher focused on analytical research and descriptive research. Data collection has done through secondary data and primary data. Suggestions have been made on the analysis of financial tools. The Study will be limited to ‘chengelpettu semi urban only .The Sampling Technique that will be used here is Simple Random Sampling. The samples will be taken using lottery method. The analysis is done with help of various statistical tools like percentage, parametric test and chart techniques. This type of analysis helps to identify the investor’s opinion towards trading practices.

Key words— Performance of securities and investors opinion in equity market

Enhancing Optimization Of Photovoltaic Devices Performance Using Artificial Neural Network (Ann) Comparing With Thermoelectric Generators (Tegs) To Improve Power Efficiency

Mani Joshi Ch, P.Shyamala Bharathi

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—The objective of the study is to enhance optimization of photovoltaic devices performance using Artificial Neural network (ANN) compared with Thermoelectric generators (TEGs) to improve power efficiency. An artificial neural network (ANN) is suggested as a replacement for the time-consuming traditional finite element methodologies (FEMs) intended to maximize the performance. A segmented traditional TEG is deployed to provide better cooling in a PV (photo-voltaic) setup. This case, pre-test power analysis was done with 80% and the sample size for the two groups was 20 and each group having the size of 10 was taken. Its show that the Thermoelectric generators (TEGs) is 91% and that the ANN more efficient than the traditional TEG and is 94.44% faster performance. There is a statistical 2 tailed significance difference in the power efficiency for two algorithms is 0.002($p<0.05$) by performing the independent sample test. ANN was offered as a substantially faster method of optimising the performance of photovoltaic devices than traditional FEM.

Keywords—Novel Artificial Neural Network (ANN), Photovoltaic Thermoelectric generators (TEG), power efficiency, Machine learning

An Efficient Design and Performance Analysis of Novel 8 Bit Modified Wallace Multiplier Using Kogge-Stone Adder (KSA) in Comparison with Ripple Carry Adder (RCA)

K Sathish, P Jagadeesh

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—This research presents the design and implementation of an 8-bit modified Wallace multiplier using the proposed Kogge stone adder (KSA) and compares its performance with the Ripple Carry Adder (RCA). In this research, a VHDL implementation of an 8-bit modified Wallace multiplier based on the Kogge stone adder and the Ripple Carry Adder has been developed. Modelsim is used to simulate the design, and the results are compared with those of the RCA-based design. The study was able to visualise the waveforms produced by the multiplier and assess its effectiveness with the help of this programme. During the simulation, input data was collected and used to test the multiplier. Delay and power consumption were used as metrics for the multiplier's effectiveness. Twenty sample data sets were used in the study, with ten from each of two groups. The modified Wallace multiplier was applied to the KSA and the RCA, with each adder receiving the same number of samples. G-power was used to analyse the results, and alpha and beta were set at 0.05 and 0.20, respectively. The study used a 95% confidence interval for its findings. **Result:** The simulation results of the proposed 8-bit modified Wallace multiplier using the KSA showed a delay of 28.5 ns, which is significantly lower compared to the delay of 36.1 ns in the traditional Ripple Carry Adder (RCA) based design. The significance level of the study is $p=0.578$ which is ($p>0.05$). **Conclusion:** In conclusion, the delay of the proposed 8-bit modified Wallace multiplier based on the KSA is insignificantly lower than that of the conventional RCA-based version.

Keywords - Novel Modified Wallace Multiplier, Wallace Multiplier, Kogge Stone Adder, Ripple Carry Adder, Delay, Modelsim, Productive.

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 2: Advancements in Intelligent Technologies in Smart Electronics

Date : 06.04.2023

Time : 12.45 am – 3.00 pm

Mode of Presentation: Physical**Venue: ECE Block- Hall -7****Session Chair:****1. Dr.Adithya Pothan Raj.V**, Lead Architech-Technologies, CTS, Chennai.**2. Mrs.C.Anitha**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	12.45pm – 1.00pm	ICON23T232	Improving Prediction Accuracy in Drift Detection using LR in Comparing with Modified Light Gradient Boost Model	N. Raja Likitha T.J. Nagalakshmi
2	1.00pm – 1.15pm	ICON23T231	Improving Accuracy of Face Detection in ID Proofs using CNN and Comparing with DLNN	K. Hemanth T.J. Nagalakshmi
3	1.15pm – 1.30pm	ICON23T243	An Efficient Implementation of the Novel Data Encryption Standard (DES) Algorithm with Improved Key Generation Method Compared with Viterbi Decoder	M Siddhardha P Jagadeesh
4	1.30pm – 1.45pm	ICON23T242	Simulation and Comparison of Square SRR with Triangular Slot and Square SRR without Slot to Enhance the Return Loss and Bandwidth Performance for ITU Band Applications	C. Ganesh Reddy Anitha G
5	1.45pm – 2.00pm	ICON23T263	Reinforcement Learning with URL Features in Twitter Network To Detect Malicious Social Bots using Random Forest in Comparison with Convolutional Neural Network to Improve Accuracy	Ram Kumar.M P. Shyamala Bharathi
6	2.00pm – 2.15pm	ICON23T260	Efficient Method to Predict Wilt in Plants using DenseNet Compared Over a Linear Regression with Improved Accuracy	B.Saptha Girish R.Thandaiah Prabu
7	2.15pm – 2.30pm	ICON23T245	Detection of Steatosis Disease using Region Based Segmentation of Growcut Algorithm and Comparing with Random Walker Algorithm to Enhance the Accuracy	M.Ahamed Mansoor N.Nalini
8	2.30pm – 2.45pm	ICON23T204	Water quality monitoring system using IOT	Sowmiya S Saritha G Ishwarya R Sayesudarshana P A T Saravanan
9	2.45pm – 3.00pm	ICON23T205	An efficient traffic regulation using real time pixel based density identification techniques	Prakash D, Sathiyasekar K Chitra C Pragadeeswaran T

Improving Prediction Accuracy in Drift Detection Using LR in Comparing With Modified Light Gradient Boost Model

N. Raja Likitha, T.J. Nagalakshmi

Saveetha School of Engineering, SIMATS

Abstract—The goal of the proposed work is improving prediction accuracy in drift detection using Logistic Regression compared with modified light gradient boost model. The collections of 40 samples were taken by varying test and training data set size. These samples are divided into Two groups (Group 1 - Logistic Regression, Group 2 - Modified Light Gradient Boost) each having 20 samples and the accuracy was calculated to quantify the improving prediction accuracy in drift detection using LR and modified light gradient boost model. The G power is taken as 80%. The results for the simulation is 69% accuracy of LR, and the LGBM provides results with an accuracy of 98%. For the given dataset LR performs significantly less than the MLGBM in the prediction.

Keywords—Concept Drift, Data Stream Mining, Drift Detector, Deep Learning, Spectrum Sensing, Spectrum Prediction, Accuracy.

Improving Accuracy of Face Detection in ID Proofs Using CNN and Comparing with DLNN

K. Hemanth, T.J. Nagalakshmi

Saveetha School of Engineering, SIMATS

Abstract—The goal of the proposed work is to upgrade the accuracy rate in face observation with Convolutional Neural Networks algorithm and comparing with Deep Learning Neural Networks. A count aggregate of 40 trails of different angles of id cards were collected along with their passport size photos for detecting the faces. These samples are divided into two groups each having 20 samples and the accuracy values were calculated to face detection in CNN. The G power for this is taken as 0.8. Convolutional Neural Networks achieved the accuracy of 93% and the same for Deep Learning Neural Networks is 96.80% in the recognition of face in ID cards. From this task it is observed that the DLNN algorithm executed significantly better than CNN algorithm in face detection in ID proofs on the basis of accuracy.

Keywords — Neural Networks (CNN), Deep Learning Neural Networks (DLNN), Machine Learning.

An Efficient Implementation of The Novel Data Encryption Standard (DES) Algorithm With Improved Key Generation Method Compared With Viterbi Decoder.

M Siddhardha, P Jagadeesh

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—This study presents an efficient implementation of the Novel Data Encryption Standard (DES) algorithm with an improved key generation method and the result is compared with the Viterbi decoder algorithm. The proposed implementation of the novel Data Encryption Standard (DES) and Viterbi algorithm requires a computer with VHDL synthesis tool and Modelsim software installed. The encryption and decryption are implemented in VHDL language, while the key generation process is executed using the Modelsim software. The runtime analysis of the proposed algorithm was conducted using a set of test data and the results were compared with the Viterbi algorithm. The research consisted of 10 samples and applied the DES and Viterbi algorithms with an equal number of samples. The analysis was conducted using G-power (0.8) with alpha and beta set at 0.05 and 0.2, and a 95% confidence interval. **Result:** In terms of performance, the proposed implementation showed a run time of 3.3 ns, while the traditional Viterbi decoder showed a run time of 6.6 ns. The research's significance level was determined to be $p = 0.002 (p < 0.05)$. **Conclusion:** The results of the proposed implementation indicate its potential as a valuable addition to the field of data encryption technology and its potential for wider implementation in real-world applications.

Keywords —Encryption, Decryption, Data Encryption Standard, Viterbi Decoder, Cryptography, ModelSim, Technology.

Simulation and Comparison of Square SRR with Triangular Slot and Square SRR without Slot to Enhance the Return Loss and Bandwidth Performance for ITU Band Applications

C. Ganesh Reddy, Anitha G

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences

Abstract—The design, simulation, and comparison of square SRR with triangular slot and square SRR without slot at 10 GHz are covered in this research article. **Materials and Methods:** Over a frequency range of up to 10 GHz, compares the performance of the square SRR with a triangular slot to that of the square SRR with a plain in terms of return loss and bandwidth. A sample computation was used to get the values for 56 samples, with a pretest power of 80%, an alpha power of 0.05, and a beta power of 0.2. **Results:** Square SRR with triangular slot outperforms square SRR without slot in terms of return loss and bandwidth performance. $L_b=2.5$ millimeters, $W_b=2.5$ millimeters, and $T_b=0.25$ millimeters are the dimensions that have been optimized for improved return loss and bandwidth. The significance level for the performance return loss is 0.05. **Conclusion:** According to the results, square SRR with a triangular slot performs better in terms of return loss and bandwidth than square SRR without a slot.

Keywords —Return Loss, Bandwidth, Square SRR with Triangular Slot, square SRR without slot, HFSS

Reinforcement Learning WithUrl Features in Twitter Network to Detect Malicious Social Bots Using Random Forest in Comparison with Convolutional Neural Network to Improve Accuracy

Ram Kumar.M, P. Shyamala Bharathi

*Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University*

Abstract—The objective of the project is to improve the efficiency of identifying dangerous social bots in the Twitter network by developing uniform resource locator characteristics and reinforcement learning. Using random forest in comparison with CNN. **Materials and Methods:** Malicious social bot detection accuracy is being improved using the reinforcement learning technique. In contrast to CNN, the Twitter Network uses random forest for URL features. Pre-test power analysis was conducted in this instance using 80%, and a sample size of 20 people was used for each of the two groups, with 10 people in each group. **Result:** Using a reinforcement learning technique, malicious social bot detection Convolution neural network accuracy was compared to URL features in the Twitter network, which used a random forest with a 99.86% accuracy rate and a convolution neural network with an accuracy rate of 95.89%. The independent sample test yields a statistically 2-tailed significant difference between the two classifiers' accuracy of 0.000 ($p<0.05$). **Conclusion:** To draw the conclusion that the CNN system is greatly outperformed by the Novel Random Forest algorithm.

Keywords—Novel Random forest, Convolution Neural Network, Social Bots, Reinforcement learning technique, Machine learning.

Efficient Method to Predict Wilt in Plants Using Novel Densenet Compared Over A Linear Regression with Improved Accuracy

B.Saptha Girish, R.Thandaiah Prabu

Saveetha School of Engineering

Abstract—The aim of this work is to improve the methods to predict wilt in plants using Novel DensNet and comparing with Linear Regression method to get better accuracy. In this research, two groups are compared: Novel DenseNet (N=10) and Linear Regression (N=10) is executed with varying training and testing splits for predicting the wilt in plants. The g power test used is about 85% (g power setting parameters: $\alpha=0.05$ and power=0.85). Result shows that the Novel DenseNet has the increased accuracy over Linear Regression with a significance value of 0.0916 ($p>0.05$) which shows that the hypothesis is insignificant and is carried out using independent sample T-test. In this study, based on the obtained results it is concluded that the Novel DenseNet has better accuracy compared with the linear regression.

Keywords— Novel DenseNet, Linear Regression, Wilt, Plant Disease, soil, Plants

Detection of Steatosis Disease Using Region Based Segmentation of Growcut Algorithm and Comparing With Random Walker Algorithm to Enhance the Accuracy.

M.Ahamed Mansoor, N.Nalini

Saveetha School of Engineering

Abstract—To detect steatosis disease using region based segmentation of GrowCut Algorithm and comparing with Random Walker Algorithm. It includes steatosis disease images, GrowCut algorithm and Random Walker Algorithm. The images were segmented using the GrowCut Algorithm and the accuracy of the segmentation was compared with the Random Walker algorithm. In the digital image processing lab, the segmentation procedure was carried out using MATLAB software, with a total sample size of 40 for the two groups and a sample quantity of 20. Results: It showed that the GrowCut Algorithm was more accurate than the Random Walker Algorithm for segmenting the steatosis disease images. The GrowCut Algorithm is a better method for segmenting the steatosis images than the Random Walker Algorithm. The GrowCut algorithm was more accurate than the Random Walker algorithm. As a result, the GrowCut Algorithm is suggested as a superior segmentation technique for pictures with steatosis.

Keywords—Steatosis, Fatty liver disease, Grow cut algorithm, Random walker algorithm, Fatty liver images.

Water Quality Monitoring System Using IOT

G.Saritha, Saravanan.T, Sowmiya.S, R.Ishwarya, P.A.Saye Sudarshana, T Saravanan

Sri Sairam Institute of Technology, New Prince Shri Bhavani College of Engineering and Technology

Abstract—In recent years ,the problem of water contamination has gotten worse. One of the main factors influencing health and the severity of the disease may be enjoying the water with family members and animals. The main sources of drinking water are lakes and streams, which are highly dependent on the quality of the water. This Internet of things based mechanism for determining water quality seeks to ascertain water quality. Water temperature, pH, and turbidity are a few examples of parameters that may be monitored using sensors. The core controller is capable of processing sensor-measured information. One option is to use the Arduino model as the main controller. Finally, the website may be used to obtain the sensor data.

Keywords— water quality, sensors, Arduino, water pollution,ThingSpeak

An Efficient Traffic Regulation Using Real Time Pixel Based Density Identification Techniques

D.Prakash,Dr.K.Sathyasekar, N.Chitra, T.Pragadeeswaran

S.A. Engineering college,Prathyusha Engineering college, Saveetha Engineering College

Abstract—In the present scenario, each and every traffic signal is switched on and off according to the time which is set for it. This causes unnecessary delay in the process of clearing up the traffic jam. This is because the roads that have no vehicles are given a green signal and the sides that have very high traffic are given red. This causes unnecessary congestion in junctions. This can be minimized by converting the traffic signals from time based systems to traffic density based systems. When a traffic signal is density based rather than being time based, the signals are switched on and off according to the amount of traffic present in the roads respectively. This system is used to reduce congestion on roads. Here To control traffic, a camera system is employed. In order to adjust traffic signals and advise alternate routes in the event of a traffic jam, they gather information at their individual locations and work in concert with other cameras in the system. The data obtained from the cameras are processed and the density of each corresponding side is determined and according to the data the traffic lights are switched.

Keywords— *traffic regulation;automatic traffic lights;image processing based traffic lights;density based traffic regulation*

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 2: Advancements in Intelligent Technologies in Smart Electronics

Date : 06.04.2023

Time : 10.30 am – 12.00 am

Mode of Presentation: Online**Venue: ECE Block- Hall -8**
Session Chair:

1. **Dr. Harikrishnan R**, Professor, Symbiosis Institute of Technology, Pune.
2. **Mr.G.C.Jagan**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	10.30am -10.45am	ICON23T201	Enhancement of MRI images using optical filter topology	Valliammal L SathiyasekarK
2	10.45am-11.00am	ICON23T202	Disease detection of various plant leaf using image processing technique	Santhiya S Sweety Sharon A Vinisha R Jose Anand A
3	11.00am-11.15am	ICON23T203	Design and analysis of an efficient solar tracking system using intelligent controller	Divya Prabha V Sathiyasekar K
4	11.15am-11.30am	ICON23T206	Design and implementation of heart disease prediction using artifical neural network	Madhukar K Chavan Saurabh Bansod Shashank Kumar Singh Prashant Pal
5	11.30am-11.45am	ICON23T207	A Real-time Fire recognition technique using a Improved Convolutional Neural Network Method	Ramkumar G Tamilselvi M Thandaiah Prabu Anitha G Mohanavel V
6	11.45am-12.00am	ICON23T208	Experimental Design of a Robotic Ventilator to Support Covid-19 and Related Pandemic Situations	Vijayakumari P Krishnamoorthi K Diwakaran S EethamakulaKosalendra Kuppusamy G

Enhancement Of MRI Images Using Optimal Filter Topology

Valliammal L, Sathyasekar

S.A.Engineering College, Prathyusha Engineering College

Abstract—Now a day, the medical images play a vital role in detection and diagnosis of diseases. Magnetic Resonance Imaging is considered as the safest tool and hence it is commonly employed for diagnosis of brain related problems. However, the images obtained from MRI scans are affected by different type of noises like Salt and pepper noise, Gaussian noise and Speckle noise. These noises will deteriorate the quality of the images. Image denoising is the only solution to this problem. In this regard, this work formulated a new filtering topology to denoise the noises present in MRI brain images and also compared its performance with existing three filters namely Median, Lee and Frost filters over the brain images. Hence, to determine the efficiency of these filters, Error Sensitivity Measure parameters like Mean Squared Error, Peak Signal to Noise Ratio and Structural Similarity Index are calculated. The experiments have been performed over three datasets of brain images. From the analysis, it is proven that for the all kinds of noises, the proposed algorithm exhibits higher performance metric than the other filters. This algorithm can be used for images obtained from various smart electronic devices.

Keywords— *Biomedical Image Acquisition; Filtering methods; Frost filter; Lee; Magnetic Resonance Imaging; Median; Noise reduction*

Disease Detection of Various Plant Leaf Using Image Processing Technique

Sandhiya S,Sweety Sharon A,Vinisha R, Jose Anand A

KCG College of Technology

Abstract—One of the main sources of income is agriculture. In developing nations like India, agriculture offers a sizable number of job prospects for villagers. Numerous crops are grown in India, where agriculture supports about 70% of the country's population, according to a poll. Due to inadequate technical understanding, the majority of Indian farmers are switching to manual cultivation. The types of crops that do well on a farmer's property are unknown. When plants contract various infections, their leaves will diminish agricultural yield and upshot in a monetary forfeiture. Agricultural production has diminished in both magnitude and excellence as well. For plants to cultivate rapidly and to boost crop output, leaves are decisive. Farmers and researchers alike struggle to find illnesses in plant leaves. At the moment, farmers spray pesticides on the plants, but this has an impact on humans either directly or indirectly in terms of health or even economics. There are plentiful swift methods that are cast off to perceive these plant infections. To identify the illnesses that are present in plant leaves, we have employed image processing techniques in this research.

Keywords— *Disease Detection Method, Image Processing Technique*

Design and Analysis of An Effective Solar Tracking System Using Intelligent Controller

Divya Prabha .V, Dr. Sathiyasekar .K

Prathyusha Engineering College SA Engineering College

Abstract—Solar energy is a viable renewable energy, which can be utilized as an alternative source for conventional energy sources. Eventhough India has a high intensity of solar irradiation,it has not been utilised properly. So numerous researches have been emerged to enhance the performance of PV system using tracking devices. A solar tracker is a device which alters the position of a solar panel in accordance with the sun's position. In general, the tracking systems are fixed and results in low power. Thus, to overcome this drawback, this work proposed a new tracking system using intelligent controller to enhance the power generated by a PV. Fuzzy controller have been incorporated to control the azimuth angle. Thus the efficacy of the proposed topology is verified using MATLAB simulation. From the results, it is observed that the proposed system exhibits higher output power when compared to fixed panel.

Keywords— *Solar Energy, Fuzzy Controller*

Design and Implementation of Heart Disease Prediction Using Artificial Neural Network

Madhukar Chavan, Saurabh Bansod , Shashank Kumar Singh, Prashant Pal

National Institute of Electronics and Information Technology

Abstract—The primary goal of this initiative is to use hospital statistics to forecast cardiac disorders. Our project ;s major goal is to provide a result with more precision. The suggested system in the study denotes the use of ANN for the diagnosis of illnesses acquired in the heart. The standard data , which uses pre-accepted data as feedback and offers the clear-cut clarity about the respiratory system through various processes including data collecting and data mining, is used to anticipate illness. The necessary information is gathered and acquired in a standardized format. Age, blood pressure, cholesterol, sex, blood sugar, and other characteristics are retrieved from medical profiles in order to forecast a patient ;s likelihood of developing heart disease The neural network in the proposed system connects with many components, collecting input as a waveform and acquiring data in it. The primary system, via which the system receives aggregated input and conducts the prediction process, is coupled to the neural branches.

Keywords—*ANN, Prediction, Algorithm, Respiratory*

A Real-Time Fire Recognition Technique Using A Improved Convolutional Neural Network Method

M.Tamilselvi, R. Thandaiah Prabu, Anitha G, V. Mohanavel

SRM Institute of Science and Technology, Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Centre for Materials Engineering and Regenerative Medicine, Bharath Institute of Higher Education and Research, Chandigarh University

Abstract—Traditional fire-detection systems may be replaced in future smart cities with vision-based systems that use developing technologies and deep learning to build fire safety in society. It was our goal to build an early warning system for fires that can detect even the tiniest of sparks and sound an alert. An Improved Convolutional Neural Network (ICNN) along with LGBM Classifier was used for detecting fire areas. The reliability of model with fire area forecasts was first tested using the CNN technique. Unfortunately, this strategy of detecting fire incidents failed to provide the expected results in several studies. The classic model was upgraded by adding LGBM in final layer and expanding the amount of training data dataset using data augmentation methods for real-time fire catastrophe monitoring. When used under a variety of weather conditions, the suggested technique effectively recognized and alerted the public to the occurrence of devastating fires by altering the network structure via automated color enhancement and parameter reductions, among other things. In tests, the suggested technology proved to be effective in protecting smart cities and detecting fires in the urban environment. Finally, we tested the classification results produced by our system against those of previously published fire-detection methods that used commonly used performance matrices.

Keywords— fire detection; smart city; CNN; surveillance system; LGBM

Experimental Design of a Robotic Ventilator to Support Covid-19 and Related Pandemic Situations

P. Vijayakumari, K. Krishnamoorthi, S. Diwakaran Eethamakula Kosalendra, P. G. Kuppusamy

Siddharth Institute of Engineering & Technology, Sona College of Technology, Kalasalingam Academy of Research and Education, Saveetha School of Engineering

Abstract—In the situation of Corona virus pandemic, each and every individual suffers a lot, especially the medication team and the respective individuals work as much as harder to save many people life. Most of the Covid victims are affected by lung oriented and breathing issues. During that period ventilators play a major role to make the people to survive. The medical field requires more and more number of ventilators instantly at the same time to bring back the patient ;s life from the complicated disease called Corona virus. But practically no hospitals and medical system had such provision to provide thousands of ventilators to patients at the same time. For managing such conditions, a new technology is required to provide sufficient number of devices as the patients required. In this paper, a new robotic ventilator is designed with the help of latest technologies to overcome the situations like Covid-19. This robotic ventilation systems use parts that are widely accessible across the world and that parts are commonly found in commonplace appliances as well as services. This system do not require for any unique production techniques and f or the contemporary pandemic, many solutions have been developed, all with the goal of fulfilling the most fundamental needs for adequate ventilation. But other individuals are opposed using these robotic ventilation systems in real-world circumstances because of their low dependability and failure to satisfy specific medical standards. There are benefits and drawbacks to every implementation of this plan and it ;s up to designers to work out the kinks. Consequently, by methodical study of the current stock of proposed model, this paper intends to give readers a summary of the main design characteristics that has to be addressed while developing portable ventilation systems. By examining the current research, many parameters are identified that affect efficiency of the device and explained how these aspects must be taken into account for optimal device functioning.

Keywords—Covid, Corona virus, Healthcare, Robotic Ventilator, Respiration

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 2: Advancements in Intelligent Technologies in Smart Electronics

Date : 06.04.2023

Time : 12.45pm – 3.00 pm

Mode of Presentation: Online**Venue: ECE Block- Hall -8****Session Chair:**

- 1. Dr.M. Pown**, Assistant Professor, Sri Sairam Institute of technology, Chennai.
2. Mr.G.C.Jagan, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	12.45pm – 1.00pm	ICON23T209	Detection of Lung Nodule using Novel Deep Learning Algorithm based on Computed Tomographic Images	Vijayakumari P Krishnamoorthy K Diwakaran S EethamakulaKosalendra Kuppusamy G
2	1.00pm – 1.15pm	ICON23T211	Multi classification and Segmentation of Esophageal Lesions Using an Improved Deep Learning Model from Endoscopic Images	Prince T BirhaneWondmanehGetahun KenawAmbachewGosu Chilote DessaleMengesha Getachew WorkuMuche Ramkumar G
3	1.15pm – 1.30pm	ICON23T212	A Robust Blockchain Assisted Electronic Voting Mechanism with Enhanced Cyber Norms and Precaution	Krishnamoorthy Shakthimurugan K H Gnanaprakasam C Swarna M Geetha R
4	1.30pm – 1.45pm	ICON23T213	An Empirical Design of IOT based Health Surveillance Scheme for Coronavirus Affected Patients	M. Swarna R. Geetha G.Saranya Shakthi Murugan K H C.Gnanaprakasam
5	1.45pm – 2.00pm	ICON23T214	A Robust Boosting Model for detecting Cervical Cancer Using Histogram Boosting Gradient Classifier	Meenakshisundaram N Ramkumar.G
6	2.00pm – 2.15pm	ICON23T215	An Efficient Machine Learning Model for Breast cancer categorization using Logistic Regression on Histopathological images	Sajiv G Ramkumar G
7	2.15pm – 2.30pm	ICON23T216	Deep Learning Assisted Cervical Cancer Detection based on Artificial Neural Network	Meenakshisundaram N Ramkumar.G
8	2.30pm – 2.45pm	ICON23T217	Deep Learning based Breast cancer classification using Artificial Neural Network on Histopathological Images	Sajiv G Ramkumar G
9	2.45pm-3.00pm	ICON23T221	Maximum Power point Tracking By ANN Under Conditions Of Uniform Irradiance And Partial Shading	Hemalatha R Chalagala Hariprasad Byrupogu Suman Putteti Chaithanya Reddy, Ragiri Venkata Sai Prasad

Detection of Lung Nodule using Novel Deep Learning Algorithm based on Computed Tomographic Images

P. Vijayakumari, K. Krishnamoorthi, S. Diwakaran Eethamakula Kosalendra, P. G. Kuppusamy

Siddharth Institute of Engineering&Technology, Sona College of Technology, Kalasalingam Academy of Research and Education, Saveetha School of Engineering,SIMATS

Abstract—An improvement of medical field requires a wide range of support from Artificial Intelligence (AI) system and several learning mechanisms. In such case a logic of Medical Image Processing (MIP) oriented concepts are providing a huge support to such medical fields to analyze complex cases in easier manner like tumor, cancer and so on. The major complication of people now-a-days is a Lung Nodule affection and it produce a drastic effect in human life as well as many of the people are affected severely without identifying this disease in earlier stages. So that in this paper a new logic is introduced called as Novel Deep Learning Algorithm (NDLA), in which it provides a marvelous support to physicians to analyze the lung nodules easily and provide the exact scenario of the affection in detail. The proposed NDLA algorithm works based on processing the Computed Tomography (CT) images, in which the process is undergoing into several stages such as Pre-Processing, Lung Region Segmentation and Classification. The logic of Deep Learning initially trains all the input dataset lung images in detail based on the mentioned processes like preprocessing and so on. The processed images are maintained into the repository for testing the real-world patient records. Finally the input patient CT images of the lung is analyzed according to the processed dataset images and extracts the exact scenario of the disease as well as report the details in clear way to the respective individual or physician with proper accuracy details. A novel dataset acquired from Kaggle is used in this scenario to produce the best outcome in results and the resulting section of this paper provides the details in clear manner. For all the proposed Novel Deep Learning Algorithm provides a better solution to analyze the lung nodule disease in dense manner and provide a strong support to medical field for analyzing the complications in earlier stages to save lives of many people.

Keywords —Lung Nodule, Novel Deep Learning Algorithm, NDLA, Artificial Intelligence, Medical Image Processing, MIP

Multi-Classification and Segmentation of Esophageal Lesions Using an Improved Deep Learning Model from Endoscopic Images

T. Prince,Birhane WondmanehGetahun, Kenaw AmbachewGoshu, Chilote Dessalew Mengesha, Getachew WorkuMuche, G. Ramkumar

School of Computing, Woldia Institute of Technology, Woldia University

Saveetha School of Engineering, SIMATS

Abstract—It is important to have an autonomous and precise categorization of esophageal lesions to clinically evaluate the lesion of esophageal disorders and to come up with appropriate diagnostic strategies. This study presents a Hybrid Deep Learning Model (HDLM) for completely automated diagnostics, although endoscopists are required to correct the false data predicted by the testing process if much-supporting data is supplied. HDML comprises with Artificial Neural Network along XGBoost Classifier. This prototype doesn't simply take the place of endoscopists in decision-making. Instead, it complements the role that endoscopists play in decision-making. To help endoscopists improve their reliability when recognizing the kinds of lesions, a knowledge discovery component has indeed been introduced in the categorization job. The goal of this model is to provide a higher degree of assurance about the projected forms of esophageal tumors. The performance of the segmentation task in detecting the sites of esophageal lesions has also been improved by the inclusion of a mutual attention module. Because of its excellent recognition rate (97.81%) and segmented Dice factor (87.91 percent), our model seems to be well suited for real-world use. Endoscopists might benefit from a tool to help them grade esophageal lesions, such as the multi-task deep learning model that has been proposed.

Keywords — ANN; esophageal endoscopic pictures; classification techniques; XGBoost

A Robust Blockchain Assisted Electronic Voting Mechanism With Enhanced Cyber Norms And Precautions

N V Krishnamoorthy, K.H. Shakthimurugan, C.Gnanaprasam, M. Swarna, R. Geetha

Sri Krishna College of Engineering and Technology , Narayana Engineering College,Panimalar Engineering College, Dr. M.G.R. Educational And Research Institute University, SRM Institute of Science and Technology

Abstract—Voting is the primary right to every citizen and that should be loyal enough to select a correct leader to the respective country. Every person has the duty to choose the proper leader for their nation by exercising their fundamental right to vote. When voting at a polling place that uses paper ballots, citizens must be present in order to deposit their vote. The vast majority of people throughout the world has neglected this need and has avoided doing their civic responsibility. In these cases, electronic voting systems are generally viewed as a viable option. The challenge here is protecting voters privacy and ensuring their votes get to the right people. This study presented Blockchain Assisted Enhanced Cyber Norms (BAECN), a revolutionary electronic voting system that ensures voters ballots are cast accurately and without delay. One possible answer is Blockchain technology, which uses a distributed ledger in which many people share ownership of the data. The Bitcoin protocol, also referred as the decentralized Banking network, has incorporated Blockchain technology. To perform a transaction or carry out a transaction over the Blockchain network, gas is the charge that must be paid. One kind of voter fraud in electronic voting systems can be mitigated by the use of Blockchain: the redistribution of voter registration data. The proposed methodology, on the other hand, offers a revolutionary online voting mechanism built on Blockchain technology, which fixes all the issues that were found. This research describes the findings of a real-world use of Blockchain technology implementation of a smart-contracts application that increases election security while also lowering associated costs.

Keywords — *Blockchain Assisted Enhanced Cyber Norms, BAECN, Cyber Security, Electronic Voting, E-Voting, Gas, Smart-Contract*

An Empirical Design of IOT Based Health Surveillance Scheme for Coronavirus Affected Patients

M. Swarna, G. Saranya, K.H. Shakthimurugan, C. Gnanaprasam

Dr. M.G.R. Educational And Research Institute University, SRM Institute of Science and Technology, Sri Krishna College of Engineering and Technology , Narayana Engineering College, Panimalar Engineering College

Abstract—In the year of 2019, a major destruction was raised to all over the Country called as Coronavirus, which is also termed as Covid-19. This is one of the serious threat and many people lost their lives due to the affection of Coronavirus disease. Due to the spread ratio and nature, nobody is interested to properly monitor the patients who are all affected with this disease. So, that a new technology is required to monitor the health conditions of patients and instantly reporting the details to the respective person and guardian as well. As technology advances, doctors are constantly on the lookout for new automated gadgets that might make it simpler to detect abnormalities in the human body. The Internet of Things makes it possible to create cutting-edge, transparent healthcare support structures. This paper introduced a new health monitoring scheme called Covid Patients Health Analyzer (CPHA), in which this methodology is associated with the help of trending technology called Internet of Things (IoT). This system introduces an Internet of Things assisted patient health surveillance technology, which aids medical professionals in remotely measuring the blood concentration, pulse rate, respiration level and temperature of the respective patient. Both the person pulse rate and blood oxygen sufficiency levels are read using an intelligent sensor called MAX3100, whereas the individual temperature is scanned with a powerful sensor called DS18B20. Using a humidity identification sensor, one may determine the relative humidity of a given space. All required information will be encoded and decoded by the ESP32 module before being processed. The patients Fingers are hooked up to sensors as well as readings are shown on a respective computer or smartphone. After putting the suggested system through its paces, the working is clearly tested and it delivers the desired results in good manner. By monitoring the

process remotely, medical personnel no longer need to worry about contracting the coronavirus when examining the conditions of multiple patients at once using this suggested technology.

Keywords — Covid-19, Coronavirus, Patients Health Analyzer, Internet of Things, IoT, DS18B20, MAX30100

A Robust Boosting Model for Detecting Cervical Cancer Using Histogram Boosting Gradient Classifier

N. Meenakshisundaram, G. Ramkumar

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences

Abstract—When it comes to cancers that strike women, cervical cancer is in the top five worldwide. Human papillomavirus (HPV) infection is linked to the development of cervical cancer. The worldwide burden of cervical cancer has been reduced thanks to early screening, which has turned the illness into a preventive one. Due to factors such as the high cost of frequent examination, low levels of knowledge, and a lack of access to the medical facility, women in poor countries do not participate in screening programs in adequate numbers. To put it another way, this raises the bar for what may be considered a safe level of risk for any given patient. The development of cervical cancer has several risk factors. In order to assess the probability of cervical cancer developing, this research suggests a method called HBGC that use Histogram Boosting Gradient algorithms. Finally, the best forecasting algorithm was identified by contrasting GBC with the currently available approaches.

Keywords—Cancer of the cervix, Histogram, Gradient Boosting Classifier, Machine Learning.

An Efficient Machine Learning Model for Breast cancer categorization using Logistic Regression on Histopathological images

Sajiv.G, G. Ramkumar

Saveetha School of Engineering Saveetha Institute of Medical and Technical Sciences

Abstract—Most cases of breast cancer are found in women, and as early detection is key to effective treatment, it is important to identify the condition as soon as possible. Machine Learning models have recently been used in the field of biomedical and informatics to aid in the battle against breast cancer. The elimination of the internal subjective human elements in the detection process is a major benefit of automating the process; this may also lead to increased detection accuracy. Breast cancer tumors often worsen and progress over time, eventually leading to death. Although women are disproportionately affected, guys are not immune. Age and family history are two other risk factors for developing breast cancer. Tumors seen in the breast can either be benign or cancerous. In order to better categorize breast cancer, this study advocated using a machine learning model. Logistic regression (LR) was used, and the results of our model were compared to those of other existing ML models. This research will demonstrate the reliability of different models for this breast cancer classification, allowing for the most appropriate strategy to be used moving forward. This research aims to make predictions about how well existing algorithms for classifying breast cancer will perform in the future.

Keywords—Cancer, Histopathological Images, Machine Learning, Logistic regression, Breast Cancer, MLP

Deep Learning Assisted Cervical Cancer Detection Based On Artificial Neural Network

N. Meenakshisundaram, G. Ramkumar

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences

Abstract—After widespread breast cancer, cervical cancer has risen to the status of the third most frequent malignancy in the in-universe population. The majority of cancer cases have a correlation to the risk of infection with human papillomavirus. About 37% of cancer cases may be prevented with preventive care, making it the most expensive method of cancer treatment. Nevertheless, due to human error, many false-positive results are produced by this manual testing technique. Many scientists have looked at deep learning models for cervical cell classification. When it comes to predicting characteristics from a cancer image collection, the Random Forest (RF) method is by far the most often used approach. If too many decision trees are utilized, nevertheless, the RF approach might become too sluggish and ineffective for real-time predictions. In order to forecast the occurrence of cervical cancer, the authors of this study suggest a deep learning model based on ANN. Python is used to implement the suggested ANN model, along with other common ML models, and a wide range of performance metrics are collected and analyzed. However, the suggested ANN model performed superior to the state-of-the-art approaches.

Keywords— Deep learning, artificial neural network, cervical cancer, machine learning.

Deep Learning Based Breast Cancer Classification Using Artificial Neural Network On Histopathological Images

Sajiv.G, G. Ramkumar

Saveetha School of Engineering ,Saveetha Institute of Medical and Technical Sciences

Abstract—Because of its high prevalence and potential mortality, breast cancer has become a prominent focus of medical study. Typically, a biopsy is performed, and the excised tissue is examined under a microscope to get a diagnosis. A misdiagnosis is possible if the attending physician is not properly trained. Automatic analysis of histopathology pictures can aid pathologists in the identification of malignant tumors and cancer subtypes, leading to a more accurate diagnosis. The field of breast cancer identification and classification has recently seen an uptick in the use of Deep Learning Neural Networks. Artificial Neural Networks are the choice of methodology for this study. Feature extraction, and image classification are the main pillars of the proposed system. Kaggle provided the Histopathological Images used in this study. ANN Model is able to obtain a 91.7% accuracy rate. These results provide empirical .

Keywords—Machine Learning, Histopathological Images, ANN, and Breast Cancer

Maximum Power Point Tracking By ANN Under conditions of Uniform Irradiance and Partial Shading

**Hemalatha R , Chalagala Hariprasad, Byrupogu Suman ,Putteti Chaithanya Reddy,
Ragiri Venkata Sai Prasad**

Saveetha Engineering College

Abstract—Solar photovoltaic (PV) systems are becoming more and more popular since they convert solar radiation directly into clean, sustainable electricity. While it has many benefits, there are also some drawbacks, such as its reliance on environmental factors. If the solar panel does not receive uniform radiation, the electricity it produces drops. Partial shadowing situations occur when a PV module is occasionally partially obscured by neighbouring structures, moving clouds, etc., reducing the power output of solar panels. It significantly lowers the system's power output. Coupled to the photovoltaic module, the recommended LUO converters make it possible to follow the maximum power point even when the module is partially shaded, using procedures that include continuous duty cycle change. Approaches that monitor the maximum power point under situations of partial shadow have been presented as a solution to this problem. These methods include continuous duty cycle change. In these configurations, the suggested LUO converters are wired up to the PV modules in order to permit the highest possible output voltage in any given circumstance. The suggested system has been updated to include a cutting-edge method known as Artificial Neural Network-based Maximum Power Point Tracking (ANN-MPPT), which can track the Maximum Power Point even when there are several local maxima present. The suggested method tracks Maximum Power Point (MPP) by continuously varying the duty cycle of the converter without using expensive parts like signal converters and microprocessors, making the system more compact. The converter's objective is to deliver input currents with tolerable harmonic content in a grid interface while operating at unity power factor. Finally, we will run a number of numerical simulations using the MATLAB 2021a/Simulink programme to test the suggested controls.

Keywords— *Artificial Neural Network ,MATLAB*

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 2: Advancements in Intelligent Technologies in Smart Electronics

Date : 06.04.2023

Time : 10.30 am – 12.00 am

Mode of Presentation: Online**Venue: ECE Block- Hall -9****Session Chair:**1. **Dr S. Agnes Shifani**, Assistant Professor, JP College of Engineering, Tenkasi.2. **Mr.B.Arun Vijayakumar**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	10.30am -10.45am	ICON23T235	Smart crop production system using machine learning technique	Balaji V Aishwarya D Bramhani Ch Mahima Kumari
2	10.45am-11.00am	ICON23T236	Wireless Solar Mobile Phone Charger	Clement Raj C Deepak P Sanjaay P S Selva M
3	11.00am-11.15am	ICON23T237	Fruit quality detection and classification using Computer vision techniques	Thomas Leonid T Hemamalini J Nanthine T Krithika P
4	11.15am-11.30am	ICON23T238	Human Wildlife Conflict reduction Using YOLO approach	Thomas Leonid T Harishkumar G Hamritha AS Claudia Christy VJ Chebolu Lokesh
5	11.30am-11.45am	ICON23T253	Autonomous Self Learning Based Training Device for Alzheimer Patients	Hymline Rose S G S.Janani
6	11.45am-12.00am	ICON23T256	Design and Implementation of Photonic Crystal Fiber for Optical Broadband Communication Using Birefringence	Sarath Kumar R Vengadesh K Tarun S Venumadhav C

Smart Crop Production System Using Machine Learning Techniques

Dr. V.Balaji, Aishwarya D, Bramhani Ch,Mahima Kumari

KCG College of Technology

Abstract—The development of Agricultural activities in current fast internet world is enhanced a lot. Farmers started utilising the Android applications to gather information regarding the crop price economic growth contents related to make effective farming etc. Forming is a unique category of providing information related to smart agriculture in terms of analysis data that measure the input and provide customised results based on forming time amount of water resources to be used cost of the crop updates environmental data changes in the soil moisture and related pesticides available in market even more information accurately. The presented system utilised wireless sensor network developed with nodeconfiguration technique using each computing. The system comprises and analysis module using relative regression algorithm. Input parameters or gathered from various input sensors collectively used here for environmental measurement soil moisture measurement abnormality in plants and humidity are temperature etc. Based on the presented input parameters a Smart relativity regression Model (SRR) is used to predict the given data with respect to historical measurements done and make a final prediction of further farming activities. This information or transfer to the IoT nodes to update in the mobile application.

Keywords— Smart agriculture, smart irrigation, wireless sensor networks, privacy preserving networks, Machine learning.

Wireless Solar Mobile Phone Charger

Clement Raj C,Deepak P, Sanjaay P S, Selva M

KCG College of Technology

Abstract—The technology of wireless power transfer is the subject of this study. An electronic device's battery will be charged wirelessly. The solar panel turns solar energy into electricity. Based on Faraday's law of induction, power from a solar panel is wirelessly sent by a transmitter circuit and received by a receiver circuit. Magnetic resonance coupling is employed in this research instead of magnetic inductive coupling since it is more efficient and beneficial. A transmitter and receiver coil are included. The transmitter coil is powered at the same frequency as the receiver coil's resonance frequency. As a result, the LC tuned circuit was designed to keep the same frequency. Some electricity is wasted when power is transferred wirelessly. As a result, efficiency has plummeted to just 11 percent. After all, in today's world, it will be a future charging option. Power may be given to electric automobiles, drones, medical equipment, and cell phones using wireless battery charger technology. This technology also helps to eliminate the need for cables.

Keywords—Solar panel, LDR, Microcontroller, Batteries, Magnetic coupling.

Fruit Quality Detection and Classification Using Computer Vision Techniques

T Thomas Leonid, Hemamalini J, Nanthine T, Krithika P

KCG College of Technology

Abstract—Human health has been affected by the use of pesticides, fertilizers, and harmful steroids, which may cause serious health issues. We need a reliable method to identify infections and chemicals in the food we eat since harmful chemicals penetrate the internal organs through fruits and vegetables. The current maximum limit for insecticides that can be taken by people and animals is set by the MRL (i.e Maximum Residue Level). Pollutants are considered to be present if the fruit is found to fall outside of the MRL's acceptable limits. By using Internet of Things (IoT), pesticide concentrations can be measured and recorded on a cloud platform. Keras is also used for distributed training of deep learning models, TensorFlow is the framework used in the Keras library for software designing purposes. An effective monitoring system must be customised to provide reliable network about diseases in fruits and the occurrence of dangerous pesticides in fruits to the cloud platform that processes and sends them to the application on a user's Android smartphone. Hardware and software design is implemented to obtain an accurate result. Accuracy, Precision and perfection are used to create performance measurements with the help of Performance metrics which is established. Using sensing devices like temperature, gas, pH, moisture, Rasperrypy and a Wi-Fi module, a system was constructed to collect data on the existence of pollutants in the environment. The proposed system is a simple, accurate, and real-time best solution and easy to implement.

Keywords—IOT, Deep learning, Cloud, Keraslibrary, Computer vision

Human Wildlife Conflict Reduction Using YOLO Approach

Thomas Leonid T, Harish Kanna G, Hamritha AS, Claudia Christy VJ, Chebolu Lokesh,

KCG college of technology

Abstract—Human wildlife conflict occurs when encounters between humans and wildlife result in negative outcomes such as loss of property, livelihood, and even life for both humans and wildlife, which has a significant impact on the eco system. Interactions between people and wild animals are becoming more common as the human population grows and biodiversity increases. Detecting wild animals and preventing them from entering human habitats, resulting in human-wildlife conflict. It is intended to use machine learning to identify various types of endangered animals. The Dataset contains over 10,000 images in which 7,000 images are training images and 3,000 images are testing images. Our proposed solution employs You only Look once (YOLO) algorithm which is a Convolution Neural Network (CNN) to detect and identify the wild animals using Machine Learning model. The proposed method yields 94% accuracy in detecting the endangered wild animals through the computer vision algorithms. The achieved accuracy percentage is comparatively the highest among the existing model [2] because of the YOLO V4 model.

Keywords—Animal Detection and Classification, Deep Learning Algorithms, Deep Learning, Deep Neural Networks, Artificial Intelligence, Camera-Trap Images, Animal Detection & Recognition.

Autonomous Self Learning Based Training Device for Alzheimer Patients

S G Hymlin Rose, S.Janani

R.M.D. Engineering College, Periyar Maniammai Institute of Science and Technolgy.

Abstract—Visual impairment could be a common symptom of Alzheimer's disease (AD). Alzheimer's disease is a progressive neurologic disorder that causes the brain to shrink (atrophy) and brain cells to die. Recent studies have shown the potential of visual interventions to enhance the functioning of AD patients. Therefore, clarification of the profile of visual deficits in AD and possible mechanisms underlying these deficits are needed. So we Proposed a camera-based detection for visually impaired or Alzheimer's person to spot the texts on the printed labels, or books, names of the objects in real-time, and names of the known person using face detection and Sign languages. To read the texts from books we are using an OCR (Optical Character Recognition) method to convert the Image to Texts. Once the pictures are converted to text. By using Machine Learning we're visiting to detect the known faces, Real-time objects, and signing to text. The anticipated output will be Convert to Audio using Text to Speech API.

Keywords—Automatic image extraction, AI, Optical Character Recognition, Tesseract, Face detection, object detection, sign detection.

Design and Implementation of Photonic Crystal Fiber for Optical Broadband Communication Using Birefringence

Sarathkumar R, Vengadesh K, Tarun S, Venumadhav C

Sri Krishna College of Engineering and Technology

Abstract—In it paper, we Suggested a new pattern on a hexagonal indirect photonic clear string as obtains a massive poor oil yet ultrahigh birefringence contemporaneously. The optic parcels about the Suggested had been delved using the finite aspect approach (FEM) integrated together with a indirect impeccably matched bed at the boundary. The simulation issues verified enormous poor dissipation about -1480 ps/nm.km or ultrahigh birefringence on 3.8×10^{-3} on wavelength on 1500 nm because of the choicest continuity Our Suggested Model displayed the suitable optic places besides on-circular breath holes between the bottom yet sheathing region as allows the fabrication process. The massive negative dissipation on the Suggested microstructure upon the broad spectral range, i.e., 1400 nm to 1650 nm, or birefringence make such a suitable candidature because high- speed optic communication also distinctive seeing operations.

Keywords—photonic clear fiber, dissipation, birefringence, optic broadband communication

PROGRAMME SCHEDULE (ICONSTEM 2023)***Track 2: Advancements in Intelligent Technologies in Smart Electronics***

Date : 06.04.2023

Time : 12.45pm – 3.00 pm

Mode of Presentation: Online**Venue: ECE Block- Hall -9****Session Chair:**

1. **Dr. Anitha.G**, Assistant Professor, Institute of ECE, Saveetha School of Engineering, SIMSATS, Chennai.
2. **Mr.B.Arun Vijayakumar**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	12.45pm – 1.00pm	ICON23T265	Effective Implementation of Accurate Human Iris Eye Recognition System using Polynomial Regression in comparison with Naive Bayes algorithm for improved Accuracy	Eswar Chandra Ch Kalaiarasi S
2	1.00pm – 1.15pm	ICON23T266	Implementation of Music genre classification using Support Vector Clustering algorithm and KNN Classifier for improving accuracy	Pavan Venkata Naga Sai M, Kalaiarasi S
3	1.15pm – 1.30pm	ICON23T272	Empirical Assessment of Artificial Intelligence Enabled Electronic Voting System Using Face Biometric Verification Strategy	Tamilselvi M Manimaran B Sanasam Chanu Inunganbi
4	1.30pm – 1.45pm	ICON23T273	Monitoring underground cable faults by inspecting the phase variation using the IoT and Node MCU	Dr. A. Aranganathan Dr. Rajinikanth E Mrs.T Gomathi, Dr.V. Vedanarayanan Sakthi Prabha R Dr. S.Sivasundarapandian
5	1.45pm – 2.00pm	ICON23T274	Centralized control system employing Node MCU and IoT for finding the vehicle in the event of an accident, theft, or alcohol overdose	Aranganathan A Ranjithkanth E Gomathi T Vedanarayanan V Sakthi Prabha R Sivasundarapandian S
6	2.00pm – 2.15pm	ICON23T1231	Data Sharing in Cloud-Assisted IoT	T Primya M Swetha V Ramya S R Taanusri G Ridhanya Arunsekar Rajasekaran
7	2.15pm – 2.30pm	ICON23T1232	Optimized protocol for image transmission over IOT	Aneesh Pradeep T.Prabhakaran Ch.Babji Prasad Gnanasaravanan Subramaniam A Suresh V.Venkataramanan
8	2.30pm – 2.45pm	ICON23T1227	Research and Innovation to Market Development: Artificial Intelligence in Business	Nikitha Yathiraju Dr.P.Raman Ravikiran Madala Dr.Prashant Surgonda Patil Dr.Ashok Kumar S.Ashwin
9	2.45pm-3.00pm	ICON23T1228	Nonvolatile D- Latch And Flip-Flop Designs Based on New Memristor Technology	D.Sridhar N.Naga Raju Bandreddi.Shanmukha Sai Sripathi Vijaya Chittibomma Hema Dammu Venkata Jayasurya

Effective Implementation of Accurate Human Iris Eye Recognition System Using Polynomial Regression in Comparison with Naive Bayes Algorithm for Improved Accuracy

Ch. Eswar chandra, S. Kalaiarasi

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences, Saveetha University

Abstract—The Effective implementation of an accurate human iris eye recognition system in the field of cyber crime using Polynomial Regression in the comparison with Naive Bayes algorithm for improved accuracy. It is used to identify people easily. Two groups of algorithms are proposed. Naive Bayes algorithm is compared with polynomial regression. Both algorithms work on human eye recognition for accuracy. Accuracy is analyzed for Human iris Eye recognition. Naive Bayes is a processing technique based on Bayes theorem. Polynomial Regression calculates the result values based on input features from the data in the work. The algorithm uses the properties of training data to create a model, which it then uses to estimate the value of new data. The Naive Bayes sample size ($N=23$) and Polynomial Regression sample size ($N=23$) algorithms are used to recognise iris. The significance value of the data set was predicted using SPSS with an G-power value 80%. Naive Bayes accuracy is 94.366% which is comparatively higher than Polynomial Regression with accuracy of 92.364%. There is a significant difference among two groups with a significance value of 0.048($p<0.05$). aive Bayes algorithm performs better than the Polynomial Regression accuracy of human eye recognition in the field of cyber crime.

Keywords—Computer Vision, Machine Learning, Naive Bayes, Novel Eye Image, Eye Recognition, Polynomial Regression.

Implementation of Music Genre Classification Using Support Vector Clustering Algorithm and KNN Classifier for Improving Accuracy

M. Pavan Venkata Naga Sai, S. Kalaiarasi

Saveetha School of Engineering, Saveetha Institute of Medical And Technical Sciences, Saveetha University

Abstract—To enhance the Music genre classification using novel Support Vector clustering Algorithm and K-Nearest Neighbors Classifier with improved accuracy.Two groups such as novel Support Vector Machines Algorithm and K-Nearest Neighbors Classifier are applied. The total number of samples analyzed using this methodology are 1000 music files. Among this sample dataset, 300 music files[70%] of the dataset was set to use as a training tool and 700 [30%] was taken as a testing dataset. Programming experiment was carried out for $N=10$ iterations for the novel Support Vector clustering Algorithm and K-Nearest Neighbors Classifier algorithm respectively. Computation processes were executed and verified for exactness. Each group consists of a sample size of 10 And the alpha value is 4.020 and the beta value is 1.359. The SPSS was used for predicting significance value of the dataset considering G-Power value as 80%.Novel Support Vector Clustering Algorithm shows a high accuracy and homogeneity for Music genre classification, and statistical significance difference is less than 0.001 ($p>0.05$).This research attempts to provide a new method of classifying music genres. Comparison results show that efficiency of the novel Support Vector clustering technique is superior to K-Nearest Neighbors Classifier for Music genre classification.

Keywords— Music Genre Classification, Novel Support Vector Clustering algorithm, K-Nearest Neighbors Classifier, Machine Learning, Acoustic features, Gtzan Database, Emotion.

Empirical Assessment of Artificial Intelligence Enabled Electronic Voting System Using Face Biometric Verification Strategy

M. Tamilselvi, B.Manimaran, Sanasam Chanu Inunganbi

SRM Institute of Science and Technology, Rajalakshmi Institute of Technology, KoneruLakshamiah Education Foundation

Abstract—Each and every citizen has a primary concern to vote for the nation, in which it is the basic need to all countries in the globe. But the fact is, every election around 20% votes are not polled from the voter side. This is due to the conditions of rural village problems, lack of time, health issues and so on. So that the need for an electronic voting system is formed, but the major issue in the system is security. All the voters have a question in their mind is the concern of privacy and security issues. This paper is intended to design a novel face based biometric methodology to authenticate to place their valuable vote in the correct manner. The goal of this methodology is to create an electronic voting mechanism that will make elections more reliable and convenient. Voters prefer to submit their ballots in specific locations for voting, such as polling booths and are willing to wait in a long line to do so. Fake votes cast by ineligible voters might generate just as many issues. For that reason, this work proposes an electronic voting mechanism that has the potential to be quite helpful. The government may be able to conserve the budget normally spent on elections thanks to this technique. This proposed scheme introduced a face recognition approach to identify the respective voter and authenticate them to vote further, only if the respective person is eligible to vote with correct identity. The logic of Artificial Intelligence (AI) is applied to check the process, that is the face matching with the trained samples and the resulting section provides the proper proof to the efficiency of the proposed scheme in detail. As a whole, the system is being created to facilitate the work of the Independent Electoral Commission of India and to lessen the burden on people who work there.

Keywords— Artificial Intelligence, AI, Biometric Verification, Face Recognition, Image Processing, Online Voting, E-Voting

Monitoring Underground Cable Faults by Inspecting the Phase Variation Using the IOT and Node MCU

Dr.A. Aranganathan, Dr. Rajinikanth E, Mrs. T Gomathi, Dr.V.Vedanarayanan, Sakthi Prabha R, Dr. S.Sivasundarapandian

Sathyabama Institute of Science and Technology, Aurora's Technological and Research Institute

Abstract—In urban locations, underground cable systems are a prevalent practice. Even though a cable defect can occur for a variety of causes, it might be challenging to pinpoint its specific location during removal or repair. The system suggested in this system is used to locate the defect precisely and display it to the dedicated website via the internet using a Wi-Fi module, providing advance knowledge to the authorized person at the other end. Framework engineers have made error detection a top priority in both transmission and conveyance. Recognize the start of errors and difficult work; quick error recognition helps protect the content from harm before it is hurt. By eliminating errors made by human assistance and identifying common error locations, nearby elements help to reduce error rates and minimize feed times. The system uses a microcontroller board to identify transmission line problems before sending one to the center for analysis using an IoT device.

Keywords —Node MCU, Fault detection, Underground Cable, Phase variation, IoT

Centralized Control System Employing Node MCU and IOT for Finding the Vehicle in the Event of an Accident, Theft, or Alcohol Overdose

Aranganathan. A, Rajinikanth E, Gomathi.T, V.Vedanarayanan, Sakthi Prabha R, S.Sivasundarapandian

Sathyabama Institute of Science and Technology, Aurora's Technological and Research Institute

Abstract—Car theft is a big problem today. The number of recorded vehicle thefts has increased by 25 during the previous years, according to the NICB data report. The government is successfully stopping vehicle theft. But, they frequently do not find enough proof to follow it. In the suggested system, when unauthorized access occurs, the buzzer will switch on instantly. Also, the control room is informed of the device's location via the GPS. Consequently, the theft of vehicles can be stopped. In the event of an emergency, such as an accident, the suggested system will also communicate location information. When a car accident happens, immediately The NODEMCU controller will receive the signal from the vibration sensor when an automobile rolls over. Node MCU transmits the alert message to the control room without delay. so that an ambulance service may be called right away and help to preserve the life by acting quickly. The subsequent module in this is for alcohol detection. When the driver drank alcohol while still sending information to their loved ones and the control room, the car wouldn't start. In this way, once the crucial arrangements have been made, the police may act quickly. This message can be impeded by the driver to attempt to not eat up the crucial time for the salvage crew, unless there is a minor accident or a significant threat to human safety. This report is crucial for an accurate understanding of accidents involving tactile and alcoholic stimuli.

Keywords —Vehicle theft, GPS, location tracking, Alcohol detector, IoT, Node Mcu, Cloud.

Data sharing in Cloud-Assisted IOT

T Primya, M Swetha, V Ramya, S R Taanusri, G Ridhanya, Arunsekar Rajasekaran

KPR Institute of Engineering and Technology

Abstract—Smart gadgets can now communicate from close to a long distance with one another and with the Internet or cloud. Internet of things (IOT) brings a paradigm shift of employing low resource IOT smart system with cloud computing. However, by employing cloud computing, resource-constrained IoT smart devices can gain a number of advantages, Excluding the weight of data processing and storing the data on the network cloud. By implementing it on network edge offers more merits instead of using network cloud in contra to internet of things (IOT) applications which needs high data rates, mobility, and latency-sensitive real-time data processing. In this paper mainly focused on data transfers to cloud and IOT devices form smart data transfer. Here a suggestion that is authenticated search method to look for required information among one's personal or shared data on storage. At last, by evaluating processing time performance of the suggested scheme, outcomes that discussed in the paper, show that our strategy has a chance of working well in IoT applications.

Keywords— IOT, QRS-complex, R-R interval, DWT, Baseline Drift, De-noising

Optimized Protocol for image transmission over IOT

Aneesh Pradeep , T.Prabhakaran , Ch.Babji Prasad , Gnanasaravanan subramaniam , A Suresh , V.Venkataramanan

New Uzbekistan University, Joginpally B.R. Engineering College, GMR Institute of Technology, Karunya Institute of technology and sciences, GMR Institute of Technology , Dwarakadas J Sanghvi college of Engineering

Abstract—In day-to-day population increase needs communication stronger for fast and accurate results. Communication means transmission of data in terms of audio, text or image and videos transmissions. For text communication or audio communication most of the medium are suitable and long standing. But video transmission or image transmission needs higher bandwidth of data. Hence providing guided transmission media is very difficult task with higher bandwidth and more expensive also. In this regard wireless communication is most preferred mode of data transmission. Enabling image transmission in wireless transmission with low data error rate preferred to switch over the IOT devices communication. The way of data transmission defined as image transmission protocol are identified and verified. Out of these available protocols one of the most optimized protocol discussed in this paper. The transmission of images and videos is one of the many multimedia-based applications that make up a wireless sensor network (WSN). Applications, multimedia sensor nodes should optimize communication quality while reducing energy consumption. Lack of proper processing architecture and communication mechanisms to handle huge volume data has been the main barrier to sending images over WSN. Information security is becoming more crucial in data transmission as electronic data interchange advances quickly. Given how frequently photographs are used in industrial processes, it is crucial to safeguard sensitive image data from unwanted access. We offer an overview of transmission structures developed by diverse researchers for safe and effective picture transmission in this work.

Keywords— *IOT, Image transmission, Image Security, Image Quality, Routing.*

Research and Innovation to Market Development: Artificial Intelligence in Business

Nikitha Yathiraju, Dr.P.Raman, Ravikiran Madala, Dr.Prashant Surgonda Patil, Dr.Ashok Kumar, S.Ashwin

University of Cumberlands, Panimalar Engineering College, University of Cumberlands, Bharati Vidyapeeth, New Horizon College of Engineering

Abstract—Showcasing has become complicated over the most recent multi decade with the presentation of Artificial Intelligence. Artificial Intelligence Promoting is a strategy of ideally using technology to upgrade client's insight. Nowadays, it has become really important for firms to recognise and understand the needs of their customers. Machine intelligence Nd their assumptions regarding items as well as administrations. The deductions acquired from the exploration will give a better comprehension of the developments and the effect of computer-based intelligence on businesses and society overall. It will likewise give a superior comprehension of how simulated intelligence can change the business tasks and hence the worldwide economy. We have dissected the information utilizing different recurrence table and diagrams and one way ANOVA strategy. Four distinct business boundaries are seen as necessary for the examination in order to understand how computer-based intelligence affects business. Artificial intelligence will assist the businesses with preparing themselves for confronting the difficulties because of the fast mechanical progressions in human existence and business. Man-made intelligence has been demonstrated to affect all the business activities decidedly, as it upgrades supportability and market administration.

Keywords: *Technology, Robotics, artificial intelligence, business models, automation.*

Nonvolatile D- Latch and Flip-Flop Designs Based on New Memristor Technology

**D.Sridhar, N.Naga Raju, Bandreddi.Shanmukha Sai, Sripathi Vijaya, Chittibomma Hema,
Dammu Venkata Jayasurya**

Sri Vasavi Institute of Engineering and Technology

Abstract—The fundamental components of practically all digital electronic systems are memory and sequential devices. If there is a sudden loss of data, such as with a power cutoff, instant data recovery is essential. To over come this Nonvolatile memristors have been integrated into CMOS devices to satisfy the nonvolatile property requirements of sequential devices. The purpose of this paper is to describe how this approach can be used to improve the standard of nonvolatile D latches. A D latch proposed here uses only one memristor instead of the conventional design, many transmission gates and CMOS inverters are included. By designing our transistors with threshold loss, we eliminate the Weak effects. Simulations show that our suggested memristor-based D latch has 2.3X–3.6X faster switching between resistance states than the current designs. Causing the clock frequency to increase. Additionally, our approach enables us to choose from a considerably wider range of memristor threshold values. We create a nonvolatile master-slave D flip-flop with a shorter delay than all existing designs and a smaller area using the suggested memristor-based D latch. Our designs have better They are a desirable option for data backup in practical applications due to their performance in terms of choosing the threshold voltage, area, and delay. Memristor, a Latch D, and master-slave Nonvolatile D flip-flop.

PROGRAMME SCHEDULE (ICONSTEM 2023)***Track 3: Advancements in Aerospace and Robotics Technologies***

Date : 06.04.2023

Time : 10.30 am – 12.00 am

Mode of Presentation: Online**Venue: Mechanical Block- Hall -10****Session Chair:****1. Dr.T.B.Kannan**, Assistant Professor, Aero Space Engineering, SRMIST, Chennai.**2. Mr.Manikandan**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	10.30am -10.45am	ICON23T306	Design and Fabrication of Multi-Purpose Surveillance Mobile Robot	Mr. Vimalesh Annadurai Reshvanth V Dr.Santhanam V Thulasiram S Mr. KanagarajVenusamy, Sathyaranayanan V
2	10.45am-11.00am	ICON23T307	Automated Medicine Dispenser With Personal Healthcare Monitoring Unit Using IOT	Chandramohan P KanagarajVenusamy Mohammed Asan WazilA K Deepak G Naveen Raj UM
3	11.00am-11.15am	ICON23T302	Design, Analysis and Fabrication of Robotic Aero Car	Suresh R Ramani R Pranavee P Deepa M Jeyasimman D
4	11.15am-11.30am	ICON23T303	Simulation of Water Droplet Impact using OpenFOAM@	Sandeep Kumar S Bharathi S Ronni Bhavanikha J Purushothaman Nandagopalan Kannan B T
5	11.30am-11.45am	ICON23T304	Design And Implementation Of Biosensors For Soil Fertility Prediction And Management Using IOT	Senthil S Remya P
6	11.45am-12.00am	ICON23T305	Systematic analysis of application challenges with ROV components	Kanagaraj Venusamy Rhijaz K P Sepastin Joshi R E.Prakash Nithin Rajan N
7	12.45pm – 1.00pm	ICON23T308	Battlefield Debris Clearance Robot	Nivethitha S B Nareshbabu G Jeny Sophia S Arulmozhi M
8	1.00pm – 1.15pm	ICON23T309	Acoustic Measurements of Compressible Jet Flow from a Pipe Nozzle with Clover Cross-section	Rajesh Kumar S Kannan B T
9	1.15pm – 1.30pm	ICON23T501	Leveraging Affordable Business Innovations to Tackle House Price Rising: Applications of Machine Learning Algorithms	Perini PraveenaSri Vaddi Naga Padma Prasuna R Murugesan Shilpa Manjunath Nilugal
10	1.30pm – 1.45pm	ICON23T504	Research on the difficulties students have when pursuing careers in technology driven Agriculture and recommendations for their improvement	Arjune S Dr. V. Srinivasa Kumar
11	1.45pm – 2.00pm	ICON23T505	Evaluation of critical success factors for launching a new medical imaging device: Development and validation of a scale	Hiranmay Dash Dr. Monica Chaudhary Dr. Smitha Ranganathan
12	2.00pm – 2.15pm	ICON23T506	Factors influencing students towards green entrepreneurship willingness in delta districts of Tamil Nadu and suggestions for their betterment.	Arjune S Dr. V Srinivasa Kumar

Design and Fabrication of Multi-Purpose Surveillance Mobile Robot

**Mr. Vimalesh Annadurai, Reshvanth V, Dr. Santhanam V, Thulasiram S,
Mr. KanagarajVenusamy, Sathyanarayanan V**

Rajalakshmi Engineering College

Abstract—This paper presents about the review of recent research on the problem of home surveillance with having difficulty of path programming to the environment and high cost. The robot will have to be taught with manual lead through method by giving data to the Raspberry Pi, which the robot will learn its path so that the MSMR (multipurpose surveillance mobile robot) will repeat the programmed path, in case of any disturbance in front of the MSMR will look for its alternative path `to move or it indicates the user by bussing sound, popup massage using IOT devices, etc. We can change our desire path for different environment with the use of teach pendant. After teaching MSMR start to roam in the path which is instructed by the teach pendant. The set of action are given to the MSMR using voice assistant (like Move, Stop, on, off, etc). MSMR surveillance system which detect third party identification (face) and any changes in environment. It indicates to the user or robot will proceed the further action given by the controller.

Keywords—home surveillance, Teach pendant, Action, indicates.

Automated Medicine Dispenser WithHealthcare Monitoring unit Using IOT

Dr. Chandramohan P, Mr. KanagarajVenusamy, Mohammed Asan Wazil A.K, Deepak G, Naveen Raj
UM Rajalakshmi Engineering College

Abstract—This paper presents the review of recent research on the problem faced by the patient in taking their medication on time due to various reasons which could be addressed by the author to provide the solution for the stated problem by using the method of Automatic medicine dispenser system and also discussed recording the health parameters of the patients using various sensors. This paper also discussed about the approaches that have been proposed in the design and working of this device to control using wi-fi, Bluetooth, and IoT technology and evaluate the performance in terms of accuracy and portability. The paper also highlights the difficulties that remain in the discussed field and suggest a method to overcome the difficulties for improving the performance of the device. In summary, the paper offers a thorough assessment of the state of the art in this subject and suggests future improvements and strategies for researchers and inventors to pursue in order to improve performance.

Keywords—Automated Medicine Dispenser, IoT, Health parameters

Design, Analysis and Fabrication of Robotic Aero Car

R. Suresh, R. Ramani , P. Pranavee , M. Deepa, Jeyasimman D

PeriyarManiammai Institute of Science & Technology

Abstract—Now-a-days people are moving towards the instant things which saves their time and cost. It also suits in transportation field. Car is used for land transportation. In this paper, aero car technology has been proposed. Aero car is a personal air vehicle with a capacity of two passengers. As vertical take-off and landing (VTOL) is possible in aero car, there is no need of runway. Also aero car can be operated on the road as well as at the lower altitude of Earth's atmosphere. In this paper, prototype of aero car has been designed, analysed, fabricated and tested successfully. It is a new technology to solve many problems in society during emergency situations such as accidents, natural calamities etc. During emergency situations, aero car acts like an airborne ambulance. Using aero car, travelling above the rivers, hills, heavy traffic area and watershed will be easier. Therefore we strongly recommend that this aero car can play major role in future transportation.

Keywords- *Aero car, VTOL, design, analysis, fabrication.*

Simulation of Water Droplet Impact Using OpenFOAM®

Sandeep Kumar S, Bharathi S, Ronni Bhavanikha J, Purushothaman Nandagopalan, Kannan B T

Srm Institute Of Science And Technology, Hindustan Institute Of Technology And Science

Abstract—Droplet impact on the solid surface has been the notable research study in the field of fundamental sciences that encounter in the natural and industrial phenomena. With the present day advancements, the computational simulation of droplet interaction with the solid surface expounded the under-lying flow physics inside the droplet also. In the present study, the water droplet impacting at the Weber Number, $We =$, was experimentally carried out. The detailed flow phenomenon was also captured using the numerical technique in the OpenFOAM®. The spreading behaviour of water droplet upon impacting the hydrophobic surface was reported here. The temporal variation of the droplet in both the numerical and experimental studies evinced that except maximum spread regime, other regimes were closely matching. The equilibrium condition of the droplet is in puddle shape in the experimental whereas the simulation results show the Hemi-spherical hat.

Keywords—*Impact Dynamics, Droplet, Multi-phase flow, Wetting Dynamics, Simulation*

Design and Implementation of Biosensors for Soil Fertility Prediction and Management Using IOT

Dr. S. Senthil, Dr. P. Remya

Mailam Engineering College

Abstract—This lawsuit presents a totally internet of factors (IoT) primarily based rule by means of growing a brand new Nitrogen Phosphorus Potassium (NPK) sensor that consists of a (LDR) and (LEDs). The colorimetric precept is returned. Set up to reveal after which analyse the vitamins gift within the soil. Statistics gathered by means of the NPK sensor, developed out of doors of the chosen scientific fields, are then sent database to aid in speedy information retrieval. Thought approximately the dark commonplace sense is carried out to understand poverty about the nourishment of the diagnosed information. The crisp fee of each captured piece of records is differentiated into five cloudy values during fuzzification, specifically very low, low, medium, high and high. (P) or potassium (K). The inferential approach is continual in determining the deficiency of to be had N, P or K inside the soil decided on for testing, however for that reason a careful recommendation concerning compost quantity is sent in line with Farmer. The funded version could be studied the usage tremendous soil samples which include red soil, magnificence soil or wilderness soil. The blooming gadget is thought to bring about linear version with commentary after the soil answer is understood. Units of the proposed IoT device are regular with farmers nonetheless taking advantage of excessive crop outbreaks.

Keywords: Internet of things, Soil nutrients, Sensor, Potassium, Nitrogen, Alert Message

Systematic analysis of Application Challenges and Analysis of ROV Components

Kanagaraj Venusamy, Rhijaz K P, Sepastin Joshi R, E.Prakash, Nithin Rajan N

Rajalakshmi Engineering College

Abstract—The Paper discusses the analysis of the components of the Remotely Operated Underwater Vehicle while specifying the challenges and difficulties like latency in power and data that can arise while operating the ROV via the tether which undergoes dynamic modelling for its maximum optimization of work by considering the parameters that can affect the maneuverability of the vehicle and also on the structural frame which is designed with an appropriate material that can further make the vehicle efficient due to its properties like light weight that can reduce the required buoyancy and also corrosion resistance. A deep focus is also made into the specific applications like industrial deep-sea mining for which the ROVs are a huge addition for it replaces the risk of manned exploration and ease of finding ore hotspots which can be detected by the onboard sensors. A further advancement of the ROV is by making it autonomous without human assistance. The field of ROV design and deployment is one which huge scope for research and sustainable growth.

Keywords – Remotely Operated Underwater Vehicles, Tether Cable, Marine Mining Technology, Dynamic Modelling, Navigation System

Battlefield Debris Clearance Robot

Nivethitha S B, Nareshbabu G, Jeny Sophia S, Arulmozhi M

Rajalakshmi Engineering College

Abstract—In the aftermath of a conflict, the locals struggle to maintain their way of life in the presence of hazardous debris. Unexploded mines, bombs, weapons, ammo, steel helmets, handguns, and bayonets are among the dangerous debris. The safety of innocent individuals as well as the security of the country are at risk due to this debris. In this essay, we'll talk about the difficulties that come with humanitarian demining and the methods that are being employed. This study describes the gripper mechanism, actuation in robots, and processing involved in picture processing.

Keywords— *Humanitarian demining, dangerous debris, autonomous robot, unexploded mines, guns, pistols, bayonets.*

Acoustic Measurements of Compressible Jet Flow from A Pipe Nozzle With Clover Cross-Section

Rajesh Kumar S, B T Kannan

SRM Institute of Science and Technology

Abstract—The experimental work is carried out on jet flow issuing from a pipe with clover cross section. A compressible jet facility is used to produce the jet. The settling chamber pressure is varied from 2 to 6 bar. The noise generated by the jet flow are captured inside the semi-anechoic test facility which provides a free field acoustic environment. A calibrated condenser microphone along with the signal conditioner and computer based data card are used to acquire sound signals. The captured sound signals are converted to Sound Pressure Level (SPL) using Matlab. Overall Sound Pressure Levels (OASPL) are calculated from the SPL. The results shows that sound pressure levels increases as the pressure increases. The spectrum plots reveals that the noise capture are of broad band in nature and no tonal noises are present. The absence of tone even at higher pressures may be due to enhanced mixing offered by the clover geometry or the tones may be propagation in directions away from capturing mic locations.

Keywords — *Jet Noise, Clover Pipe, Acoustics, Flow*

Leveraging Affordable Business Innovations to Tackle House Price Rising: Applications of Machine Learning Algorithms

Perini PraveenaSri, Vaddi Naga Padma Prasuna, R Murugesan, Shilpa Manjunath Nilugal

ICFAI Business School, ICFAI Foundation for Higher Education, Atria Institute of Technology, Narasimha Reddy Engineering College, HKBK College of Engineering

Abstract—Affordable housing as the most significant Sustainable Development Goal of the United Nations, is a burgeoning social problem across various nations globally. A lack of reasonable lodging to purchase or lease is fuelling the worldwide accommodation emergency. By 2025, 1.6 billion people are supposed to be unfavorably impacted by this. Starting from the beginning in the historical landmark, the housing market has grown quickly and land costs have been soaring. The land business has ended up being the support point industry of our general economy. Nonetheless, verifiable experience has repetitively demonstrated that, as financial advancement depends too significantly on land, these costs proceed to upsurge quickly thereby outstripping demand over supply of land. Covid Pandemic is considered to have made the crisis much worse. The Indian housing market remains to skirmish with supply-side management for housing. Scarcity of technologically advanced and encumbrance-free urban land, the amplified cost of construction, absence of a feasible rental market and master-plan restraints have decreased the latent growth of the formal housing market in India. Taking cue from this, the research paper highlights the classic example of predicting the magnitude of Boston, USA and Indian Metropolitan cities housing prices by using regression techniques and Machine Learning Algorithms. The library packages used for this purpose are numpy, pandas, Scikit Learn and Seaborn. Housing prices are a basic picture of the economy, and its cost ranges are of remarkable interest to the purchasers and vendors. Request a home consumer to define their dream house, and they possibly won't initiate with the elevation of the basement ceiling or the nearness to an east-west railroad. In any case, this jungle gym rivalry's informational index demonstrates more substantially cost of dealings. Keeping in view of the Contemporary Challenge of the housing crisis, the research paper forecasts the spiraling prices of houses dwellings and its association with various variables. The paper highlights accurate Regression Models and innovative Business Models in mainstream planning and development of cities.

Keywords—Affordable Housing, Pricing, Machine Algorithm Innovative Practices

Research on the Difficulties Students have when Pursuing Careers in Technology Driven Agriculture and Recommendations for their Improvement

Arjune S, Dr. V. Srinivasa Kumar

School of Management SASTRA deemed to be University

Abstract—Currently, commercial agriculture places a strong emphasis on high productivity and produces for markets. Indian farmers compete with the world market. Many internationally reputed agribusiness corporations have entered the industry, either independently or through joint ventures, which in turn has an impact on rural society in the form of employment opportunities, the recruitment of labour force, and the development of an economic base among rural communities that leads to a higher standard of living. The current generation are not seeing Agri as a major business. They are always trying to get in the software or else ready to work for a monthly payment under big companies. But they are not aware of the scope of the Agri industries. The current study is only focused on the delta district students in Tamil Nadu. Additionally, the study only determines the problems faced by the students in taking up Agri business in the delta districts of Tamil Nadu. The study findings revealed that Agri Sustainability, Biosecurity Non-Availability, Low Innovation and technology impact, Disasters, Unfavourable govt policies, High competition are found to be the most complex challenges faced by students. While less financial support, and unfavourable market conditions were not considered significant threats by the students. This study suggest that students should start an FPO for that they should learn about basics of farming and indulge the management skills in their business, they should have a proper farmer support for handling the unforeseen events. Finally, this paper will help the policy makers to understand the hindrances students face in taking up Agriculture as a business.

Keywords—Agri business, challenges, FPO

Evaluation of Critical Success Factors for Launching a New Medical Imaging Device: Development and Validation of a Scale

Hiranmay Dash, Dr. Monica Chaudhary, Dr. Smitha Ranganathan

S P Jain School of Global Management

Abstract—New product development is critical for an organization's growth and sustainability. It is essential to study their critical success factors to create a conceptual framework for competitive medical imaging devices (MIDs) that are unique and complex. This study aimed to identify critical success measures for competitive advantages in new MID development and develop critical success factor scales based on these measures. This instrument represents a comprehensive measure for determining the factors influencing the competitive advantages of a MID launch. Indicator variables (customer satisfaction) are eliminated from the competitive advantages to obtain an acceptable Cronbach's alpha between 0.6 and 0.8; therefore, the framework's focus is on intrinsic advantages (cost and time to market). The expert validation and survey data analysis indicated the suitability of this instrument for detailed surveys and further research. The final scale has four dependent variables that explain the competitive advantages of product development: strategy, execution, organization, and regulation.

Keywords—survey instruments, new product development, medical imaging devices, strategy, success factors, execution, regulation, organization.

Factors influencing Students towards Green Entrepreneurship Willingness in Delta Districts of Tamil Nadu and Suggestions for their Betterment

Arjune S, Dr. V Srinivasa Kumar

SASTRA Deemed University

Abstract—As a massive improvement to Sustainable Entrepreneurship (SE), the global proportion of green, cultural, and conservation instruments issued in 2020 has gradually increased to US\$ 700 billion, nearly twice money issued in 2019. SE investments are growing rapidly in India as well, in a variety of areas such as mobility, sustainable sources, material recycling, and several others. As an example, the World Bank is launching a \$100 million loan guarantee plan to help India's rooftop solar programme. The notion of a green entrepreneur stems from ecological issues such as rising temperatures, smog, natural resource depletion, depletion of natural resources, climate variability, and other catastrophic events caused by ecological disruption. Green entrepreneurship is also crucial for employment creation. Furthermore, the characteristics of innovation and its predictors have a huge effect on technological advancement and variation. Despite significant advances in ecological bookkeeping and disclosing, as well as science and technology development and applications, the sustainability disparity exists noticeable. As a result, recognising the prerequisites for the creation of "green innovation," as well as its stimuli and obstacles, is vital. This study was mainly conducted to know the student's willingness towards green entrepreneurship adoption as they are the future of our nation. A structured questionnaire is used to collect responses for the study. Questions about demographic characteristics, attitude, educational support, subjective norm, self-efficacy, risk aversion, achievement are alone ascertained in the study. This study mainly checks the influence of independent variable like attitude, educational support, subjective norm, self-efficacy, risk aversion, achievement towards dependent variable green entrepreneurship willingness. This paper provides valuable suggestions for improving the green entrepreneurship. Finally, this study will assist policy makers in knowing today's learners' interest towards green entrepreneurship willingness.

Keywords—Green entrepreneurship, attitude, educational support, self-efficacy, risk aversion

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0

Date : 07.04.2023

Time : 8.00 am – 10.15 am

Mode of Presentation: Online**Venue: IT Block- Hall -11****Session Chair:**

1. Dr.G. Ramya, Assistant Professor, School of Computing SRMIST, Chennai
2. Dr.Venkatesh.S, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	8.00am-8.15am	ICON23T195	Efficient Online Medical Store Finding and Availability of Medicines Using SVM Compared over CNN with Improved Accuracy	Rasim Mahesh Naidu V.Nagaraju
2	8.15am-8.30am	ICON23T196	Prediction of Phishing Sites in Network using Naive Bayes compared over Random Forest with improved Accuracy	Palla Yaswanth V. Nagaraju
3	8.30am-8.45am	ICON23T198	Improved Accuracy for prediction of leaf wetness using Logistic Regression algorithm compared with Decision Tree algorithm	T. Manvitha K. Sashi Rekha
4	8.45am-9.00am	ICON23T199	Anomaly Detection for Vertical Plant Wall System using Novel Support Vector Machine in comparison with Deep Neural Network for improving accuracy	M.Meghana S.Radhika
5	9.00am-9.15am	ICON23T1100	Multispectral Satellite Image Segmentation of Land Cover Area using Novel Naive Bayes in Comparison with Decision Tree	M.Vignesh Uma Priyadarsini P.S
6	9.15am-9.30am	ICON23T1101	Lack of Accuracy while Visualizing Personage Characteristics on Online Social Media Using Indian Metrics During Epidemic Using Novel Random Forest Algorithm Comparing Over K-Nearest Neighbor Algorithm	V. Sai Ram Kumar Shri Vindhya A
7	9.30am-9.45am	ICON23T1102	Analyze the Lack of Accuracy in Stock Price Prediction using Novel K-Nearest Neighbors Regression Compared with Logistic Regression to Improve Accuracy.	Nagubandi Vinay Mahaveerakannan
8	9.45am-10.00am	ICON23T1103	Flight Ticket Prediction using Random Forest Regressor Compared with Decision Tree Regressor	N.Sri Sai Venkata Subba Rao S.John Justin Thangaraj
9	10.00am-10.15am	ICON23T1104	Analyze the Lack of Accuracy in Loan Prediction using Logistic Regression Compared with Random Forest to Improve Accuracy	Ramini Vivek Mahaveerakannan R

Efficient Online Medical Store Finding and Availability of Medicines Using SVM Compared over CNN with Improved Accuracy

Rasim Mahesh Naidu, V.Nagaraju

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—The goal of this research is to compare the performance of SVM and CNN at locating pharmacies and medicines sold online. The datasets have been extracted from internet collections, which are widely employed by medical retailers to build datasets for diagnostic testing. The dataset used for this experimental research consists of 501 records. Using a 95% confidence interval, 0.8 G-power, 0.05 alpha, and 0.2 beta quality, we were able to predict with a high degree of accuracy the efficient discovery and availability of pharmaceuticals from online medical shops. Our sample size was 20 (Group 1 = 10 and Group 2 = 10). The Support Vector Machine (SVM) has an 82.36% greater accuracy rate than the Convolutional Neural Network (CNN) classifier, which has an accuracy rating of 79.49%. The significance level of the study is $p<0.05$, or $p=0.0363$. CNN outperforms SVM in terms of accuracy rate when forecasting the efficient online medical store searching and availability of medications.

Keywords— *Online pharmacy, Convolutional Neural Network, Novel Support Vector Machine, Machine learning, Accuracy rate, Medicine*

Prediction of Phishing Sites in Network using Naive Bayes compared over Random Forest with improved Accuracy

PallaYaswanth, V. Nagaraju

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—The main aim of this research article is to improve the accuracy rate in efficient Novel prediction of phishing sites in the network by using Naive Bayes (NB) in comparison with Random Forest (RF) Classifier. Materials & Methods: This research makes use of the publicly accessible Kaggle data set for efficient novel network prediction of phishing sites. The sample size for efficient Innovative prediction of phishing sites in the network with an enhanced accuracy rate was 80 (Group 1 = 40 and Group 2 = 40), and calculations were done using G-power 0.8 with alpha and beta values of 0.05 and 0.2, respectively, and a 95% confidence interval. Naive Bayes (NB) with N=10 samples and Random Forest (RF) with N=10 samples efficiently forecast phishing sites in a network with an enhanced accuracy rate. Results: The Naive Bayes (NB) classifier has 95.58 percent greater accuracy rates than Random Forest (RF), which is 94.675 percent. The statistical significance level of this study is $p<0.05$, or $p=0.0481$. Conclusion: Naive Bayes (NB) is more accurate than Random Forest (RF) at predicting novel phishing sites in the network.

Keywords— *Phishing sites, Novel Naive Bayes (NB), Random Forest (RF), Accuracy rate, Network, Novel Prediction.*

Improved Accuracy for prediction of leaf wetness using Logistic Regression Algorithm compared with Decision Tree Algorithm

T. Manvitha, K. Sashi Rekha

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—The main aim of this research work is to compare the accuracy percentage of leaf wetness predicted by the Novel Logistic Regression algorithm to that predicted by the Decision Tree method using meteorological data. The accuracy of leaf wetness prediction was evaluated using Novel Logistic Regression and Decision Tree with a sample size of 20 at different times. Novel Logistic Regression has a significantly better accuracy percentage (91.89%) compared to Decision Tree accuracy (80.24%). Between Novel Logistic Regression and Decision Tree, The statistical significance difference $p=0.020$ ($p<0.05$) independent sample T-test value state that the results in the research are significant. The Decision Tree method fared much worse than Novel Logistic Regression.

Keywords— *Novel Logistic Regression, Decision Tree Algorithm, Machine Learning Algorithms, Relative Humidity, Classification, Prediction, Leaf wetness.*

Anomaly Detection for Vertical Plant Wall System using Novel Support Vector Machine in comparison with Deep Neural Network for improving accuracy

M.Meghana , S.RadhikaS

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—study is to develop and the aim is to create the plant wall system for anomaly detection to control indoor climate control using Novel Support Vector Machine in comparison with the Deep Neural Network. A Machine Learning Technique applied in anomaly detection in controlling indoor changes which compares Deep Neural Network and Novel Support Vector Machine has been proposed as well as developed to recognize the indoor climate changes in vertical plant wall systems. The size of the samples determined with the G Power (80%) calculator is shown to be 534. A Total of 1068 samples were used for evaluation. The accuracy of detecting anomalies in indoor changes was found to be higher by incorporating the Novel Support Vector Machine (68.42%) and with minimum mean error when compared with Deep Neural Network is 59.36% and the value of significance of groups is 0.741. It shows that the groups are statistically insignificant. Novel Support Vector Machine Algorithm obtains better accuracies than Deep Neural Network in anomaly detection and indoor climate control.

Keywords— *Anomaly Detection, Deep Neural Network, Indoor climate control, Machine Learning, Novel Support Vector Machine, Plant Wall System.*

Multispectral Satellite Image Segmentation of Land Cover Area using Novel Naive Bayes in Comparison with Decision Tree

M.Vignesh, Uma Priyadarsini P.S

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Science,
Saveetha University Chennai

Abstract—This work is based on the study of satellite images segmentation to find the land cover area accuracy based on Novel Naive Bayes which is compared with Decision Tree with improved accuracy in machine learning for classifying multispectral satellite image. For estimating the efficacy of the multispectral satellite image segmentation, the novel naive bayes algorithm with sample size of 20 and the decision tree algorithm with sample size of 20 were both calculated several times. Novel Naive Bayes have better accuracy compared to Decision Tree Algorithm. The power value is calculated using GPower 3.1 software (Gpower settings parameters with Gpower 80% for two groups; statistics analysis comparing two independent means; $\alpha=0.05$, power=-0.1) Novel Naive Bayes Algorithm has improved accuracy (92.5%) the standard deviation 0.05518 and the standard deviation error mean (0.01234) when compared with Decision Tree algorithm with improve accuracy (89.85%), The standard deviation (0.05518) and the standard deviation error mean (0.01323). The hypothesis is supported by the 2-tailed significance value of 0.002 ($p<0.05$), which is high. The results show that the Novel Naive Bayes Algorithm has segmented the image to find the land cover area and has got better accuracy and better performance compared to Decision Tree Algorithm by using the image segmentation process in machine learning.

Keywords— *Land Cover Area, Image Segmentation, Machine Learning, Novel Naive Bayes, Decision Tree, Multispectral Satellite Image.*

Lack of Accuracy while Visualizing Personage Characteristics on Online Social Media Using Indian Metrics During Epidemic Using Novel Random Forest Algorithm Comparing Over K-Nearest Neighbor Algorithm

V. Sai Ram Kumar, Shri Vindhya A

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—The principal objective of this research is to compare the Novel RFC algorithm with KNN algorithm in order to increase the intensity % of personage characteristics identification in order to determine the influence of coronavirus on Twitter users. The accuracy proportion with a 95% standard error, and a G-power of (0.8) was measured many times using the RFC method with representative sample=10 and the KNN method with representative sample=10. To forecast data for classification and regression models, the RFC employs a variety of Decision Trees. The likelihood that a data point belongs to one group or another is predicted using a KNN model. As compared to KNN accuracy (69%), RFC accuracy (92%) is superior. The findings obtained with $p=0.762$ ($p>0.05$) significance value demonstrate that two groups are statistically significant unimportant. RFC technique performs noticeably better than KNN.

Keywords— *Novel RFC, KNN, Twitter, Covid, Pandemic, Personage Traits Detection.*

Analyze the Lack of Accuracy in Stock Price Prediction using Novel K-Nearest Neighbors Regression Compared with Logistic Regression to Improve Accuracy.

Nagubandi Vinay, Mahaveerakannan R

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—This article's main goal is to make Novel K-Nearest Neighbors Regression more accurate at stock price prediction than the method for logistic regression. By employing the Novel KNN and LR methods, the analysis is carried out with a sample size of $n = 10$ and a G power of 80%. The information was gathered from several web sources, with a threshold of 0.05 percent, a confidence range of 95%, and a standard error of the mean and mean. When compared to the logistic regression technique, the novel K-Nearest Neighbors Regression has a high accuracy of 70.53 percent (49.52 percent). There is no statistically significant difference between the research groups with $p = 0.840$ and $p > 0.05$. For the stock price prediction of a customer, it shows that the novel KNN Regression appears to generate more accuracy than the LR algorithm.

Keywords— *Stock Price, Machine Learning, Novel K-Nearest Neighbors Regression, Logistic Regression, Neural Network*

Flight Ticket Prediction using Random Forest Regressor Compared with Decision Tree Regressor

N.Sri Sai Venkata Subba Rao, S.John Justin Thangaraj

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—The objective of the research study is to predict and analyze the flight ticket fare using machine learning algorithm Random Forest Regressor in comparison with Decision tree Regression algorithm. The Random Forest regressor ($N=10$) and Decision tree regressor algorithm ($N=10$) with the estimated sample sizes are taken and the prediction accuracy was calculated by using two groups and a total of 20 samples taken for both algorithms in this work. The samples were processed as 10 per group using a G-Power value of 0.8, threshold 0.05% and CI at 95%. The prediction Accuracy of both the algorithms are identified as the Random Forest Regressor with 86.70% and the Decision Tree Regressor with 79.69%. The statistical significance difference between GradientBoosting Regressor and AdaBoostRegressor was found to be 0.00 in the 2-tailed test ($p<0.05$). After all the Procedures the Prediction of Flight Prices using Random Forest Regressor seems to appear more accurate while compared with the Decision tree Regressor.

Keywords— *Machine Learning, Decision tree Regressor, Random Forest Regressor, Flight ticket Prediction, Flight fare.*

Analyze the Lack of Accuracy in Loan Prediction using Logistic Regression Compared with Random Forest to Improve Accuracy

Ramini Vivek, Mahaveerakannan R

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—The major purpose of this research is to evaluate the effectiveness of the Logistic Regression method in contrast to the Random Forest approach in terms of improving the accuracy of loan prediction. The results of the present research, a confidence interval of 95%, a threshold of 0.05 percent, and the mean and standard deviation were used to compile the data, which was obtained from a variety of sources. The G-power tool is scaled up by eighty percent, and two distinct kinds of algorithms are used in order to classify the data based on a sample size of n equaling ten. In contrast to the Random Forest approach, which has an accuracy of 75.6 percent, the Logistic Regression method has an accuracy that is very high at 81.30 percent. A difference of less than 0.05, or 0.001, represents a statistically significant gap between the two groups. It demonstrates that when calculating the amount of a customer's loan, the technique known as Logistic Regression seems to be more accurate than the alternative known as Random Forest

Keywords— *Loan Prediction, Machine Learning, Novel Logistic Regression, Random Forest, Neural Network, Deep Learning.*

PROGRAMME SCHEDULE (ICONSTEM 2023)***Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0***

Date : 07.04.2023

Time : 8.00 am – 10.15 am

Mode of Presentation: Online**Venue: IT Block- Hall -12****Session Chair:**

1. **Dr.N. Sasirekha**, Associate Professor, Sona College of Technology, Salem.
2. **Mrs.Shoba L.K**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	8.00am-8.15am	ICON23T1105	Relative Analysis of Random Forest Classification over Support Vector Machine Classifier For Credit Card Cyber Thefts Detection with Reduced False Rate	E Madhan Mohan S.John Justin Thangaraj
2	8.15am-8.30am	ICON23T1106	Handwritten Character Recognition using Directed Acyclic Graph	Sanasam Chanu Inunganbi M. Tamilselvi B.Manimaran
3	8.30am-8.45am	ICON23T1107	Wireless Mobile Charging For Smart Electrical Bus	B.Manimaran M. Tamilselvi Sanasam
4	8.45am-9.00am	ICON23T1108	Enhanced Network Stability and Reliability using Software-Defined Technology	Arunkumar Nandhakumar G
5	9.00am-9.15am	ICON23T1110	Abstractive Text Summarisation Using Keywords With Transformers Model	Dr. P. Shanmugam Mithul Sudharsan R S Vignesh P S Ashwin S
6	9.15am -9.30am	ICON23T1111	Comparison of Novel Optimized Random Forest Technique and Support Vector Machine for Fraudulent activities in credit card Detection with Improved Precision	M.Shahid Saif Ali Baig K. Jaisharma
7	9.30am-9.45am	ICON23T1119	Web Based Attendance Management System Using Geo-Location	Vishanthan shree. R Venkata Naga Sai Sucharith. M Dr A.Viji Amutha Mary Dr. Mercy Paul Selvan Dr. S. Jancy
8	9.45am-10.00am	ICON23T1120	Preventing Privacy Leakage in Cloud Service with Weighted Majority Algorithm	Elavarasi K Padmavathy G
9	10.00am-10.15am	ICON23T1122	Text to Video Generation using Deep Learning	R. Sivakami Mierudhula Sa Potheeswari J

Relative Analysis of Random Forest Classification over Support Vector Machine Classifier for Credit Card Cyber Thefts Detection with Reduced False Rate

E Madhan Mohan, S.John Justin Thangaraj

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—This research study aims to find a way to reduce the number of times that a false identification mistake occurs during a cybercrime involving a credit card transaction by making use of a binary selection of a new Random Forest classifier and Support Vector Machine. The goal of this study is to find a way to reduce the number of times that a false identification mistake occurs. The detection of any malware attacks is the primary purpose of this project; the information gathered in this regard need to be sent simultaneously to the user of the credit card as well as the investigator. Grouping was figured out for the sake of this study by using a Random forest classifier ($N = 28$) rather than a Support Vector Machine ($N = 28$) to figure out the error rate. In the statistical test, there is not a significant difference between g-power 0.08 and alpha values. This difference is either less than 0.05 or equal to 0.05. The data set is analyzed by using the Independent sample T test, and the confidence interval is set at 95%. This fake news detection difference has a statistical significance of 0.03 ($p < 0.05$), which shows that the findings of the studies included in this study are significant. A comparison of the Random forest classifier and the support vector machine was carried out in order to meet the requirements of this investigation so that it could be carried out. The accuracy of the support vector machine is 91.4 percent, whereas the accuracy of the random forest classifier is 94.4 percent, making the random forest classifier more accurate.

Keywords— Novel Random Forest Classifier, Support Vector Machine, Datasets, Transactions, Machine Learning, Variables.

Handwritten Character Recognition using Directed Acyclic Graph

Sanasam Chanu Inunganbi, M. Tamilselvi, B.Manimaran,

KoneruLakshamiah Education Foundation, SRM Institute of Science,
Rajalakshmi Institute of Technology

Abstract—In this paper, a Directed Acyclic Graph (DAG) neural network is proposed for the recognition of handwritten characters. Handwritten character recognition is one of the exciting and challenging research areas for pattern recognition. A particular method may work on some datasets; however, there is no absolute solution to this problem, and researchers are still finding solutions, especially for regional languages. It may be due to unavailability of the standard dataset, compounding characters, presence of similar-looking symbols, or curvature of characters in these languages. The objective of this paper is to recognize handwritten Meitei Mayek (Manipuri script) using the advantage of graph structure of Directed Acyclic Graph (DAG) deep neural network as it has the advantage of employing the most recent data to node representation.

Wireless Mobile Charging for Smart Electrical Bus

B.Manimaran, M. Tamilselvi, Sanasam

Rajalakshmi Institute of Technology, SRM Institute of Science and Technology,
Lakshamiah Education Foundation

Abstract—Solar energy is the most available renewable energy source unlike the energy sources and it is the immaculate energy source. Everyone can make it especially as it is providing tariff free electricity and power in long term investment plan. These are two different technologies to generate the electricity using solar photovoltaic (PV) and concentrated solar power (CSP) system. The contactless energy transfer is always used to transfer the energy from source to load without any physical connection. Natural fuels have declined as usage of fuels has increased day by day. And so, the world is moving forward to electric vehicles. In the fast paced world of technology, the electric buses will become mandatory and efficient for long driver in future years. The main idea is to combine the solar energy for hazard and hassle-free supply using contactless energy transfer (CET). The CET system is combined with solar energy source for mobile charging. And the additional solar energy can be stored in battery electric bus. Hence the CET system removes the distribution cables and it will be safer, comfort, satisfactory and adaptable.

Keywords— Contactless Energy transfer (CET), Photovoltaic system (PV), Concentrated Solar Power (CSP), Smart electrical bus

Enhanced Network Stability and Reliability using Software-Defined Technology

Arunkumar M, Nandhakumar G

IFET College of Engineering

Abstract—One of the most important qualities that a reliable network should have is the ability to withstand errors without being disrupted, as this is one of the most important aspects of the network. It is necessary for systems to have fault-tolerance solutions in order for such systems to have high availability and dependability. The proliferation of software-defined networking has led to the emergence of both new possibilities and new challenges for the development of novel fault-tolerance solutions, topologies, and standards. This has resulted in the emergence of both new possibilities and new challenges for the development of software-defined networking (SDN). In their research, we talk about the fault-tolerance that is offered by SDNs as well as the assistance that OpenFlow offers for failure recovery and how it is related to the fault-tolerance that is supplied by SDN. During the process of failure recovery, the stages of detection and recovery that are used by carrier-grade networks are where the major focus of our attention is placed. In addition, we focus on the fault-tolerance challenges that are unique to SDNs and provide a complete account of the research that is presently being done on fault tolerance in SDNs. This research is being carried out in the United States. After that, discussing fault tolerance in SDN research organised according to the three unique levels of SDN. This follows the previous step (i.e., application, data and control). In conclusion, we will review the conversation by outlining some potential next steps for the development of fault-tolerant SDNs within the context of the research community.

Keywords—Mission threatening Communications, Network Programmability, Fault Tolerance, OpenFlow, Failure Network Detection, And Recovery Under Software-Defined Networking.

Abstractive text Summarisation using keywords with transformers model

Dr. P. Shanmugam, MithulSudharsan R S, Vignesh P S, Ashwin S

Rajalakshmi Engineering College

Abstract—The application of linguistics to machine learning models has changed text summarization techniques. This abstractive method is used to give the best possible summary of huge data without losing the important key points in it. We will be using the BERT encoder for encoding the input text and collecting the vector of the important sentence in the paragraph and that vector will be sent to Transformers for decoding into a text. This text will be created abstractedly using the transform decoder model. For a long time, automatic text summarization has been the focus of natural language processing (NLP) research. The goal of abstractive text summarising is to produce a summary of a given document that only includes the most crucial and pertinent information. Among deep learning models, BERT and transformer models have dominated abstractive text summarization in recent years. This work offers a thorough analysis of transformer-based and BERT abstractive text summarization. We also go through how these models are developed and trained, as well as the many methods for bringing context and subject-matter expertise into the summarising procedure.

Keywords—Transformers, BERT, Summarization, Deep Learning, T5

Comparison of Novel Optimized Random Forest Technique and Support Vector Machine for Fraudulent activities in credit card Detection with Improved Precision

M.ShahidSaif Ali Baig, K. Jaisharma

Saveetha School of Engineering, Saveetha Institute of Medical And Technical Sciences,
Saveetha University

Abstract—The objective in the research work is to determine fraudulent activities in credit card using Novel Optimized Random Forest Technique (NORFT) algorithm with comparison of Support Vector Machine (SVM) algorithm by improving the precision. The study contains two groups, i.e Novel Optimized Random Forest Technique Algorithm is developed in the first group and Support Vector Machine is developed in the second group. To categorize data, a sample size of 181 per group was used with a g-power of 80%. The data was collected from various recent studies on the web, using a threshold of 0.05%, a confidence interval of 95%, and mean and standard deviation measurements. A new algorithm called NORFT was compared to the SVM, and NORFT was found to have significantly higher precision at 92.52%, compared to SVM Algorithm's precision of 62.82%. The significance value ($p>0.05$), which was determined to be $p=0.352$, indicated that there was no significant difference between the two algorithms. However, NORFT was found to be more accurate in predicting fraudulent activities in credit card and was able to improve precision levels compared to SVM.

Keywords: Fraudulent, Credit Card, Data Security, Fraud Detection, Hackers, Security threats, Machine Learning, Novel Optimized Random Forest, Support Vector Machine.

Web Based Attendance Management System Using Geo-Location

**Vishanthanshree. R, Venkata Naga Sai Sucharith. M, Dr A. Viji Amutha Mary,
Dr. Mercy Paul Selvan, Dr. S. Jancy**

Sathyabama Institute of Science and Technology

Abstract—In Attendance Management System by usingGeo-Location, the aim is to take attendance by using Geo-Location to track the information about the user orparticular user whether the user is present or not in thatparticular location which was given by admin and thisgives the total information about the user . the recent trending the attendance management system by using finger printand the face detection but in some this will not work and itis time taking process, by using Geo-Location we can markthe attendance it makes easier for authentication. Thespaper focuses on using of the Geo-Location for theattendance system

Abstract— *Geo-Location , geofencing , attendance service*

Preventing Privacy Leakage in Cloud Service with Weighted Majority Algorithm

Elavarasi K , Padmavathy G

IFET College of Engineering

Abstract—The article discusses the use of the weightedprobabilistic C-Means (WPCM) System, a soft clusteringtechnique that is commonly used for cloud-based data analytics. However, it highlights the risk of exposing sensitive information through raw data when transmitting it to the cloud for analysis. Therefore, the authors propose a modification to the WPCM algorithm that utilizes the BGV encryption system to secure theraw data during the clustering process. The BGV encryptionsystem is a homomorphic encryption method that allowscomputations to be performed on encrypted data withoutrequiring decryption. This is useful because it preserves theprivacy of the data and avoids the need to decrypt it, which can be a time-consuming process. To implement the modified algorithm, the authors use polynomial approximations of the weight valuecalculations, membership matrix updates, and cluster centerupdates. The polynomial functions only involve addition andmultiplication, which makes them computationally efficient. Theauthors use the Taylor theorem to ensure that the approximationare accurate and do not affect the overall performance of thealgorithm. The effectiveness of the proposed technique isevaluated by comparing it with the standard WPCM algorithm ontwo large datasets (eGSAD and sWSN). The results show that theproposed method outperforms the standard method in terms ofeffectiveness, efficiency, and scalability. Specifically, the proposed algorithm achieves better clustering accuracy, requires lesscomputation time, and can handle larger datasets compared to thestandard algorithm.

Keywords— *Data Security, Cloud Computing, Big Data, Weighted Possibilistic C-Means Clustering.*

Text to Video Generation using Deep Learning

R. Sivakami ,Mierudhula Sa, Potheeswari J

Rajalakshmi Engineering College

Abstract—This Technology developments have resulted in the creation of techniques that can provide desired visual multimedia. Particularly, deep learning-based image generation has been the subject of in-depth research in many different disciplines. On the other hand, it is still challenging for generative models to produce films from text, a topic that is less focused. This research tries to fill this gap by training the model to generate a clip that matches a given written sentences. The field of conditional video creation is largely underdeveloped. With the help of a conditional generative adversarial network, which develops frame-by-frame and ultimately creates a full-length film, our project's goal is to transform text to image to video. This focuses on creating a single, superb video frame in the initial step while learning how to connect text and visuals. As the stages go, our model is gradually trained on an increasing count of continuous frames. This approach of learning in stages stabilizes the training and makes it easier to understand. High-definition movies may be created using conditional text descriptions. To demonstrate the efficacy of the recommended strategy, results from qualitative and quantitative trials on various datasets are required.

Keywords— *Variational auto encoders; GAN; Video generation; Conditional GAN; Video GAN.*

PROGRAMME SCHEDULE (ICONSTEM 2023)

Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0

Date : 07.04.2023

Time : 8.00 am – 10.15 am

Mode of Presentation: Online**Venue: CSE Block- Room 13****Session Chair:**

1. **Dr.M.Ayyadurai**, Assistant Professor, SRMIST, Chennai.
2. **Mr.M. Goudhaman**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	8.00am-8.15am	ICON23T1126	IOT- Based Navigation Assistance For Visually Impaired People	M.Arunkumar E.Lokesh
2	8.15am-8.30am	ICON23T1132	Intrusion detection and prevention approach in WLAN using cyber security	Elavarasi K Gopinath S
3	8.30am-8.45am	ICON23T1139	Imagination and Finite Element Analysis Machine Analysis for Fatigue Testing	Kamalakkannan K Balaji P Jagathrachagan A
4	8.45am-9.00am	ICON23T1208	Body Sensor Network Using Data Analysis and Modeling for Healthcare Application	Kushagra Gupta Anushka Dr. Manesh Ramakrishna Palav Ranjitha Jasmine R V. Bharathi Monika Gupta
5	9.00am-9.15am	ICON23T1209	Mobile Wireless Adhoc Networks Energy Consumption Monitoring and Quality of Service Analysis	Santosh Jangid Sonam Mittal Manoj Kataria Vikas Poonia Gaurav Sahu
6	9.15am -9.30am	ICON23T1210	Cyber Defence Based on Artificial Intelligence and Nural Network Model in Cybersecurity	Dr.D.Sugumaran Y.Mahaboob John Jansi Sophia Mary Kireet Joshi Dr.G.Manikandan Geethamanikanta
7	9.30am-9.45am	ICON23T1211	Library Management System Using Artificial Intelligence	Ali Hadi Abdulwahid Dr. Manjula Pattnaik Dr. Manesh R. Palav S B G Tilak Babu Geetha Manoharan Dr. G. Pandi Selvi.
8	9.45am-10.00am	ICON23T1212	Machine Learning Based Yoga Recommendation System for The Physical Fitness	Dr. Anganabha Baruah Dr. Valli Madhavi Koti Dr. Vivekanand Pandey Ms. Savita Mohan Gungewale Dr N Srikanth Reddy Monika Gupta
9	10.00am-10.15am	ICON23T1213	A Multi-Criteria Intelligence Aid Methodology and IOT Based Data Protection Using Machine Learning	Dr.K.P Manikandan Anusha.P Arockia Jaya.J Sumit Pundir K.Rammohan Dr.priyabrata Adhikary.

IOT-Based Navigation Assistance for Visually Impaired People

M.Arunkumar, E.Lokesh

IFET College of Engineering

Abstract—Ultrasonic sensors and an Arduino UNO board were used to create the IoT-based smart shoe system for the blind. Making objects with the internet of things Physical entities can converse with one another or even with people. It is an enabling technology that is expanding and developing quickly. There are 1.6 million children among the over 40 million blind individuals in India. Independent travel is very challenging for those who are blind. In many areas of their lives, they must rely on others. The main issue is when kids cross the street to walk. They can't see every obstruction in their path with a stick in hand. The blind person's use of the smart shoe will enable independent travel. It is constructed utilising Internet of Things technology, and the shoe will have several sensors, a micro-controller, and buzzers installed in it. When the wearer steps in front of an obstruction, the shoe alerts him or her by buzzing. Smart glasses are created using the Internet of Things (IoT), It also has sensors incorporated and aids in object detection by spanning a wider region, to increase efficiency. In order to prevent the user from running into any obstacles in his path, the blind sneaker and goggles be in contact and work together.

Keywords—*IoT, Arduino UNO, NodeMCU ESP8266*

Intrusion detection and prevention approach in WLAN using cyber security

Elavarasi K ,Gopinath S

IFET College ofEngineering

Abstract—Today's world has a significantly increased requirement for networking and data sharing. Network security is required due to the rising internationalisation of information technology. Despite the security that firewalls may offer, they never warn administrators of impending threats. There is a need for a trustworthy detection system to enhance efficiency and accuracy when looking for such aberrant behaviour in network packets. The threat of new types of assaults on the network is there constant in the evolving network environment of today. Therefore, updating the network management system regularly is necessary for upgrading the security level. Intrusion Detection Systems is one of the systems used to monitor network packets (IDS). Numerous studies examined the application of machine learning to improve intrusion detection system effectiveness and automatically identify malicious network activity based on network packet patterns. The suggested model was created using a machine-learning method to identify malicious network packet activity. KDD-99 dataset is utilized for that. To decrease computation complexity, the dataset is first standardized. Then, additional characteristics are removed using the co-relation method, Particle Swarm Optimization (PSO), and Genetic Algorithm (GA). Only practical elements can identify harmful conduct according to the reduced features. According to the analysis of the result, co-relation works best when choosing less than 15 features, whereas PSO performs best when selecting more than 15 features. Following feature reduction, the k-means clustering technique is used to cluster the data. The efficiency of classifiers may be improved by significantly reducing the training time by employing clustering to create datasets that accurately replicate the original dataset. The proposed algorithm's last phase involves classifying the dataset into the five attack categories of DOS, U2R, R2L, Probe, and Normal using multilevel hybrid classifiers based on SVM, ELM, and RF. The suggested approach demonstrates its effectiveness in high accuracy, high detection rate, and low false alarm rate compared to other multilevel classification works (FAR).

Keywords—*Support Vector Machine (SVM), Genetic Algorithm (GA), Particle Swarm Optimization (PSO), Floor Area Ratio (FAR), and an Radiofrequency (RF).*

Imagination and Finite Element Analysis Machine Analysis for Fatigue Testing

Kamalakannan K ,Balaji P ,Jagathrachagan A

IFET College of Engineering

Abstract—An essential challenge in materials science and engineering is the design and analysis of fatigue testing equipment. In many applications, such as aerospace, automotive, and construction, the strength and durability of materials under repetitive stress is a crucial consideration. The design process consists of several processes, such as defining the precise needs and specifications, coming up with a design idea, making a 3D model, doing an FEA analysis, optimizing the design, and finally building and testing the machine. The choice of material, durability, safety, environmental issues, and reducing possible sources of error or variability are some of the elements that must be taken into account during this procedure. The behavior of the machine is simulated using FEA analysis, which also helps designers pinpoint sections of the design that need to be changed to enhance performance. After the creation of precise blueprints and specifications using the optimal design, the machine is built. Last but not least, the machine is put through a test to make sure it satisfies all the requirements and can conduct the requisite fatigue testing. It is feasible to create a machine that can carry out precise and repeatable fatigue testing of a variety of materials by following a methodical procedure and including the necessary safety and reliability features.

Keywords— *Fatigue testing machine, finite element analysis, cantilever beam, rotating eccentric cam, axial and bending loads.*

Body Sensor Network using Data Analysis and Modelling for Healthcare Application

Kushagra Gupta, Anushka, Dr. Manesh Ramakrishna Palav, Ranjitha Jasmine R, V. Bharathi, Monika Gupta

SRM Institute of Science & Technology, SRM Institute of Science & Technology, Global Business School and Research Centre, , R.M.K. Engineering College, Kongunadu college of engineering and technology, Chitkara Business School, Chitkara University

Abstract—Because of the progression of AI procedures, information is presently handled nearly proficiently. Such information extraction methods are many times utilized in a scope of situations, like web-based entertainment, business, casting a ballot, betting, foreseeing, and that's only the tip of the iceberg. One of these significant spaces where displaying and information examination are vigorously used is healthcare. This network's information assortment and handling are utilized to screen an individual's normal exercises, confirm the information's exactness, choose when a health related crisis is important, and that's just the beginning. There are bounty research that pre-owned this methodology; a few utilized their own strategies, while others utilized pre-laid out techniques like AI, brain networks, profound learning, and others. In this paper, different methodologies that have been introduced in a couple of picked research articles are contrasted all together with break down sensor information. Both the examination procedures and the review's decisions are incredibly changed and have various particular highlights.

Keywords— *Healthcare. Body Sensor, Network, Application*

Mobile Wireless Adhoc Networks Energy Consumption Monitoring and Quality of Service Analysis

Santosh Jangid, Sonam Mittal, Manoj Kataria, Vikas Poonia, Gaurav Sahu

B K Birla Institute of Engineering & Technology

Abstract—A MANET is a mobile wireless ad hoc network self-organizing Systematized mobile phone networks devices that communicate with each other without relying on a fixed infrastructure. These networks are characterized by their dynamic topology, which can change rapidly as nodes move in and out of range of each other. MANETs are widely used in a variety of applications, including military communications, emergency response, and mobile commerce. When it comes to mobile ad hoc networks (MANETs), managing the energy consumption of the mobile devices. Since nodes rely on battery power, excessive energy consumption can lead to nodes running out of power and leaving the network, causing disruptions in communication. Therefore, This is a crucial step since monitor total annual energy expenditures nodes and develop energy-efficient routing protocols. Another important aspect of MANETs is the standard of care (QoS) provided to users. Quality of Service, or QoS, is the term used to describe level of performance and reliability of the network, such as delay, throughput, and packet loss rate. To ensure a high level of QoS, it is necessary examination of results for the purpose of the network as well as design practical routing protocols. The work presented herein introduces a comprehensive study of energy consumption monitoring and QoS analysis in MANETs. We first review the existing literature on energy-efficient routing protocols and QoS analysis in MANETs. We then propose a novel energy consumption monitoring framework that uses a distributed approach to monitor the amount of power that individual network nodes require to function. The framework enables the detection of energy-hungry nodes and the development of energy-efficient routing protocols. We also present a QoS analysis framework that uses a network simulator purpose: to measure how well routing techniques work under various scenarios. The framework allows the analysis of the effect of changing values of variables on the QoS of the network, such as a measure of the network's complexity that takes into account the mobility of nodes, and the traffic load. Finally, we evaluate utilising simulations to evaluate the suggested frameworks the performance with existing approaches. The findings prove that the suggested frameworks in improving energy efficiency and QoS in MANETs.

Keywords : Mobile Ad hoc Network, Energy consumptions, Quality of service, etc.,

Cyber Defence Based on Artificial Intelligence and Nural Network Model in Cybersecurity

Dr.D.Sugumaran, Y.Mahaboob John, Jansi Sophia Mary, Kireet Joshi, Dr.G.Manikandan, Geethamanikanta

Vel Tech, Mahendra College of Engineering, , Idhaya Engineering College for Women, Graphic Era Deemed to be University, Saveetha School of Engineering, University of the Cumberlands

Abstract—Cybersecurity is an increasingly critical aspect of modern society, with cyber attacks becoming more sophisticated and frequent. Artificial intelligence (AI) and neural network models have emerged as promising tools for improving cyber defense. This paper explores the potential of AI and neural network models in cybersecurity, focusing on their applications in intrusion detection, malware detection, and vulnerability analysis. Intruder detection, or "intrusion detection," is the process of identifying Invasion of Privacy to a computer system. AI-based security systems that can spot intrusions (IDS) use AI-powered packet-level network traffic analysis and intrusion detection patterns to signify an assault. Neural network models can also be used to improve IDS accuracy by modeling the behavior of legitimate users and detecting anomalies. Malware detection involves identifying malicious software on a computer system. AI-based malware machine-learning algorithms are used by detecting systems to assess the behavior of software and recognize patterns that indicate malicious activity. Neural network models can also serve to hone the precision of malware identification by modeling the behavior of known malware and identifying new variants. Vulnerability analysis involves identifying weaknesses in a computer system that could be exploited by attackers. AI-based vulnerability analysis systems use machine learning algorithms to analyze system configurations and identify potential vulnerabilities. Neural network models can also be used to improve the accuracy of vulnerability analysis by modeling the behavior of known vulnerabilities and identifying new ones. Overall, AI and neural network models have significant potential in cybersecurity. By improving intrusion detection, malware detection, and vulnerability analysis, they can help organizations better defend against cyber attacks. However, these technologies also present challenges, including a lack of understanding of the importance of data in machine learning and the potential for attackers to use AI themselves. As such, careful consideration is necessary when implementing AI and neural network models in cybersecurity.

Keywords—Cyber Security, Cyber Defence, Artificial Intelligence,etc.,

Library Management System Using Artificial Intelligence

Ali Hadi Abdulwahid, Dr. Manjula Pattnaik, Dr. Manesh R. Palav, S B G Tilak Babu, Geetha Manoharan, Dr. G. Pandi Selvi

Southern Technical University, Princess Nourah Bint Abdulrahman University, Global Business School & Research Centre, Aditya Engineering College, SR University, Dhanalakshmi Srinivasan College of Engineering

Abstract—Artificial intelligence, which has resuscitated shrewd libraries, is one of the principal powers driving the improvement of present day civilisation. This exposition makes sense of the hidden association between artificial intelligence (simulated intelligence) and savvy libraries, examinations how computer based intelligence is utilized with regards to brilliant libraries, and gives instances of how computer based intelligence further develops library administrations. Artificial intelligence is an expansive, complex area of exploration that may be hard for non-experts to comprehend. However, its definitive goal is to make PC systems with artificial intelligence, which clearly has significant ramifications for librarianship. In the event that we are to propel the investigation of canny systems, we should have an exhaustive comprehension of simulated intelligence advances. Through the ongoing utilization of computer based intelligence advancements, countless model shrewd library systems for classifying, ordering, data recovery, reference, and different purposes have been grown; notwithstanding, just few these systems have formed into items or systems that are utilized in the standard activities of libraries.

Keywords— Library, Management, Artificial Intelligence, System Modelling

Machine Learning based Yoga Recommendation System for the Physical Fitness

Dr. Anganabha Baruah, Dr. Valli Madhavi Koti, Dr. Vivekanand Pandey, Ms. Savita Mohan Gun gewale, Dr N Srikanth Reddy, Monika Gupta

Amity Institute of Psychology and Allied Sciences, GIET Degree College, Amity University Patna, Shree Siddheshwar Women's College of Engineering Solapur, Presidency University, Chitkara Business School, Chitkara University

Abstract—A recommendation system's goal is to expect client interests and derive their points of view. This system can furnish clients with the data they require in light of their necessities and keeping in mind that thinking about their inclinations. To improve recommendations, the information should be all the more completely dissected. At the point when individuals take in critical chilly, their safe systems can be hindered. At the point when there is no physical movement during the day, flu occasionally influences invulnerability and respiratory lot infection. Physical movement fortifies an individual's insusceptible system. The people who overhill are more inclined to infections since it requires more work to keep them at an ordinary internal heat level. This study made a system for anticipating physical fitness utilizing information on calorie consumption, race, orientation, inclinations, and medical issue. The proposed recommendation system makes practice recommendations in light of the client's inclinations while considering comorbidities, geographic areas, and exercise and eating ways of behaving.

Keywords—Machine learning, Yoga recommendation system, Physical fitness.

A Multi-Criteria Intelligence Aid Methodology and IOT Based Data Protection Using Machine Learning

Dr.K.P Manikandan, Anusha.P, Arockia Jaya.J, Sumit Pundir, K.Rammohan, Dr.priyabrata Adhikary.

Madanapalle Institute of Technology & Science, R.M.K Engineering College, Idhaya Engineering College for Women, Graphic Era Deemed to be University, St.Martin's Engineering College, New horizon College of Engineering

Abstract—IOT-powered devices have become one of the key companions of humans in recent times. Almost every sector of the modern market is heavily reliant on IoT-powered devices such as smartphones, computers and other smart gadgets. This has resulted in the massive availability of digital data containing the personal information of the users. This has caused a massive issue regarding data privacy on IoT-powered devices in recent times. This has resulted in the application of ML-based technologies for fostering better data protection. The concerned study has focused on the role of the different ML-powered technologies such as federated learning and differential learning models. This study has also focused on numerical analysis of the issues associated with the mentioned models during data protection. It has also provided survey data regarding different FL-based algorithms such as LM, NN, NM, DT and CM. This study has analyzed the issues and strengths of ML-based data protection on local and global data sets.

Keywords— *federated learning, differential learning, machine learning, distributed learning, cryptographic methods.*

PROGRAMME SCHEDULE (ICONSTEM 2023)***Track 1: Advancements in Artificial Intelligence and Data Science for Industry 5.0***

Date : 07.04.2023

Time : 8.00 am – 10.15 am

Mode of Presentation: Online**Venue: CSE Block- Room 14****Session Chair:**

- 1. Dr.S.Diwakaran, Associate Professor, Kalasalingam Academy of Research and Education. Srivilliputhur.**
2. Mr. S.Aravindh, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	8.00am-8.15am	ICON23T1216	Application of Cloud Computing and Big Data in Accounting Software	Jayalakshmi.M Dr. RajeshKumar R Savaliya Prashant Atmakuri Prof.M.V.Rama Prasad Kafila Kanika.
2	8.15am-8.30am	ICON23T1217	Content Features and Machine Learning Based Effective Fake News Detection	Dr Keyurkumar M Nayak Dr P. Kiran Kumar Reddy Sweta Priya T Srinidhi Galiveeti Poornima Monika Gupta.
3	8.30am-8.45am	ICON23T1218	Innovative Business Research in Finance And Marketing System Based on Ethically Governed Artificial Intelligence	Dr.Roopa Adarsh Ms.Rajani H Pillai Dr.Anu Krishnamurthy Dr.Aatika Bi
4	8.45am-9.00am	ICON23T1219	Analysis on Implementation of Artificial Intelligence in the Sports Activity	KV Nagesha Dr. G.Yedukondalu Prashant Atmakuri S B G Tilak Babu Pulluri Sreenivasgoud Monika Gupta.
5	9.00am-9.15am	ICON23T1220	Real World Autonomous IOT Based Data Privacy Protection Using Machine Learning	Dr.Jegadeesan.D Dr.Sundar.R Dr.Sreekanth.S Theetchenya.S Anandaraj.B.
6	9.15am -9.30am	ICON23T1123	Traceability of pharmaceutical products using block chain	Farjana U S Monish G S Vassanth S S Dhimant vanu
7	9.30am-9.45am	ICON23T1124	A Reinforcement learning approach for storing data in reactive IOT network	J.Suganthi S. Abinaya
8	9.45am-10.00am	ICON23T1214	Application of Artificial Intelligence in the Supply Chain Finance	Dr.Manikandan Rajagopal Dr Keyurkumar M Nayak Dr. K. Balasubramanian Dr.Irfan Abdul Karim Shaikh Dr. Vishwanath Karad Monika Gupta.
9	10.00am-10.15am	ICON23T1215	Blockchain Enabled Intelligent Surveillance System Model with AI and IOT	Mr.K.Sathyaseelan Tushar vyas Ravikiran Madala Dr.Vijaya Chamundeeswari Himanshu Rai Goyal Raja Jayaraman.

Application of Cloud Computing and Big Data in Accounting Software

Jayalakshmi.M, Dr. RajeshKumar R Savaliya, Prashant Atmakuri, Prof.M.V.Rama Prasad, Kafila, Kanika.

New horizon college , Ambaba Commerce College, Potluri Siddhartha Institute of Technology, GITAM

School of Business-Bengaluru, SR University, SRM IST Delhi NCR Campus

Abstract—A firm should have the option to stay versatile and responsive with the data it gathers, examinations, and offers in the present impacting world. Along these lines, the cooperation among organizations and data innovation has significantly extended after some time. Cloud computing is one of the most up to date thoughts in data innovation. Numerous gadgets can associate with worldwide servers utilizing this assistance from any area with a web association. Scientists directed a careful study to decide the degree of accounting experts' mindfulness about cloud computing to make sense of this new flanged innovation. Notwithstanding the Web society, advanced innovations that increment business exercises and work with clear independent direction have been influenced by globalization. Big data, cloud computing, and computerized reasoning may essentially improve business the executives and bookkeepers' exhibition. Specifically, the accounting business' fast reception of cloud computing and big data, as well as the jobs that these advances played inside accounting firms, is the focal point of this review.

Keywords— *Cloud computing, Accounting, Big data, accounting software.*

Content Features and Machine Learning based Effective Fake News Detection

Dr Keyurkumar M Nayak, Dr P. Kiran Kumar Reddy, Sweta Priya, T Srinidhi, Galiveeti Poornima, Monika Gupta.

University of Mumbai's Garware Institute of Career Education and Development, MLR Institute of Technology, Rama University , SR University, Presidency University, Chitkara University

Abstract—Machine learning is particularly crucial in the context of fraudulent messages in virtual entertainment due to the degree of biological and cultural concerns. Anyone can make a message that becomes a web phenomenon, whether it is real or phoney. Considering countries like India, the ideological organisations during general decisions actually act in this way by disseminating false information around the nation through online entertainment events. While some of the communications may be genuine, the majority are false. Spam communications and phoney messages carrying false information can propagate across online social networks. Several machine learning techniques are used by analysts to differentiate between spam communications and fake news. Customers are creating and sharing more data than ever before as a result of the continuous usage of virtual entertainment platforms, some of which are ludicrous and unrelated to the actual world. Computerizing the classification of text as false information could be challenging. Our study looks at a number of print characteristics that can be utilized to tell real text from phone. Based on these qualities, we train various machine learning algorithms using various training methodologies and assess their efficacy using four real-world datasets. According to an exploratory assessment, the student's technique in our suggested group is better than it was during her one-on-one tuition.

Keywords— *Content Features, Machine Learning, Fake News Detection*

Innovative Business Research in Finance and Marketing System based on Ethically Governed Artificial Intelligence

Dr.Roopa Adarsh, Ms.Rajani H Pillai, Dr.Anu Krishnamurthy, Dr.Aatika Bi

Mount Carmel College

Abstract—The purpose of this study is to enquire about potential of using ethically governed artificial intelligence (AI) in the finance and marketing systems of businesses. The integration of AI in business processes has been proven to be effective in improving efficiency and productivity. However, The potential negative moral repercussions of AI have been raised as a serious issue, especially in the context of decision-making. Therefore, this study proposes a framework for an innovative business research system that integrates AI and ethical principles to ensure responsible decision-making. The proposed system will be based on a set of ethical principles, including transparency, accountability, and fairness. These principles will guide the development and implementation of the AI system, ensuring that it operates within ethical boundaries. The system will be designed to deal with a lot of information, allowing businesses to make informed decisions about finance and marketing strategies. The A combination of questionnaires, in-person interviews, and online content will be used to compile this study's findings case studies, gathering information from business leaders and AI experts. The data collected will be used to assess the effectiveness of the proposed system in improving business performance and to identify any ethical concerns that may arise. The expected outcomes of this research are Development of an innovative business research system that integrates AI and ethical principles for finance and marketing decision-making. Identification of the potential benefits and ethical concerns of using AI in business processes. Recommendations for businesses to ensure responsible and ethical use of AI in their operations. Overall, this research will contribute to the understanding of the potential of AI in business decision-making while ensuring that ethical principles are adhered to. The proposed system has the potential to revolutionize the way businesses operate, providing them with a competitive advantage while upholding ethical standards.

Keywords— Artificial Intelligence, Business research, Finance and Marketing, etc.,

Analysis on Implementation of Artificial Intelligence in the Sports Activity

KV Nagesha, Dr. G.Yedukondalu, Prashant Atmakuri, S B G Tilak Babu, Pulluri Sreenivasgoud, Monika Gupta.

Madanapalle institute of technology and science, KoneruLakshmaiah Education Foundation, Potluri Siddhartha Institute of Technology, Aditya Engineering College, SR University, Chitkara University

Abstract—Since artificial intelligence technology has been developing recently, it is clear that many industries are benefiting from it. In this occasion, artificial intelligence has demonstrated pivotal to the sports area. It has been urgent in guaranteeing that the business changes from obsolete practices to additional contemporary ones. Artificial intelligence (computer-based intelligence) can be seen as a supporting innovation that explicitly upholds competitors' actual instruction preparing through strategies like information examination and recreation of preparing situations. Albeit however research on artificial intelligence is still in its beginning phases, it is critical to examine how it very well might be utilized in sports preparing on the grounds that this state-of-the-art innovation might here and there at any point make it more straightforward for people to truly prepare. This study starts by inspecting the earlier work on computer-based intelligence applications. This paper explores three explicit circumstances of man-made intelligence application in sports preparing and depicts the key ideas in view of the fundamental thought and related research discoveries of computer-based intelligence. This study centers around the nearby association between artificial intelligence (simulated intelligence) and actual schooling guidance and underlines the advantages of simulated intelligence, like its utilization, straightforwardness, and development.

Keywords— sports, sensors, Bluetooth, computer vision, smart ticketing, artificial intelligence applications.

Real World Autonomous IOT Based Data Privacy Protection Using Machine Learning

Dr.Jegadeesan.D, Dr.Sundar.R, Dr.Sreekanth.S, Theetchenya.S, Anandaraj.B.

Madanapalle Institute of Technology& Science, Madanapalle Institute of Technology& Science, Institute of Aeronautical Engineering, Madanapalle Institute of Technology& Science, Madanapalle Institute of Technology& Science

Abstract—Connecting everyday objects to the web (IoT) has rapidly grown what might be anticipated to continue expanding with an estimated By 2025, there will be 75 billion linked gadgets. This increase in IoT devices has led to concerns regarding data privacy and security. Autonomous IoT-based data privacy protection using machine learning (ML) has the potential to address these concerns. This research proposes a real-world application of autonomous IoT-based data privacy protection using ML. The system will use ML algorithms to analyze data and identify potential privacy breaches. It will then autonomously take appropriate actions to protect the data and prevent further breaches. The proposed research will use a mixed-methods approach, including surveys, case studies, and experiments, to collect data from IoT users, privacy experts, and ML researchers. The data collected will be used to evaluate the effectiveness of the proposed system in protecting data privacy and to identify any potential ethical concerns. The expected outcomes of this research are the development of an autonomous IoT-based data privacy protection system using ML, evaluation of its effectiveness in protecting data privacy, and identification of any ethical concerns that may arise. Overall, this research has the potential to contribute to the development of autonomous IoT-based data privacy protection systems that are effective in protecting data privacy while upholding ethical standards. The proposed Ultimately, this strategy might significantly alter the status quo of data privacy is protected in IoT, ensuring that users can confidently use IoT devices without concerns about privacy breaches.

Keywords: Internet of Things, Data Privacy, Machine Learning, etc., '

Traceability of Pharmaceutical Products Using Blockchain

Farjana U S, Monish G S, VassanthS ,S Dhimantvanu,

Rajalakshmi Engineering College

Abstract—Recently, traceability has become a top necessity. By tracking the origin, it establishes a genuine relationship between consumers and manufacturers in terms of the standards and quality of the product. The route taken from the producing facility to the final consumer is the traceability. Implementing block chain technology would be an excellent complement to attain this level of traceability and transparency for pharmaceutical items in the healthcare industry. It prevents unauthorised alterations to the information. Blockchain is a method of storing data in units called blocks that contain cryptographic hashes of earlier blocks to form a chain and a timestamp that keeps track of when a transaction was completed. Each block is protected cryptographically, making it difficult or impossible to alter, hack, or cheat by altering

Keywords— WEB, Blockchain

A Reinforcement Learning Approach for Storing Data in Reactive IOT Network

J.Suganthi, S. Abinaya

IFET College of Engineering

Abstract—A IOT-N is a collection of sensors deployed in remote and unapproachable territories to gather information efficiently, but faces technical challenges such as battery power and transmission range. Based on a cluster of energy-efficient As, energy conservation of sensor nodes is essential for IOT-Ns. Data transmission techniques are needed to decrease energy usage and increase device longevity. REINFORCEMENT is a protocol for selecting an efficient cache head (CH) and gateway (GW) node using parameters such as residual energy, lifetime, packet delivery ratio, energy efficiency, and end-to-end delay. It is implemented using Network Simulator 2 (NS2) version 2.34. The performance of REINFORCEMENT protocol is compared with ARPEES (Adaptive Data Transmission Protocol with Energy Efficiency and Event Clustering for IoT Networks) and SEECH (Scalable Energy Efficient Clustering Hierarchy) protocols by varying the number of rounds. The simulation results demonstrate the ability of REINFORCEMENT protocol to achieve higher residual energy, higher lifetime, higher packet delivery ratio, higher energy efficiency, and lower end-to-end delay than ARPEES and SEECH protocols.

Keywords - Reinforcement protocol, Network simulator, Arpees protocol, Seech protocol

Application of Artificial Intelligence in the Supply Chain Finance

Dr. Manikandan Rajagopal, Dr Keyurkumar M Nayak, Dr. K. Balasubramanian, Dr. Irfan Abdul Karim Shaikh, Dr. Vishwanath Karad, Monika Gupta.

School of Business and Management CHRIST (Deemed to be University), University of Mumbai's Garware Institute of Career Education and Development, Kalasalingam Academy of Research and Education, , Bahrain Polytechnic. Bahrain, MIT-World Peace University, Chitkara Business School

Abstract—Artificial intelligence (AI) has numerous applications in supply chain finance, including the ability to streamline processes, improve decision-making, and reduce costs. This abstract will discuss some of the key ways in which AI is being used in supply chain finance. One major Using AI in the Supply Chain finance is in risk management. By analyzing data from a variety of sources, including historical transaction data and external market data, AI can identify potential risks and suggest strategies for managing them. For example, AI can be used to predict which suppliers are at the greatest risk of financial distress, allowing companies to take proactive measures to minimize the impact of any disruptions. Another key Using AI in the Supply Chain finance is in fraud detection. By analyzing large volumes of data in real-time, AI can spot deviations from the norm that may point to fraud. This can help companies to prevent fraud and minimize losses. AI can also be used to optimize working capital management. By analyzing data on inventory levels, order volumes, and payment terms, AI can help companies to optimize their cash flow and improve their working capital position. For example, AI can help companies to identify opportunities to negotiate more favorable payment terms with suppliers or to optimize their inventory levels to minimize the amount of cash tied up in inventory. Finally, AI can be used to improve supply chain efficiency and reduce costs. By analyzing data on order volumes, shipping times, and other factors, A.I. may aid businesses in identifying opportunities to their supply network needs improvement processes and reduce costs. For example, AI can aid businesses in determining opportunities to consolidate shipments or to optimize their routes to reduce transportation costs. Now a days AI has numerous applications in supply chain finance, including risk management, fraud detection, working capital management, and supply chain optimization. By leveraging the power of AI, companies can improve their financial performance, reduce costs, and enhance their overall competitiveness.

Keywords : Supply Chain Management, Artificial Intelligence, Cost efficient, etc.,

Blockchain Enabled Intelligent Surveillance System Model with AI and IOT

Mr.K.Sathyaseelan, Tushar vyas, Ravikiran Madala, Dr.Vijaya Chamundeeswari, Himanshu Rai Goyal, Raja Jayaraman

Mahendra Institute of Technology, JERC University, University of Cumberlands, Saveetha Engineering College, Graphic Era Deemed to be University, St.Martin's Engineering College

Abstract—In the New Year, Internet of Things (IoT) is industrializing in a few certifiable applications, for example, clever transportation, brilliant city to make human existence reliable. Extreme amounts of detecting information are being delivered from various sensors devices in the Modern IoT as a result of the growing industrialization of IoT. Understanding the constraints of flow innovations and the potential for future exploration techniques is necessary to the establishment of a secure and dependable information environment. A dishonest individual can connect with a trusted person through the blockchain, a decentralized digital ledger that tracks the conversation from start to finish. This report urges the medical care industry to deploy blockchain-coordinated digital protection in order to preserve clinically relevant things in light of the use of artificial intelligence in clinical settings. Applications based on blockchain may be able to precisely pinpoint the most serious, potentially dangerous mistakes in the medical sector. Blockchain-based decentralized information insurance safeguards patient health records from data theft.

Keywords: *Blockchain, Enabled Intelligent, Surveillance System Model, AI, IOT*

PROGRAMME SCHEDULE (ICONSTEM 2023)**Track 2: Advancements in Intelligent Technologies in Smart Electronics**

Date : 07.04.2023

Time : 8.00 am – 10.15 am

Mode of Presentation: Online**Venue: ECE Block- Hall -15****Session Chair:**

1. **Dr.K.Vasanth**, Professor & Head, Vidya Jyothi Institute of Technology, Hyderabad.
2. **Mr.T.R.Chenthil**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	8.00am-8.15am	ICON23T1221	Machine Learning Methods For Online Education Case	Dr.Manikandan Rajagopal Dr Baig Muntajeeb Ali Dr.S.Sharon Priya Dr.W.Aisha Banu Dr. Madhavi G.M Dr.Punamkumar.
2	8.15am-8.30am	ICON23T1222	IOT And Machine Learning Based Affordable Smart Farming	P.G. Thirumagal Aqeel Hadi Abdulwahid Ali Hadi Abdulwahid Dr. Deepak Kholiya Dr. Raji Rajan Monika Gupta.
3	8.30am-8.45am	ICON23T1223	Ethically Governed Artificial Intelligence Based Innovative Business Research In Finance And Marketing System	Dr.Somanchi Hari Krishna Ravikiran Madala P.Ramya Dr.A.Sabarirajan Dinesh Dobhal Mrs.Sheetal D.Sapate.
4	8.45am-9.00am	ICON23T1224	Real-Time Intelligent Information Protection Using AI and Machine Learning Model	Anusha.P Dr.A.Beatrice Dorothy Dr.Kamalraj Sumit Pundir Dr.Shanti Verma Geethamanikanta Jakka.
5	9.00am-9.15am	ICON23T1225	A Novel Dynamic Watermarking For Secure Data Protection From Cyber Theft Based On Artificial Intelligence Supervision	Ravikiran Madala R.Monica Prof.Mrs. FSulakshana Sagar Malwade Selvakumaran.S Prof.Mrs.Shilpa Jivan Budhwale Dr. Sathiya Balaji
6	9.15am -9.30am	ICON23T1226	A Novel and High-precise Approximate Multiplier With evolvable Truncation	D.Sridhar Mr. N. Naga Raju L.V.N.Gowtham Pennaru Navya ponnuri K.V.B.Bhagya lakshmi MD.Abbas Mubarak pasha.
7	9.30am-9.45am	ICON23T1207	A Hybrid Effective Trusted Manet Based On Secure Data Transmission Using Artificial Intelligence	J.Gnana Jeslin Dr. Uma Maheswari R. Jayabharathi M. Raja Suguna
8	9.45am-10.00am	ICON23T220	Design and development of fully functional Prostheses Robotic arm	Sathish J Krithik M Lakshmi S Sugadev M
9	10.00am-10.15am	ICON23T250	Reversible - SAL Based Energy Efficient Design of CLA for DSP Application	Dr.J.Jebastine , Nanammal, V

Machine Learning Methods for Online Education Case

Dr. Manikandan Rajagopal, Dr Baig Muntajeeb Ali, Dr.S.Sharon Priya, Dr.W.Aisha Banu, Dr. Madhavi G.M, Dr.Punamkumar.

School of Business and Management CHRIST(Deemed to be University), Maulana Azad National Urdu University , B.S.Abdur Rahman Crescent Institute of Science and Technology, B.S.Abdur Rahman Crescent Institute of Science and Technology , SreeVidyanikethan Engineering College, Christuniversity

Abstract—Online education has become a popular choice for learners of all ages and backgrounds due to its accessibility and flexibility. However, providing personalized learning experiences for a diverse range of students in online education can be challenging. Machine learning methods can be used to provide personalized learning experiences and improve student engagement in online education. In this case study, We're going to do some research on machine learning methods in an online education platform. The platform provides courses in various subjects and is designed to be accessible to students from all over the world. The platform collects data on student behavior, such as the courses they enroll in, the time they spend on each course, and their performance on assignments and quizzes. We will explore several machine learning methods that can be applied to this data, including clustering, classification, and recommendation systems. Clustering algorithms can be used to group students based on their learning behavior and preferences, allowing instructors to provide personalized feedback and course recommendations. Classification algorithms can be used to predict student success in a particular course, allowing instructors to intervene and provide additional support if needed. Recommendation systems can be used to suggest courses to students based on their interests and past behavior. We will also discuss the potential benefits and challenges of using machine learning methods in online education. Benefits include increased student engagement, improved learning outcomes, and more efficient use of resources. Challenges include ensuring data privacy and security, preventing algorithmic bias, and maintaining transparency and fairness in the decision-making process. Overall, machine learning methods have the potential to transform online education by providing personalized learning experiences and improving student outcomes. By leveraging the vast amounts of data generated by online education platforms, we can create more effective and efficient learning experiences that meet the needs of students from diverse backgrounds and learning styles.

Keywords : Machine Learning, Education, Online class, etc.,

IOT and Machine Learning Based Affordable Smart Farming

P.G. Thirumagal, Aqeel Hadi Abdulwahid, Ali Hadi Abdulwahid, Dr. Deepak Kholiya, Dr. Raji Rajan, Monika Gupta.

Department of Management studies, VISTAS, College of Agricultural, University of Basrah, Southern Technical University, Graphic Era Hill University, JAIN (Deemed-To-Be University), Chitkara University

Abstract—An breakthrough technology called the Internet of Things (IoT) provides workable and dependable solutions for the modernization of a few locations. Systems based on the Internet of Things are being created to monitor and maintain horticulture farms with the least amount of human intervention. The proposed model is a framework for a smart water system that predicts how much water will be needed for a harvest using machine learning analysis. The three most crucial factors to consider when estimating how much water will be present in a given farming area are wetness, temperature, and moistness. Agriculture is one of the most important factors in the economic development of any country. In many non-industrialized nations, horticulture plays a significant and critical role in the development of their economies. India, one of the world's top producers of vast quantities of various harvests, genuinely employs conventional agricultural methods. Ranchers must increasingly produce more food of the highest quality while simultaneously coping with challenges associated to climate change adaptation. IoT-based and machine learning-based smart horticulture would help ranchers by continuously monitoring their crops and providing advice on harvesting and composting. This study's major objective is to provide a Smart Agribusiness framework based on the Internet of Things (IoT) that would help ranchers by providing recommendations based on a variety of variables, such as temperature, pH, wetness, and precipitation.

Keywords: IOT, Machine Learning, Affordable, Smart Farming

Ethically Governed Artificial Intelligence Based Innovative Business Research in Finance and Marketing System

Dr.Somanchi Hari Krishna, Ravikiran Madala, P.Ramya, Dr.A.Sabarirajan, Dinesh Dobhal, Mrs.Sheetal D.Sapate

VignanaBharathi Institute of Technology, University of Cumberlands, Sona College of Technology, , PSNA College of Engineering and Technology, Graphic Era Deemed to be University, Bharati Vidyapeeth Jawaharlal Nehru Institute of Polytechnic

Abstract—The ascent of a few insightful labor and products throughout the course of recent years, as well as their business feasibility and financial impacts, have driven some to contemplate whether the ongoing coming of computer based intelligence is just marketing publicity or really can possibly change society. The review investigates the few impacts of artificial intelligence (artificial intelligence), and digs further into both good and troublesome consequences for legislatures, networks, organizations, and individuals. The entire impacts of simulated intelligence, from exploration and advancement to execution, are analyzed in this paper. With the advancement of computer based intelligence innovations, the marketing business is developing rapidly. Artificial intelligence offers numerous open doors, including the capacity to acquire data, hyper-customize administrations, further develop consumer loyalty, save working expenses, support efficiency, and so forth. For both monetary administrations organizations and advertisers, artificial intelligence has changed the game.

Keywords: Artificial Intelligence, Marketing, Finance, Innovative

Real-Time Intelligent Information Protection Using AI and Machine Learning Model

Anusha.P, Dr.A.Beatrice Dorothy, Dr.Kamalraj, Sumit Pundir, Dr.Shanti Verma, Geethamanikanta Jakka.

R.M.K Engineering College, St.Joseph's College (Autonomous), Suguna College of Arts and Science, Graphic Era Deemed to be University, LJ University, Ahmedabad, University of the Cumberlands

Abstract—Machine learning (ML) and Artificial intelligence (AI) are crucial components in the field of information security due to their capacity for rapid analysis of millions of events and identification of a wide variety of threats. Malware that takes use of zero-day vulnerabilities is just one type of cyber threat; others include detecting potentially dangerous behavior before it results in a phishing attempt or the download of malicious software. AI and ML are indispensable because of their capacity for rapid analysis of millions of even. Through time and experience, these systems have the ability to recognize previously unseen threats. Users, assets, and networks may all be profiled based on their behavior histories, giving AI the ability to spot and react to outliers.

Keywords: Artificial Intelligence (AI), Real time intelligence, Machine Learning (ML), Cyber risk analytics, IoT, Automation, HTTP

A Novel Dynamic Watermarking for Secure Data Protection from Cyber Theft Based on Artificial Intelligence Supervision

Ravikiran Madala, R.Monica, Prof.Mrs. Sulakshana Sagar, Malwade, Selvakumaran.S, Prof.Mrs.Shilpa Jivan Budhwale, Dr.N.Sathy Balaji

University of Cumberlands , Nandha Engineering College , Dr.VishwanathKarad School of Polytechnic and Skill Development , Rajalakshmi Institute of Technology , Dr.VishwanathKarad School of Polytechnic and Skill Development

Abstract—One of the centre innovations of the Fourth Modern Insurgency (otherwise called Industry 4.0) is artificial intelligence (computer based intelligence), which can be utilized to shield Web associated gadgets from dangers, assaults, harm, and undesirable access. The current range of cyber security issues can be deftly handled by utilising well-known simulated intelligence techniques such as AI and profound learning procedures, the possibility of normal language handling, information portrayal and thinking, as well as the possibility of information or rule-based master frameworks displaying. In view of these man-made intelligence strategies, we give an exhaustive examination of "Simulated intelligence driven cyber security" in this article, which may be helpful for clever cyber security government agencies and the board. The cyber security registration method can be made more computerised and intelligent than the standard security frameworks by the security intelligence exhibiting in light of such simulated intelligence techniques. Likewise, we present various choices for future examination that fall inside the domain of our examination. At last, this paper's primary objective is to give direction and references to industry specialists in the field of cyber security, especially from a canny registering or simulated intelligence based specialized viewpoint.

Keywords: *Secure data protection, Cyber theft, Information security, Artificial intelligence.*

A Novel and High-precise Approximate Multiplier with Evolvable Truncation

D.Sridhar, Mr. N. Naga Raju, L.V.N.Gowtham Pennaru, Navya ponnuri, K.V.B.Bhagya lakshmi, MD.Abbas Mubarak pasha

Sri Vasavi Institute of Engineering and Technology

Abstract—In many applications, multipliers are one of the most important arithmetic functional units, and those applications frequently call for numerous multiplications, which consume a significant amount of power. An emerging technique for applications with error tolerance is using an approximation multiplier. to reduce power consumption and key path delay. With an approximation multiplier, performance and efficiency can be sacrificed for precision. In this study, we present a rough multiplier that can be adjusted and dynamically truncated partial products to fulfil various accuracy criteria. We also suggest a highly accurate rough 4-2 compressor. To decrease error distance, we also advise using a straightforward error compensation circuit. According to the needs of the user, the suggested approximation multiplier can alter the precision and processing speed needed for multiplications at run-time. When A proposed adjustable approximate multiplier shows superior performance to Wallace tree multipliers can reduce delay and average power consumption by 27% and 40.33% (up to 72%), respectively. Furthermore, we show that our proposed multiplier is suitable for and reconfigurable To meet different requirements at different layers of convolutional neural networks (CNNs).

Keywords — *CNN accelerator, high precision, deep learning, approximate multiplier, Approximate computing, Reconfigurable approximate design.*

A Hybrid Effective Trusted Manet Based on Secure Data Transmission Using Artificial Intelligence

J.Gnana Jeslin, Dr. Uma Maheswari,R. Jayabharathi,M. Raja Suguna

RMK College of Engineering and Technology

Abstract—The Integrated Internet MANET (IIM) by means of the aid of the hub the mobile ad hoc network's operating system produces, allowing communication between mobile and fixed nodes. Because of the wireless channel and a dynamic character, therefore integrated MANETs are vulnerable to security threats. In IIM, then unreliable connection mobility might tamper with knowledge but instead of disrupt the exchange of information between mobile and static nodes? Examining the amount of trust has an influence on the assurance with whereas an element may choose to transmit information. We propose a Hybrid Effective Trusted Knowledge Algorithm (HETKA) which it estimates the nodes' trust in order to enable safe data transfer. For determining the trustworthy node, the proposed approach involves two parts. An effective value of trustworthiness was derived using artificial intelligence (AI) a hybrid technique in the second phase after watching in the initial stage, the promiscuity node. We can conclude from comprehensive simulation research that the suggested mechanism leads to an effective approach for data security and stability from untrustworthy MANET and routers in the integrated internet.

Keywords— *Integrated Internet MANET, Mobile Ad hoc Networks, Hybrid Effective Trusted Knowledge Algorithm, gateway, Artificial intelligence*

Design and Development of Fully Functional Prosthesis Robotic Arm

Sathish J, Kirthik M, Lakshmi S, Sugadev M

Sathyabama University

Abstract—There are disabled people all throughout the world. Researchers and medical professionals are attempting to find a cure for each impairment. Research on disability cures has improved as technology has done so. By 2025, the size of the worldwide prosthetics and orthotics market is anticipated to be USD12.28 billion. Many people throughout the world experience pain when a limb or arm is gone. More than 50,000 people have little chance they don't have one or arms. By 2025, the size of the worldwide prosthetics and orthotics market is anticipated to be USD12.28 billion. Many people throughout the world experience pain when a limb or arm is gone. Research on disability cures has improved as technology has done so. Some people are born without arms, while others have external factors cause them to fall off. The trans-radial, transfemoral, transtibial and trans-humeral types are normally the four crucial ones to consider when it comes to prosthesis. This project is focused on the prosthetic arm. A prosthesis is simply an artificial device that replace a missing limb, leg or other part of the body.

Keywords—*EMG (electromyography), prosthesis arm, Muscle movement.*

Reversible - SAL Based Energy Efficient Design of CLA for DSP Application

Dr.J.Jebastine , Nanammal V

Jeppiaar Engineering College,

Abstract—A New Reversible with SAL logic generalization has been introduced for the very first time and it will emerge as a promising technology for ultra-low power VLSI design styles. The main principle of this reversible circuits are those circuits which will provide no information loss and computing process have all logic operations required that able to perform in a reversible manner thereby to reduce heat dissipation. This paper proposes a new circuit type adders design using reversible gates with SAL logic desire to higher densities and speed. As reversible logic very much useful for future research areas and it have variety of modern applications like optical computing, quantum computer, nanotechnology, DSP boards, FPGAs and energy saving embedded circuits. Thus, this paper also compares the implementation of proposed reversible-SAL design in terms of power consumption, delay, area, performance, energy dissipation and quantum cost. Proposed work provides significant improvement than other regular structures. The reversible – SAL based high speed adder circuits are designed and simulated using Tanner EDA tool under various process technology models.

Keywords—Reversible, SAL (Sub-threshold Adiabatic Logic), Modified IG gate, Feynman double gate, Quantum cost, Garbage outputs

PROGRAMME SCHEDULE (ICONSTEM 2023)**Track 2: Advancements in Intelligent Technologies in Smart Electronics**

Date : 07.04.2023

Time : 8.00 am – 10.15 am

Mode of Presentation: Online**Venue: ECE Block - Hall -16****Session Chair:**

1. **Dr G. Ramkumar**, Associate Professor & Head, Saveetha School of Engineering SIMATS Chennai.
2. **Mrs. V.Nanammal**, Assistant Professor, Jeppiaar Engineering College, Chennai.

S.No	Time Schedule	Conference Id	Paper Title	Authors
1	8.00am-8.15am	ICON23T1112	Detection of Epileptic Seizures using Novel Multi-Layered Convolution Neural Network in Comparison with Fully Convolutional Neural Network to Improve the Accuracy	G.Sasi Kumar K.Jai Sharma
2	8.15am-8.30am	ICON23T251	Labeled Image Segmentation and Retrieval For Fast Images Processing Using K-NN Algorithm	T.R.Chenthil Arun Vijayakumar B Ranjith S Balachandran G
3	8.30am-8.45am	ICON23T254	Remodeling Arrangement of Embedded Benzene Structure Using OBAP & QBAP Algorithm to Design Mesh For Medical Application	Anitha.C Gracelin Sheeba.R Ranjith.S Balachandran.G
4	8.45am-9.00am	ICON23T278	Voting Machine For Blind And Amyotrophic Lateral Sclerosis People	Nanammal V Dr.J.Jebastine Balajivasan R J
5	9.00am-9.15am	ICON23T1113	Glaucoma Disease Detection Using Hybrid Deep Learning Model	Manikandan J Sidharth Raj M Yogeshkumar R Sasi Varma C
6	9.15am -9.30am	ICON23T1114	An Efficient Algorithm for Secure Key Management in Cloud Environment	J.Jospin Jeya S. Raja Ratna G.Ganga Devi M.Priya
7	9.30am-9.45am	ICON23T1116	Health care monitoring system with fall detection system.	D BibianaMagdelene S.Jancy A. Viji AmuthaMary L. Suji Helen Mercy Paul Selvan
8	9.45am-10.00am	ICON23T1115	A Chatbot System for Education NLP Using Deep Learning	C. Kavitha, K Pavun Kavitha
9	10.00am-10.10am	ICON23T1117	An Automatic Method to Prevent and Classify CyberBullying Incidents Using Machine Learning Approach	Libina M Sasipriya G
10	10.00am-10.15am	ICON23T224	An Approach of Image Feature Extraction Using Obtuse-Angled Triangle Segmentation Using Mathematical Analysis for Enhanced Video Stabilization	G.C.Jagan Remya V G.Balachandran S.Ranjith

Detection of Epileptic Seizures using Novel Multi-Layered Convolution Neural Network in Comparison with Fully Convolutional Neural Network to Improve the Accuracy

G.Sasi Kumar, K.Jai Sharma

Saveetha School of Engineering, Saveetha Institute of Medical and Technical Sciences,
Saveetha University

Abstract—This research study is to detect the Epileptic seizures using Novel Multi-Layered Convolutional Neural Networks (NMLCNN) and to compare the performance with Fully Convolutional Neural Networks (FCNN). By using Novel Multi-Layered Convolution Neural Networks algorithm works with the data collected from the observations of nervous system cells. The changes in the Epileptic seizures from the resource's constraint, when the criteria met with randomizing, this will arrange in random ways for n times. The most typical beginning of a seizure is detectable through analysis of the Electroencephalogram (EEG). To examine this, the study utilized 20 samples in each group, with a G power value of 80%. The study used a predefined significance value and a Confidence Interval (CI) of 95%. This experiment found that NMLCNN has 92.25% and FCNN has 87.55% of accuracy for epileptic seizure. The Novel Multi-Layered Convolutional Neural Network achieved 0.012 significance using group analysis and provided significance. This probing concludes based on accuracy and significance results, detection of Epileptic seizures using Novel Multi-layered Convolutional Neural Networks has performed better compared to Fully Convolutional Neural Network.

Keywords— *Brain Electrical, Electroencephalogram, Epileptic Seizures, Machine Learning, Neural Network, Novel Multi-layered Convolutional Neural Network.*

Labeled Image Segmentation and Retrieval for Fast Images Processing Using K-NN Algorithm

T.R.Chenthil, Arun Vijayakumar B, Ranjith S, Balachandran G

Jeppiaar Engineering College

Abstract—In digital world the image processing has made a revolution. The demand for the faster processing needs the image to be compactable. Proposed work provides an segmentation and image retrieval technique for faster processing of the segmented image in a parallel manner .The image mid points are obtained and segmented, Each segmented image is named according and stored in an individual address with 24 bit numbers . The segmentation image is further segmented and stored under the First level of segmented image for easier processing this is done in an iterative manner is proposed as mid-point segmentation technique (MPS). The image segmentation level depends on the user requirement. The image retrieval is done by the address or label given to the each segmented image this methos is proposed as addressing image retrieval(AIR) technique. It avoids confusion in the image revival process. Image segmented using mid-point segmentation techniqueislabed, feature are extrcted and formed as the network using K- NN Algorithm (K-NN ALGORITHM). It enable the image retrieval with addressing image retrieval method for quick retreival in image processing.in the area of securing the data in the image which provides dual layer of security.

Keywords: *Image Processing, Image Segmentation, Mid-Point Segmentation Technique, Addressing Image Retrieval, Subset, K-NN Algorithm.*

Remodeling Arrangement of Embedded Benzene Structure Using OBAP & QBAP Algorithm to Design Mesh for Medical Application

Anitha.C, Gracelin Sheeba, Ranjith.S, G. Balachandran

Jeppiaar Engineering College

Abstract—In the medical field, several therapies result in surgery. Most pregnancies terminate with a caesarean section. Over the past few years, the number of caesarean deliveries has dramatically climbed. To operate on all of these patients, a mesh membrane is kept in place, which offers high support and flexibility for them to perform their regular jobs. For those who have had surgery, this nanosheet mesh membrane prevents post-hernias and helps to prevent their occurrence. For the construction of nano sheet mesh with benzene structure as the base, two algorithms, namely Origin Based Angular Placement (OBAP) and Quadrant Based Angular Placement(QBAP), are presented. The benzene structure is taken in the embedded form of B's, where one benzene structure will have a other benzene structure smaller than the outer one's size with the inner benzene's dimension smaller than the sides of the outer benzene. It will be suggested, one by one, how many benzene structures can fit inside of one another so that $B_i \subset B_{i+1}$. Since it puts the embedded benzenes B_i 's structure based on angular twist with varying degrees between 0 to 180 degree in OBAP and different degrees between 0 to 360 degree in QBAP, the proposed angular based putting of embedded benzenes B_i 's is an iterative technique. In comparison to the OBAP algorithm, the QBAP offers greater strength and covers twice as much ground. To create the Nano mesh sheet membrane for use in medical applications, the QBAP-obtained mesh structure is iterated upon repeatedly.

Keywords—*Embedded benzene, Mesh structure, Nano sheet, Origin based angular placement, Quadrant based angular placement*

Voting Machine for Blind and Amyotrophic Lateral Sclerosis People

Nanammal V, Dr.J.Jebastine , Balajivasan R J

Jeppiaar Engineering College, MSJ Researchers world

Abstract—This paper describes our first research experience in voting machine for blind and ALS people. There are several people suffered by ALS, a deficiency disease which causes them immobilization of their body parts, they are not able to move, talk and some people are unable to move even their head. These people also required to vote in an election but current system is totally based on visual logos. This makes them need to use another person's help for voting and this person may vote for the wrong candidate. Here we propose a solution for this problem by introducing brain wave sensor based blind voting system. each candidate logo is given to the voter as audio through a headset if the person blinks at a particular instant it will be noted as vote.

Keywords—*BCI, Brainwave sensor, Bluetooth, Neuroview, Matlab, Voting screen.*

Glaucoma Disease Detection Using Hybrid Deep Learning Model

Manikandan J ,Sidharth Raj M ,Yogeshkumar R, Sasi Varma C

Rajalakshmi Engineering College

Abstract—Glaucoma is a chronic, irreversible eye disease that affects vision and diminishes the quality of life. The goal of this initiative is to identify the illness sooner so that the person does not completely lose their vision. We cannot restore vision that has been lost due to glaucoma. The current study focuses on constructing a Hybrid Deep Learning Algorithm called CAPSGAN that functions as an effective glaucoma detection tool to create a toolkit for diagnosing the disease. The glaucoma dataset from the Kaggle repository was used in the current study work for accurate detection. There were two key components to the proposed CAPSGAN. In the first step, synthetic images are created using the Generative Adversarial Network (GAN), which primarily aims to provide more image data that will be used for the classification process. The Caps-Net has shown to be the best option for effective picture categorization, outperforming the well-known CNN and a few other machine-learning models. In contrast to simple CNN, which tends to lose important information during the max pooling phase, Caps-Net is specifically built to preserve the spatial, locational, and orientational specifics of image data, which are crucial for accurately determining whether or not a person is infected with the disease. A modified version of the Capsule Network (CAPSNET) is used for classification.

Keywords— *Glaucoma, Deep Learning, Generation*

An Efficient Algorithm for Secure Key Management in Cloud Environment

J.JospinJeya, S. Raja Ratna ,G.Ganga Devi, M.Priya

SRM Institute of Science and Technology

Abstract—Cloud infrastructure is efficient and scalable in all aspects; hence an enhanced method of safety measures is needed for secured data transfer .Security solution for cloud centric PC's was reliable in providing the on-demand cloud services. The common way to protect file before sending the file is encrypting the file .So safe key generation and allocation to the client for file decryption is a big task. The significant method we proposed is to receive the secret key secretly by the allowed user. We proposed well-organized algorithm to share out the secret key in cloud computing environment .In this paper the safety method used depends on two things .One is improving the security by using secure socket shell channel and the second one is sharing the secret key to the allocated user using well organized key distribution algorithm.

Abstract— *Secret Key, Private Key, Key Managing*

Health care monitoring system with fall detection system

D BibianaMagdelene,S.Jancy, A. Viji AmuthaMary,L. Suji Helen,Mercy Paul Selvan

Sathyabama Institute of Science and Technnology

Abstract—HealthCare has to be given the at most significance as we have suffered a lot during the epidemic and have learnt how to continue our lives and use the technology as for our convenience. When we see various technologies, we may understand that IOT can provide the superior support which is required at a crucial time like the pandemic. There are many devices that use IOT and provide an easy life so that we can maintain our health with least worries. There are many devices like smart watches that have sensors and could show the data related to our health in our mobile phones. When we monitor people using such devices it will bring the spreading of diseases to a minimum and a human does not need to be present at all times to monitor the health conditions. The devices can be used to capture the data regarding the patient's health and give insights without needing them to be in front of the doctor everytime.

Keywords— *Health monitoring system, fall detection,temperature, heart rate, sensors, smart devices.*

A Chatbot System For Education NLP Using Deep Learning

C. Kavitha , K.Pavun Kavitha

IFET College Of Engineering

Abstract—One of the key study topics in human-computerinteraction is the design of intuitive and natural interactionmodalities. Much effort has been put into developingsystems that can interact with people in their native tongue. Chat-boats are the conventional means of communicatingwith computers in natural language. A chatbot is a computer software that tries to mimic the conversationalstyle of a real person by simulating an intelligent discussionhaving one or many people in natural language that arehumans. Most chatbots use straightforward text interfacesto converse with their human partners, while some alsoinclude speech recognition and text-to-speech capabilities. Due to the commercial relevance of chatbots and theirentertainment value, research on them has attracted muchattention. The proposed work envisions the creation of achatbot framework that attempts to improve the interest skillsof chatbots by intelligently recognising and gathering lackingdata from the users that are required for the answergeneration. This study primarily examines chatbots that canserve the demands of small to medium-sized organisations. It is envisaged that such systems will be sufficiently interactive,easy maintenance, and inexpensive. Using a mixed knowledgebase, this chatbot system combines an external knowledge baseinto an integrated big data framework, a modified AIMLsystem, and an RDBMS. Researchers have also looked at thefeasibility of a chatbot tailored to a certain region.

Keywords—*Network Load Balancing (NLB), LicensedService Areas (LSA), Bayonet Neill-Concelman (BNC), Chat-bot, Python*

An Automatic Method to Prevent and Classify Cyber Bullying Incidents Using Machine Learning Approach

Libina M, Sasipriya G

IFET College of Engineering

Abstract—Deep learning models for CyberBullying detection on social media, as a relatively new field of research and application, need the identification, investigation, and analysis of a broad range of human-based expressions. Natural language processing encounters a categorization challenge when trying to identify whether a remark, post, message, or picture represents bullying. A thorough investigation of the meaning of words is also required. Previous attempts to identify CyberBullying focused mostly on manual feature extraction approaches. These tactics not only take a lot of time and effort, but also often misread the intended meaning of a communication. This removes the need for any further feature extraction approaches. Deep learning was used to identify CyberBullying in social media data that included both textual and visual aspects. Because of the large volume and diversity of user-generated information on current social media platforms, detecting CyberBullying in real time has become more challenging. The rapid transmission of information makes real-time regulation of online speech problematic. CyberBullying is a widespread issue that may take many forms. To stop CyberBullying, researchers used deep learning models to analyse social media content, modality, and language. This research found that embeddings with deep learning architectures accelerate representation learning and feature selection compared to typical machine learning methods.

Keywords—Deep Learning (DL), CyberBullying Detection (CB), Social Media (SM), Natural Language Processing (NLP), Systematic Literature Review (SLR), Soft Computing (SC).

An Approach of Image Feature Extraction Using Obtuse-Angled Triangle Segmentation Using Mathematical Analysis for Enhanced Video Stabilization

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Abstract—In the digital world need for high quality image and reduced size for faster processing and gaining more information has been rapidly developing. This paper deals with the image segmentation technique for attaining high quality and more informative image for any crime scenario. The proposed Obtuse-Angled Triangle segmentation (OATSM) method segments the obtained image in an iterative manner until the image gets segmented into equal rectangle triangles, in the iteration manner edges and mid points are detected and segmented to form 4 & 8. Further segmenting the isosceles triangle to right angled triangle we obtain totally 32 right angled triangles. This segmented rectangle will be further processed individually to obtain a high informative quality image to identify the person in crime scenario.

Keywords: Image segmentation, Obtuse-Angled Triangle segmentation, Edge detection

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26	ICON23T1237	Handwritten Letter Recognition using Artificial Intelligence	Dr.Venkatesh.S

Fake Profile Identification Using Machine Learning Algorithms

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Abstract—On-line Social Networks (OSNs) are increasingly influencing the way people communicate with each other and share personal, professional and political information. Like the cyberspace in Internet, the OSNs are attracting the interest of the malicious entities that are trying to exploit the vulnerabilities and weaknesses of the OSNs. Increasing reports of the security and privacy threats in the OSNs is attracting security researchers trying to detect and mitigate threats to individual users. With many OSNs having tens or hundreds of million users collectively generating billions of personal data content that can be exploited, detecting and preventing attacks on individual user privacy is a major challenge. Most of the current research has focused on protecting the privacy of an existing online profile in a given OSN. Instead, we note that there is a risk of not having a profile in the last fancy social network! The risk is due to the fact that an adversary may create a fake profile to impersonate a real person on the OSN. The fake profile could be exploited to build online relationship with the friends of victim of identity theft, with the final target of stealing personal information of the victim, via interacting online with the friends of the victim.

Securing Food Assistance: Blockchain for Noble Cause Supervision

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Abstract—Our project aims to connect hotels with charities to reduce food wastage and support those in need. The web application will allow hotels to list the availability and quantity of surplus food, and charities can view the details and make requests for food. The hotels can offer free or paid food, and if it is paid, the charity can make the payment through the application. The admin will verify the legitimacy of the hotels before listing them on the application. To ensure the security of information and transactions, we are using blockchain technology. It provides a secure and decentralized platform to share information over the network and store it in the database. It also allows for secure payments without intermediaries, increasing transparency and trustworthiness. Our project will reduce food wastage in hotels and support those in need. By connecting hotels and charities through a single platform, we can promote social responsibility and address the issue of food waste while helping those in need.

Keywords: Blockchain, Noble Cause Supervision, Secure food assistance, social responsibility, decentralized platform, hotel and charity web application, secure payment & transactions, SHA-256 Algorithm.

Identification of Skin Diseases Using Deep Learning and CNN

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Abstract—Skin diseases are extensive and frequently occur in general practice. Providing access to medical care and high accuracy of diagnosis are important issues, specifically when it comes to differentiating benign conditions from malignancies such as melanomas that require rapid diagnosis and treatment. Dermatologists diagnose skin lesions from clinical images by visual inspection. To support the diagnostic process that might be slowed by an increasing workload as well as a lack of specialists in certain areas of the world, methods for computer-aided detection and computer-aided identification for skin lesion image analysis have been developed. Among them, advanced machine learning and especially deep learning (DL) approaches have reached dermatologist-level classification of skin lesions from dermo and non-dermo images and generated considerable expectations in this area. Acceptable cloud-based or offline computational assets, and large publicly available databases for skin lesion images have further increased the development of dermatological applications of DL-based technologies for image analysis. Before their effective use in clinical settings, however, several issues remain to be addressed, such as quality standards of images, generation of impartial image data sets, generalized models, applicable algorithms, or clarity of the decision process of DL algorithms, to name some.

Keyword: Artificial intelligence, Deep learning, machine learning, Skin lesion image analysis, Dermo scope.

Tesla Stock Price Prediction Using Regression Model

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Abstract—Stock prices are first intent on by a company's initial public offering (IPO) when it first puts its shares into the market. Investment firms use a wide range of metrics, along with the definite number of shares being offered, to find out what the stock's price should be. Subsequently, the number of reasons indicated above will cause the share price to either rise or fall, driven mostly by the earnings that can be expected from the company. Traders use financial metrics regularly to determine the cost of the company, based on its history of earnings, changes in the market, and the profit that it is expected to bring in. Hence, stock price prediction has become an important research area. The main aim of this is to use machine learning based techniques for stock price prediction. The analysis of dataset by supervised machine learning technique (SMLT) using univariate analysis, bi-variate and multi-variate analysis. To propose a machine learningbased method to accurately predict the stock price. Proposed machine learning algorithm technique can be compared with best accuracy with precision, Recall and F1 Score.

Keywords- Machine learning, Regression, Tesla

Weapon Identification in Real-Time CCTV Videos Using DL

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Abstract—Security and safety is a big concern for today's modern world. For a country to be economically strong, it must ensure a safe and secure environment for investors and tourists. Having said that, closed Circuit Television (CCTV) cameras are being used for surveillance and to monitor activities i.e. robberies but this cameras still require human supervision and intervention. We need a system that can automatically detect these illegal activities. Despite state-of-the-art deep learning algorithms, fast processing hardware, and advanced CCTV cameras, weapon detection in real-time is still a serious challenge. Observing angle differences, occlusions by the carrier of the firearm and persons around it further enhances the difficulty of the challenge. This work focuses on providing a secure place using CCTV footage as a source to detect harmful weapons by applying the state-of-the-art open-source deep learning algorithms. We have implemented binary classification assuming pistol class at the reference class and relevant confusion object inclusion concept is introduced to refuse false positives and false negatives. No standard dataset was available for real-time scenario, so we made our own dataset by making weapon photos from our own camera, manually collected images from internet, extracted data from YouTube CCTV videos, through GitHub repositories, data by university of Granada and IMFDB(Internet Movies Firearms Database) imfdb.org. Two approaches are used, that is sliding window and region proposal/object detection. The algorithms used in this are VGG16, Inception-V3, Inception-ResnetV2, SSDMobileNetV1, Faster-RCNNInception-ResnetV2(FRIRv2), YOLOv3, and YOLOv4. Precision and recall count the most rather than accuracy when object detection is performed so these entire algorithms were tested in terms of them. YOLOv4 stands out best amongst all other algorithms were tested in terms of them. YOLOv4 stands out best amongst all other algorithms and gave a F1-score of 91% along with a mean average precision of 92% higher than previously achieved.

Keywords— Weapon detection, deep learning algorithms, Artificial intelligence, Security purpose, threats control.

Skin Cancer Detection Using Combined Decision of Deep Learners

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Abstract—Cancer is a terminal disease brought on by the unchecked expansion of bodily cells. The most significant public health issue, as a considerable amount of people die from cancer each year, Any area of the human anatomy, which may contain trillions of cells, is susceptible to the development of cancer. One skin cancer, which starts in the top layer of the skin, is one of the most common types of cancer. Protein sequences and several imaging modalities have been utilised in the previous to diagnose skin cancer using machine learning approaches. The disadvantage of machine learning methods is that they need human-engineered features, which is a very time-consuming and hard task. Deep learning provided the facility to some extent, which addressed this issue. Proposed system: The proposed deep learning-based ensemble approach is developed in two stages. In the first stage, three stage, three deep learning models of vGG, CapsNet and ResNet have been developed using malignant and benign images obtained from the International skin Imaging Collaboration(ISIC) skin cancer images repository In the second stage, the findings of deep learners have been combined using majority weighting.

Keywords – Skin lesion, convolutional neural network, combined decision, deep learning, ensemble learning, skin cancer.

Credit Card Fraud Detection Using Machine Learning

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Abstract—Credit card is the commonly used payment mode in the recent years. As the technology is developing, the number of fraud cases are also increasing and finally poses the need to develop a fraud detection algorithm to accurately find and eradicate the fraudulent activities. This project work proposes different machine learning based classification algorithms and hyper parameter tuning, pca for handling the heavily imbalanced data set for preprocessing . Finally, this project work will calculate the accuracy, precision, recall, f1 score Credit card frauds are easy and friendly targets. E-commerce and many other online sites have increased the online payment modes, increasing the risk for online frauds. Increase in fraud rates, researchers started using different machine learning methods to detect and analyze frauds in online transactions. The main aim of the paper is to design and develop a novel fraud detection method for Streaming Transaction Data, with an objective, to analyze the past transaction details of the customers and extract the behavioral patterns. Where cardholders are clustered into different groups based on their transaction amount. Then using sliding window strategy, to aggregate the transaction made by the cardholders from different groups so that the behavioral pattern of the groups can be extracted respectively. Later different classifiers are trained over the groups separately. And then the classifier with better rating score can be chosen to be one of the best methods to predict frauds.

Keyword— Streaming Transaction Data, Calculate the accuracy, Hyper parameter tuning, Novel fraud detection method.

Sign Language Recognition Using Artificial Intelligence

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Abstract—Sign language is the only effective form of communication for deaf people with hearing people that is used globally. These nonverbal cues are composed of movement and hand form. Deaf persons in Pakistan can communicate with others by using Pakistan sign language (PSL). Numerous investigations on PSL recognition and categorization have been conducted and published in scholarly literature. While some of these studies used sensors and Kinect-based techniques, the majority of them focused on colored-based hands. These methods are expensive and do not prioritise user friendliness. Hence this project is built with the data set to identify the alphabets by reading the hand motion and it returns the text and voice form of it. Thus the deaf and dumb people's opinions can not only be read but also it can be hearded(computerized voice) with emotions.

Keywords— Sign Language Recognition, Image Recognition, features extraction, Sign to Speech, Artificial Intelligence

Blockchain Based Voting Protocol With Maximum Voter Privacy

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Abstract—Building a strong electronic e-casting a ballot structure that offers the fairness and security of current democratic plans, while giving the straightforwardness and versatility introduced by electronic systems has been truly hard for a long time. In this work in progress paper, we survey a utilization of block chain as a help to execute spread electronic democratic structures. The paper proposes a smart electronic democratic system considering block chain that watches out for a piece of the obstacles in existing structures and surveys a part of the notable block chain structures for the inspiration driving structure a block chain-based e-projecting a voting form structure. In particular, we evaluate the capacity of appropriated record developments through the depiction of a logical examination; explicitly, the pattern of a political race, and the execution of a block chain based application, which deal with the security and decreases the expense of working with a cross country political race.

Keywords— Voting system, block chain based voting system , e-voting , Voter privacy.

A Deep Neural Network based Model for Stock Market Prediction

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Abstract—The stock market has gradually become an indispensable part of the securities industry and the entire financial industry, and has attracted more and more investors' attention. Therefore, the analysis and prediction of the stock market trend has great theoretical significance and considerable application value. In this paper, an algorithm based on a deep neural network is proposed to build a stock prediction model. The neural network model is a complex network system formed by a large number of simple neurons widely connected to each other. It is a highly complex nonlinear dynamic learning system that can effectively mine attributes of different dimensions for prediction. This model performs better than other comparative models in predicting the trend of stocks. Specifically, the return value of our neural network model is 1059 higher than the Xg boost algorithm and 2257 higher than the random forest algorithm.

Keywords: Deep Neural Network, Stock Market, Prediction, Time Series Analysis, Financial Data, Machine Learning, Artificial Intelligence, Neural Networks, Trading, Algorithmic Trading.

Data Mining in Customer Relationship Management

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Abstract—Informatization is an important symbol of the Internet era. The maintenance of old customers and the absorption of new customers are important factors for enterprises to make profits. At present, it is the general trend to use the new way of information processing, namely customer relationship management system, to manage customer information. There can be multiple definitions of CRM from different perspectives –From the viewpoint of the Management, CRM can be defined as an organized approach of developing, managing, and maintaining a profitable relationship with customers. By equating the term with technology, the IT organizations define CRM as software that assists marketing, merchandising, selling, and smooth service operations of a business.

Keywords— CRM, Stock Market, Prediction, Time Series Analysis, Financial Data

Vehicle Detection and Speed Tracking System Using Yolo V8

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Abstract—Speed Detection of Vehicle & its tracking plays an important role for safety of civilian lives, thus preventing many mishaps. This module plays a very significant role in the monitoring of traffic where efficient management and safety of citizens is the main concern. The Speed is determined using distance travelled by vehicle over number of frames and frame rate. Vehicle detection is a part of speed detection where, the vehicle is located using various algorithms and later determination of speed takes place. One of the root causes of road accidents is Speed. Extracting frames from the video and comparing the speed between two given points can be used to determine whether the car is moving above the permissible limit or not. Detection of vehicle and tracking of speed if the crucial part of town planning. In the last decade, vision-based traffic monitoring system has received considerable attention. Speed detection of vehicle and its tracking plays an important role for safety of civilian lives. Vehicle Speed surveillance is a predominant factor in enforcing traffic laws. Traditionally vehicle speed surveillance was done using a radar technology which consists of a radar gun and a radar detector. With the help of vehicle detection and speed monitoring. The monitoring system gives various information about, vehicle count, traffic congestion and speed of the vehicle. For this project, we use YOLO V8, An efficient algorithm which is used to detect and find the speed of each and every vehicle. In This, We use this project in an integrated camera to find the speed & vehicle count more efficiently.

Keyword— Artificial Intelligence, Deep Learning, Machine Learning, Object Detection, Video Analysis, YOLO V8, License Plate Detection

Network Attack Prediction Using Machine Learning

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Abstract—Millions of people are dependent on networks for communication, trade, needs and other essential undertakings. Network attacks can get access, break privacy and steal information or bring the network down. Network attacks are unauthorized activities on the digital components within or outside the organization. Directly proportional to the development of networks the number of attacks is made increasing significantly. Also signature based methods are used to prevent these attacks these attacks are abortive against zero-day attacks. The networked systems become more and more used and business still have a lot of privacy issues, thus there has been a lot of increase in cyber security attacks. There are also a huge number of cases where there are huge volumes of data lost or hacked without even the knowledge of people. Thus, it is important to implement a machine learning model that will be able to detect network anomaly in order to avoid data loss or privacy loss. This can be prevented by using Anomaly based approaches which involves the ability to detect zero-day attacks as well. By using Machine learning and an intrusive network dataset the machine learning model built is a Network Intrusion Predictor and Anomaly detector. The network model will be built with the following machine learning predictors Decision Tree, K-nearest neighbors, Random Forest, Decision Tree, Naïve Bayes and logistic regression classifiers, QDA, IDA, AdaBoost, MLP. The motive of this work is to build machine learning based algorithms for enhancing network security and transfers forecasting by learning classifier techniques.

Keywords—attack detection, anomaly detection, classification, python, AI, network security, cyber attacks, cyber security.

Stock Market Analysis And Prediction Using Machine Learning

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Abstract—Stock market prediction and analysis are some of the most difficult jobs to complete. There are numerous causes for this, including market volatility and a variety of other dependent and independent variables that influence the value of a certain stock in the market. These variables make it extremely difficult for any stock market expert to anticipate the rise and fall of the market with great precision. Considered among the most potent tree-based techniques, Random Forest can predictthe stock process as it can also solve regression-based problems Our aim is to create software that analyses previous stock data of certain companies, with help of certain parameters that affect stock value. We are going to implement these values in data mining algorithms and we will be able to decide which algorithm gives the best result. This will also help us to determine the values that particular stock will have innear future We will determine the patterns in data with help of machine learning algorithms Financial analysts investing in stock market usually are not aware of the stock market behavior. They are facing the problem of trading as they do notproperly understand which stocks to buy or which stocks to sell in order to get more profits. In today's world, all the information pertaining to stock market is available. Analyzing all this information individually or manually is tremendously difficult. As such, automation of the process is required. This is where Data mining techniques help. Understanding that analysis of numerical time series gives close results, intelligent investors use machine learning techniques in predicting the stock market behavior. This will allow financial analysts to foresee the behavior of the stock that they are interested in and thus act accordingly.

Keywords—Data collection, Data pre-processing, array values, accuracy, Data mining algorithm, data classification, feature extraction, sentiment analysis visualization

Tumor Test Application using deep learning and CNN

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Abstract—Brain tumor also commonly referred to as brain cancer is a deadly disease that is increasing in an alarming rate amongst the population in huge folds. Some types of brain tumours usually aren't cancerous. These are called noncancerous brain tumours or benign brain tumours. Some types of brain tumours usually are cancerous. These types are called brain cancers or malignant brain tumours. Some brain tumours types can be benign or malignant. Brain tumors usually occur due to the change in DNA cells causing the growth of extra tissues in the brain cells. About 5 percent of brain tumor occurring is due to genetics and is hereditary. Medical specialists use the MRI scans of the brain to analyze the existence of tumor cells in brain and try to classify the type of it to increase the workload and reduces efficiency of the analysis methods for computer-aided detection and computer-aided identification this has been developed with the help of advanced machine learning techniques called Deep Learning (DL) which has proved to be a great substitute for the job of analysis in the field these DL models were trained and tested using trusted and reliable data sets of MRI scans to identify the difference between tumor and non-tumor brain cells. Before effective deployment of the application in the market it must be noted that certain issues need to be addressed such as quality of images, accessibility to the services, effectiveness of the clarifying algorithm, and a few to name .

Keyword: Artificial intelligence, Deep learning, machine learning, MRI image analysis

Deep Learning Technique to Classify Alzheimer's Disease Using MRI Dataset

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Abstract—Alzheimer's disease is the most common type of dementia.Alzheimer's disease isconsidered as an incurable disease that primarily affects people over the age 65. Advanced neuroimaging techniques, such as magnetic resonance imaging (MRI)have been developed and used to identify AD. In this study we are going to predict and classify Alzheimer's Disease based on the level of severity such as mild demented, moderate demented, non demented and very mild demented.Alzheimer's Disease (AD) is the most frequent kind of dementia that needs substantial medical attention. Early and precise analysis of AD prognosis is required to start therapeutic progress, and efficient patient therapy. AD is a long-term neurological brain disease that gradually destroys brain cells, causing memory loss and cognitive problems and finally accelerating the loss of ability to perform day-to-day activities of real-life.Deep Learning (DL) algorithms have been developed by many researchers around the globe for AD detection and classification.The proposed CNN model uses a series of conventional blocks consisting of different deep layers to accomplish outstanding classification results. The proposed models aims to obtain an accurate classification result for detecting AD in its earlier stages with better accuracy.

Keyword— Artificial intelligence, Deep learning, Brain MRI Images,CNN model.

Data Mining in Customer Relationship Management

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Abstract—One essential icon of the Internet era is digitization. For businesses to be profitable, maintaining current consumers and absorbing new ones are crucial aspects. Currently, the widespread tendency is to manage client information using a new method of information processing called a customer relationship management system. CRM is a structured method for creating, managing, and preserving a successful relationship with customers from the management's point of view. The IT companies define CRM as software that aids in marketing, merchandising, selling, and efficient service operations for a business by linking the term with technology. Data mining enhances the role of CRM systems, enabling complete client information management globally. Regression ML model helps in examining time-based patterns helps businesses make stocking decisions. Furthermore, it helps you in supply chain management, planning your financials and gives complete control over internal operations. Customer Segmentation ML model helps to learn which customers are interested in purchasing your products and design your marketing campaigns and promotions keeping their tastes and preferences in mind. This will increase the efficiency and result in the desired ROI since you won't be targeting customers who show little to no interest in your product. Google integration connects contact, calendar information and CRM so data can flow to, from, or between them. The goal with CRM integration is to host complete, accurate data from your business software to give you a complete picture of your business and customers.

Keyword— Artificial intelligence, Machine learning, Data Mining, Regression ML, Customer Segmentation ML.

Real Time Face Detection Attendance Monitoring

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Abstract—The management of the attendance can be a great burden on the teachers if it is done by hand. To resolve this problem, smart and auto attendance management system is being utilized. By utilizing this framework, the problem of proxies and students being marked present even though they are not physically present can easily be solved. The frames are extracted from video using Open CV. The main implementation steps used in this type of system are face detection and recognizing the detected face, for which dlib is used. After these, the connection of recognized faces ought to be conceivable by comparing with the database containing student's faces. This model will be a successful technique to manage the attendance of students. Live Webcam based Face Attendance System Project through python programming. Smart Attendance Management System is an application developed for daily student attendance in colleges or schools. This project attempts to record attendance through face detection.

Keyword— Artificial intelligence, Face recognition, Machine learning, Data model, Automated attendance, Dataset creation.

Financial Graph Attention Networks for Recommending Top-K Profitable Stocks

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Abstract—Financial technology (FinTech) has drawn much attention among investors and companies. While conventional stock analysis in FinTech targets at predicting stock prices, less effort is made for profitable stock recommendation. Besides, in existing approaches on modeling time series of stock prices, the relationships among stocks and sectors (i.e., categories of stocks) are either neglected or pre-defined. Ignoring stock relationships will miss the information shared between stocks while using pre-defined relationships cannot depict the latent interactions or influence of stock prices between stocks. In this work, we aim at recommending the top-K profitable stocks in terms of return ratio using time series of stock prices and sector information. We propose a novel deep learning-based model, Financial Graph Attention Networks (FinGAT), to tackle the task under the setting that no pre-defined relationships between stocks are given.

Keyword— Profitable stock recommendation, graph attention networks, stock movement prediction, sector information

Advanced Encryption Algorithm to Secure Big Data in Cloud Environment

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Abstract—The current digital era is transitioning into the information era, where people will need to adapt to the emerging technology that is evolving quickly. Technology's remarkable and rapid development has made life easier for individuals, yet this may have come at the expense of their security and privacy, adding to the burden for those attempting to utilize these technologies. Information security is the research community's focus due to the increasing interdependencies of current computer hardware and the dramatic rise in user numbers. This thesis discusses the growing concerns in the developing digital ecosystem with a particular emphasis on the Confidentiality and Integrity fixes that are necessary to address the problems brought on by the emergence of Big Data and Cloud Computing technologies. The study provides a brief review of the many strategies and best practices that are used to protect the Confidentiality and Integrity of shared data in both HDFS and Cloud storage systems. A thorough evaluation of the related current research effort on the Hybrid Encryption Algorithm highlights big data security, research roadblocks, and future approaches focused on strengthening various security factors. Big data security in both HDFS and Cloud systems is the study's main topic and could be the focus of future studies in this area. A Fusion-Based Advanced Encryption Algorithm (FAEA) on both HDFS and Cloud platforms FAEA was created with the intention of addressing the security issues associated with big data as well as effectively validating the integrity of the data.

Prediction of Attacks in Layers Of WSN

Anuja T , Shoba L K , Nithisha J , Rathiya R

Jeppiaar Engineering College

Abstract—Wireless Sensor Network (WSN) is the most auspicious area which is widely used in the hostile field of military networks, healthcare systems, flood control, and weather forecasting system. In WSN information has been exchanged between the nodes which are connected with each other. While exchanging or sending the data between the nodes data security is an essential factor. Security is a crucial issue in the area of networking. This paper addressed the security attacks in terms of Type-wise and Layer-wise and their solutions provided by the different authors. Whenever the data got transferred from source to destination the travelling path has the chance of malicious node which causes attack to the data. It is a very difficult task to find the malicious node present in the network. The invaders hacks the data and changes the actual data which have been transferred from source to destination. In this paper, Machine Learning (ML) techniques are used to handle the attacks and the authenticity of the node. Various ML techniques like Deep learning, Bayesian, Q-learning are used to determine network attacks and to overcome anomalies in the network, according to the layers used for WSN architecture. The contributions of this research thesis are (i) a comprehensive and detailed analysis of the current big data security encryption schemes, (ii) a proposed fusion-based advanced encryption algorithm for big data security in HDFS and Cloud platform, which is used to safeguard the confidentiality and integrity of the data stored in HDFS and Cloud platform, is secure and effective in terms of performance in both HDFS and Cloud Storage platforms, and (iii) performance evaluation. The FAEA is unquestionably a promising response to the problems growing as a result of the most recent advances in big data security. The study's final finding is that the proposed encryption strategy for big data can effectively maintain data integrity and confidentiality. The practicality and viability of obtaining data confidentiality and integrity are shown in both the HDFS and Cloud systems, both empirically and conceptually. The experiments show that the suggested algorithm works well, complies with security guidelines, and ensures data confidentiality and integrity. The research effort also provides a bird's eye view of the future orientations of big data security factors.

Intelligent Blind Stick for Visually Impaired People Using Artificial Neural Network

Shoba L K , Nithisha J, Anuja T

Jeppiaar Engineering College

Abstract—The existing assistive device used by the visually impaired, a stick, is insufficient for allowing them to live independently. For those who are blind, getting from one place to another, whether indoors or outside, is a major challenge. Additionally, the traffic makes their daily commutes more difficult. The only way to prevent consequences like tripping over fixed items, moving obstacles, or missing a traffic light is to remain vigilant at all times. These issues can be resolved by technology for visually impaired people. The suggested approach uses the Internet of Things (IoT) concept to provide a conduit between the environment and the visually impaired. While anESP32 camera gathers data on the traffic signal, an ultrasonic sensor may be utilised to check the area for potential impediments. The task of detecting the traffic signal is particularly well-suited for an Artificial Neural Network (ANN) model. The user can be warned about obstructions and traffic signals using the speaker, which is permanently connected to the controller ;s output. Verifying if the person is wandering around the nearby region or not is the next step. The system will send a text message to the registered mobile phone if the user is travelling far from the house. Because it uses a variety of sensors and IoT modules, the suggested smart blind stick is both easy to use and affordable.

Keywords— Blind stick, Smart stick, IoT, ANN, Sensor, Hand Held Device.

Detection of Tuberculosis Disease Diagnosis in X-Ray Image Using Deep Learning

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Abstract—Tuberculosis is a serious infectious bacterial disease that mainly affects the lungs. The bacteria that cause TB are spread when an infected person coughs or sneezes. We developed an approach for prediction of Tuberculosis, based on CNN (Convolution neural network).The data is collected from kaggle website and the data is trained. The training and testing dataset were kept as 70% and 30% respectively. Based on TB patients data, CNN accurately predicted the Tuberculosis positive or negative with an overall accuracy of 95%. Further, the accuracy of the test and validation were found to be >93%.This increased accuracy of CNN in the detection of Tuberculosis suspected patients might be useful for early management of the disease to adopt some control measures in further transmission and reduce the drug resistance burden.CNN algorithm play an effective role in the early diagnosis of TB disease that might be applied as a supportive tool. Modern computer technologies should be trained in diagnostics for rapid diseases management. Delays in TB diagnosis and initiation treatment may allow the emergence of new cases by transmission.

Keywords—Artificial Neural Network (ANN), Chest X-ray, Computer-Aided detection (CAD), Deep Learning, Stochastic Learning, Tuberculosis (TB).

Server Aided Public-Key Authenticated Encryption Technique for Web Application in Cloud

Nithisha J, Vinisha J, Anuja T , Shoba L K

Jeppiaar Engineering College

Abstract—distributed storage, how to look through delicate information effectively and safely is a difficult issue. The accessible encryption strategy gives a safe stockpiling technique without loss of information secrecy and convenience. As a significant branch of accessible encryption, open key encryption with catchphrase search is broadly examined by researchers. In any case, a large portion of the conventional PEKS plans is defenseless against within catchphrase speculating assault. Opposing within catchphrase speculating assault is probably going to turn into a fundamental property of all new PEKS plans. For quite a while, relieving IKGA has been wasteful what's more, troublesome, and most existing PEKS plans bomb in accomplishing their security objectives. To address the above issues, we characterize the idea of Dual-server Public-key Authenticated Encryption, which secures against IKGA by utilizing two servers that don't collaborate and underpins the validation property. At that point, we give the development of DPAEKS without bilinear pairings. Test results got utilizing a genuine world dataset show that our plan is exceptionally effective furthermore, gives solid security, making it reasonable for organization.

Keywords: Public-key Encryption, Cloud Data Sharing, Authentication Encryption, Dual-Server.

Blockchain Based Patients Health Record Sharing With Next-GEN EMR LEDGER (NGEL)

Saravanan

Jeppiaar Engineering College

Abstract—As we are edging towards the new decade, electronic medical records(EMRs) are now exerting a more significant impact on healthcare practices than ever before. While EMRs focus on improving medical care as a whole, one must also consider the effects increased EMR use may have at the level of the patient-physician encounter. But in part, securing the EMRs is very hard day by day due to threat actors. According to statistics, 128 million records were hacked between 2016 and 2017, and the number is still increasing rather than decreasing. For this problem we have found a solution named NGEL(Next-Gen For EMR Ledger). It is a public ledger that uses the blockchain technology to store the medical records. All medical records are converted into bytes and traverse through the decentralized networks and stored in the ledger. Due to lack of security in the medical field. Attackers compromised the hospital network and gathered all the information. For this problem NGEL will help to keep the medical records safe in the decentralized ledger. It is a permissioned network where only authorized people can update some of the information.

Handwritten Letter Recognition using Artificial Intelligence

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Abstract— Images are easily processed and analyzed by the human brain. When the eye sees a particular image, the brain is able to instantly segment it and recognize its numerous aspects. This project proposes the Deep Learning conceptual models based on Convolutional Neural Network (CNN). A comparison between the algorithms reveals that the handwritten alphabets, classified based on CNNs outperforms other algorithms in terms of accuracy. In this project, different architectures of CNN algorithm are used: Manual Net, Alex Net, LeNet Architecture. These architectures contain a convolution layer, max pooling, flatten, feature selection, Rectifier Linear Unit and fully connected softmax layer respectively. The image dataset with 530 number of training images and 2756 numbers of testing images are used to experiment the proposed network. The best accuracy and loss efficient model will be deployed in the Django framework in order to create a user interface for giving the character to be identified and receiving the output result of identified character.

Keywords— Handwritten Recognition, Alphabets, Deep Learning, TensorFlow, CNN, Django.

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14	ICON23T1180	Web Phishing Detection	Darshan S,Farhaan S, Blessance C, Aakash G
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Smart Waste Management System for Metro politician Cities

Aashik Ali. S , Barath. R , Karthika. S , Saranya Devi. P

Final Year – Computer Science Engineering

Abstract—This paper presents a new method of smart waste city management which makes the environment of the city clean with a low cost. In this approach, the sensor model detects, measures, and transmits waste volume data over the Internet. The collected data including trash bin;s geo location and the serial number is processed by using regression, classification and graph theory. Thenceforth a new method is proposed to dynamically and efficiently manage the waste collection by predicting waste status, classifying trash bin location, and monitoring the amount of waste. Then, this latter recommends the optimization of the route to manage the garbage truck efficiently. Finally, the simulation results are presented and estimated.

Keywords: Domain: - IoT hardwares:- arduinouno, node mcu, gps, etc..technologies:- node red, ibm cloud, web applicaton.

A Novel Method for Handwritten Digit Recognition System

Gokul S, Barathkumar M, Arul velan A , Arun kumar S

Final Year – Computer Science and Engineering

Abstract—Machine learning and deep learning play an important role in computer technology and Artificial Intelligence. With the use of Deep Learning and Machine learning, human effort can be reduced in recognizing, learning predictions and in many more areas. Handwritten Digit Recognition is the ability of Computer systems to recognize handwritten digits from various sources, such as images, documents, and so on. This project aims to let users take advantage of machine learning to reduce manual tasks in recognizing digits. The different architectures of CNN, hybrid CNN,CNN – RNN and CNNHMM Models, and domain – specific recognition system, are not thoroughly Inquired and evolutionary algorithms are not clearly explored for optimizing CNN learning parameters ,the number of layers, learning rate and kernel Sizes of convolutional filters. The fluctuation of accuracies for hand written Digits was observed for 15 epochs by varying the hidden layers. There is no clear explanation given for observing variation in the overall classification accuracy by varying the number of hidden layers and batch size. In this competition, the goal is to correctly identify digits from a dataset of tens of thousands of handwritten images and experiment with different algorithms to learn what works well and how techniques compare.

Keywords— Artificial Intelligence , MNIST Dataset , Convolution Neural Network(CNN) ,Image processing.

Corporate Employee Attrition Analysis

Nitheeshraaj RM, Thilakc ,Raguram R, Hemachander S

Abstract—Employee attrition reveals a company ;s internal power and weaknesses. New employee need to be constantly added, further costs in training them, getting them aligned to the company environment. Organizations also face difficulties in retaining the employees as well as attracting potential employees. In this competitive business era, high attrition rates lead to many issues in the boundary of HR people. All this has a significant impact on the strength of a company in managing their business in a competitive environment. This study is conducted to find out the main reasons which increase the employee turnover in BPO companies and to find out the way to predict and control them. The research is purely based on the descriptive in nature. This research was carried out in BPO companies. In this study, the opinions of 120 respondents (Both ex-employee and current employee) were taken for the analysis purpose. In this research, structured questionnaire has been incorporated for collecting data and chi-square test, percentage analysis and ANOVA were used for analysis.

Keywords— Employee turnover ,Attrition rate, Exit interviews, Retention strategies, Employee engagement, Job satisfaction, Organizational culture, Employee retention, Turnover cost Employee motivation

A Novel Method for Handwritten Digit Recognition System

Hariharan K ,Gunalan E, Logeshwaran K , Kummari Narendra

Final Year – Computer Science & Engineering

Abstract—Handwriting recognition is one of the compelling research works going on because every individual in this world has their own style of writing. It is the capability of the computer to identify and understand handwritten digits or characters automatically. Because of the progress in the field of science and technology, everything is being digitalized to reduce human effort. Hence, there comes a need for handwritten digit recognition in many real-time applications. MNIST data set is widely used for this recognition process and it has 70000handwritten digits. We use artificial neural networks to train these images and build a deep learning model. Web application is created where the user can upload an image of a handwritten digit. this image is analyzed by the model and the detected result is returned on to UI.

Keywords— Artificial Intelligence, Data Wrangling, Tensor flow & Keras, Neural Networks, Natural Language Processing, Watson AI Services.

Smartlender – Applicant credibility prediction for loan Approval

Devipriya.S, Sivaprabu.M, Lokeshwaran.E, Maheshwaran.M

Final Year --Computer Science And Engineering

Abstract—Banks are making major part of profits through loans. Loan approval is a very important process for banking organizations. It is very difficult to predict the possibility of payment of loan by the customers because there is an increasing rate of loan defaults and the banking authorities are finding it more difficult to correctly access loan requests and tackle the risks of people defaulting on loans. In the recent years, many researchers have worked on prediction of loan approval systems. Machine learning technique is very useful in predicting outcomes for large amount of data. In this paper, four algorithms are used such as Random Forest algorithm, Decision Tree algorithm, Naive Bayes algorithm, Logistic Regression algorithm to predict the loan approval of customers. All the four algorithms are going to be used on the same dataset and going to find the algorithm with maximum accuracy to deploy the model. Henceforth, we develop bank loan prediction system using machine learning techniques, so that the system automatically selects the eligible candidates to approve the loan

Keywords— Loan approval prediction, web application, bank, Algorithm

Virtual Eye – Life Guard for Swimming Pool to Detect Active Drowning

Dhanush S , Deepika D , Surender Raj R, Sankar D

Final Year – Computer Science and Engineering

Abstract—Drowning detection is a crucial aspect of ensuring the safety of people in a swimming pool. The aim of this project is to develop a life guard system that can detect active drowning incidents and alert the lifeguards promptly. The system will utilize advanced computer vision algorithms and machine learning techniques to analyze real-time video feeds from cameras installed around the pool. The system will be trained on a large dataset of drowning incidents and non-drowning behaviors to accurately identify and distinguish between them. The system will also have an alert mechanism that can notify the lifeguards immediately. This project will significantly enhance the effectiveness of the lifeguard supervision and help to prevent drowning incidents in swimming pools.

Keywords: Drowning detection, Swimming pool, Lifeguard, Swimmer surveillance, Emergency response,6.Distressed swimmer identification, Real-time alert system, Automated rescue assistance

Car Resale Value Prediction

Ravi Raghav , Navin Kumar , Mano K, Vishnu M

Final Year - Computer Science And Engineering

Abstract—The used car market is a large and strategically important market for car manufacturers. The overall size of the used car market in terms of total sales volume, number of establishments and employees was, respectively, \$104,604million, 227,765, and 1,706,001 in 2011 (Barnes, 2011). Furthermore, the second-hand market is closely connected to the new car business. Trading-in used cars in new car retail sales and handling lease returns, repossessions and fleet returns from car rental companies necessitate car manufacturers to engage in the used car market. Car makers face several challenges in the second-hand market. The depth crisis in the European Union, the general problem of overcapacity, increasing competition from Asian manufacturers, and the trend toward more eco-friendly cars are only a few factors that add to the difficulty of selling used vehicles in the second-hand market and decrease sales margins. Therefore, car makers require sophisticated decision support systems to sustain the profitability of the used car business. A core component of such systems is a prediction model that estimates resale prices on the basis of car attributes and other factors . Although a statistical modeling of resale prices has been considered in previous work (e.g., Purohit, 1992), only very few studies have explicitly attempted to predict resale prices with maximal accuracy to support decision making. As a consequence, answers to the following questions are unclear: i) to which degree are resale prices predictable, ii) what is the relative accuracy of different prediction methods and are some methods particularly effective, iii) given that market research agencies have specialized in residual value estimation. Data Science approaches are used to make the project along with the Flask framework in the front end to create an interface for the user. Various Modules such as Numpy, Pandas, Matplotlib, etc have been used in order to utilize the data and make the outcome in the predictable format. The random forest regression algorithm has been used as the dataset is unpredictable and hence the application is produced as the result of the following technologies.

Keywords—Used Cars, Date of Manufacturing, Python, Numpy, Flask,Jupyter Notebook, Pandas, etc.

Web Phishing Detection

Pitchma Priya K , Girisha M V , Suriya Lekshmi R M, Shruthi R

Final Year - Computer Science and Engineering

Abstract—The main aim of this project is to prevent web phishing attacks and protecting the user ;s sensitive information from getting leaked online. Phishing is a common attack on credulous people by making them to disclose their unique information using counterfeit websites. The objective of phishing website URLs is to purloin the personal information like user name, passwords and online banking transactions. This Guided Project mainly focuses on applying a machine-learning algorithm to detect Phishing websites. In order to detect and predict e-banking phishing websites, We proposed an intelligent, flexible and effective system that is based on using classification algorithms. We implemented classification algorithms and techniques to extract the phishing datasets criteria to classify their legitimacy. The e-banking phishing website can be detected based on some important characteristics like URL and domain identity, and security and encryption criteria in the final phishing detection rate. Once a user makes a transaction online when he makes payment through an e-banking website our system will use a data mining algorithm to detect whether the e-banking website is a phishing website or not.

Keywords: E-Banking Phishing Website; Security; Legitimacy; Web Services; URL; Vulnerabilities; Encryption Criteria; Machine Learning Algorithms; Classification Algorithms.

Analytics For Hospitals Healthcare data

Dinu Ananth M , Shankar V, Anbu Velan A, Kothalamuthu N

Final Year – Computer science

Abstract—The recent Covid-19 Pandemic has raised alarms over one of the most overlooked areas to focus on: Healthcare Management. While healthcare management has various use cases for using data science, patient length of stay is one critical parameter to observe and predict if one wants to improve the efficiency of healthcare management in a hospital. This parameter helps hospitals to identify patients of high LOS risk (patients who will stay longer) at the time of admission. Once identified, patients with high LOS risk can have their treatment plan optimized to minimize LOS and lower the chance of staff/visitor infection. Also, prior knowledge of LOS can aid in logistics such as room and bed allocation planning. Suppose you have been hired as a Data Scientist at Health Man – a not-for-profit organization dedicated to managing the functioning of Hospitals in a professional and optimal manner. The goal is to accurately predict the Length of Stay for each patient on case by case basis so that the Hospitals can use this information for optimal resource allocation and better functioning. The length of stay is divided into 11 different classes ranging from 0-10 days to more than 100 days. The length of stay can be predicted using either Fuzzy logic or Tree bagger algorithms. Along with the algorithm certain parameters like age, stage of disease, progression, etc., are used for prediction. IBM Cognos is used for analytics purposes. Patients can get better treatment and care than before. Length of stay prediction minimizes the overflow of patients therefore hospital resource management and utilization will be maximized. Reduces expense for treatment.

Keywords— Tree Bagger Algorithm, Data visualization, Null value cleaning, KNN Algorithm, Predictive Analysis

Virtual Eye - Lifeguard for Swimming Pools To Detect The Active Drowning

V.Madhumitha, Thenmozhi.R, Shivaani.Sv, Melvin Savio.Vx

Final Year – Computer Science

Abstract—Swimming is one of the best exercises that helps people to reduce stress in this urban lifestyle. Beginners, especially, often feel it difficult to breathe underwater which causes breathing trouble which in turn causes a drowning accident. Worldwide, drowning produces a higher rate of mortality without causing injury to children. Children under six of their age are found to be suffering the highest drowning mortality rates worldwide. Such kinds of deaths account for the third cause of unplanned death globally, with about 1.2 million cases yearly. To overcome this conflict, a meticulous system is to be implemented along the swimming pools to save human life. By studying body movement patterns and connecting cameras to artificial intelligence (AI)systems we can devise an underwater pool safety system that reduces the risk of drowning. Usually, such systems can be developed by installing more than 16cameras underwater and ceiling and analyzing the video feeds to detect any anomalies. but AS a POC we make use of one camera that streams the video underwater and analyses the position of swimmers to assess the probability of drowning, if it is higher than an alert will be generated to attract lifeguards ;attention. The swimming pool ;s lifeguards are responsible for making sure that everyone who is there is safe. In the pool, there should always be a security person on duty. Our project detects potential drowning and promptly notifies the lifeguard. If the swimmer lost consciousness because of drowning, the device detects the drowning accident and will inform the lifeguard. It features the latest artificial intelligence technology and adapts to the needs of the user.

Keywords: Domain Name: Artificial Intelligence. Technology Used: Yolov3, Underwater Cameras. Algorithms Used: Supervised Learning, Unsupervised Learning IBM Cloud & Watson AI Services build & Deploy an Application.

Early Detection Of Chronic Kidney Disease Using Machine Learning

Jayachandran J, Meiyathan R , Ajay J, Rakesh RG

Final Year – Computer science and engineering

Abstract—Every year, an increasing number of patients are diagnosed with late stages of renal disease. Chronic Kidney Disease, also known as Chronic Renal Disease, is characterized by abnormal kidney function or a breakdown of renal function that progresses over months or years. Chronic kidney disease is often found during screening of persons who are known to be at risk for kidney issues, such as those with high blood pressure or diabetes, and those with a blood family who has chronic kidney disease (CKD). As a result, early prognosis is critical in battling the disease and providing effective therapy. Only early identification and continuous monitoring can avoid serious kidney damage or renal failure. Machine Learning (ML) plays a significant part in the healthcare system, and it may efficiently aid and help with decision support in medical institutions. The primary goals of this research are to design and suggest a machine learning method for predicting CKD. Support Vector Machine (SVR), Random Forest (LR), Artificial Neural Network (ANN), and Decision Tree are four master teaching methodologies investigated (DT). The components are built using chronic kidney disease datasets, and the outcomes of these models are compared to select the optimal model for prediction

Keywords: Chronic Kidney Disease (CKD), Machine Learning (ML), Support Vector Machine (SVR), Random Forest (LR), Artificial Neural Network (ANN), Decision Tree (DT).

Inventory Management System for Retailers

Siva Logidasan, SanjayKumar, Praveen

Abstract—Inventory management system is an application which is helpful for business operate. Inventory management is a challenging problem area in supply chain management. Companies need to have inventories in warehouses in order to fulfill customer demand, meanwhile these inventories have holding costs and this is frozen fund that can be lost. Therefore, the task of inventory management is to find the quantity of inventories that willfully the demand, avoiding overstocks. This paper presents a case study for the assembling company on inventory management. It is proposed to use inventory management in order to decrease stock levels and to apply an agent system for automation of inventory management. processess Inventory management system (IMS) use for a departmental store.

Keywords: Domain name: Cloud application development Technologies used:Docker, Database, Python Html, CSS

Virtual Eye - Life Guard for Swimming Pools to Detect Active Drowning

Sneha Xavier, Raghul D, Sujitha S, Vaishnavi R

Final Year-Computer Science and Engineering

Abstract—This document is a review report on the research conducted and the project made in the field of computer science and engineering to develop a system VirtualEye - Life Guard for Swimming Pools to Detect Active Drowning to prevent accidental deaths happening because of drowning. The report proposed the results that system is not designed to replace a lifeguard or other human monitor, but to act as an additional tool that helps the lifeguard to detect the underwater situation where they can't easily observe and detect drowning accidents. By studying body movement patterns and connecting cameras to artificial intelligence (AI) systems we can devise an underwater pool safety system that reduces the risk of drowning .These project has been implemented by using various techniques like YOLO-based Convolutional Neural Network family of models for object detection and the most recent variation called YOLOv3. As a POC we make use of one camera that streams the video underwater and analyses the position of swimmers to assess the probability of drowning, if it is higher then an alert will be generated to attract lifeguards' attention. Whereas the implementation of the project give the real world idea of how the system works and what changes can be done in order to improve the utility of the overall system.

Keywords: YOLOv3, AI, Convolutional Neural Network ,Drowning Detection.

Web Phishing Detection

Darshan S,Farhaan S, Blessance C, Aakash G

Final Year - CSE

Abstract—There are several users who purchase products online and make payments through e-banking. There are websites that ask users to provide sensitive data such as username, password & credit card details, etc., often for malicious reasons. These types of websites are known as phishing websites. Web service is one of the key communications software services for the Internet. Web phishing is one of many security threats to web services on the Internet. Common threats of web phishing:

- Web phishing aims to steal private information, such as usernames, passwords, and credit card details, by way of impersonating a legitimate entity.
- It will lead to information disclosure and property damage.
- Large organizations may get trapped in different kinds of scams.

This Project mainly focuses on applying a machine-learning algorithm to detect Phishing websites. To detect and predict phishing websites, we propose an intelligent, flexible and effective system that is based on using classification algorithms. We implemented classification algorithms and techniques to extract the phishing datasets criteria to classify their legitimacy. The phishing website can be detected based on some important characteristics like URL and domain identity, and security and encryption criteria in the final phishing detection rate. Once a user enters the URL in the search bar, our system will use data prediction algorithms to detect whether the website is a phishing website or not.

Keywords: Applied Data Science, Python, Phishing Detection, URL Identification, Machine Learning Algorithms – Linear Regression, SVM,Random Forest, Hyper Parameter Tuning.

Crude Oil Price Prediction

Mohammed Sufiyan. F, Jack Melony. G, Prembabu. C, Mathimuthran. T

Final Year – Computer Science Engineering

Abstract—Oil demand is inelastic; therefore the rise in price is good news for producers because they will see an increase in their revenue. Oil importers, however, will experience increased costs of purchasing oil. Because oil is the largest traded commodity, the effects are quite significant. A rising oil price can even shift economic/political power from oil importers to oil exporters. The crude oil price movements are subject to diverse influencing factors. This Guided Project mainly focuses on applying Neural Networks to predict the Crude Oil Price. This decision helps us to buy crude oil at the proper time. Time series analysis is the best option for this kind of prediction because we are using the previous history of crude oil prices to predict future crude oil. So we would be implementing RNN (Recurrent Neural Network) with LSTM(Long Short Term Memory) to achieve the task.

Keywords: DOMAIN :- Artificial Intelligence TECHNOLOGIES:- Python, Google Colab, CNN, RNN, Web Application(Flask).

Plasma Donor Application

Tamil Thendral M, Ram Ganesh S, Raveen Raj C, Rohith Sivam P

Final Year - CSE

Abstract— “Blood” one of the most important necessities of our life. The numbers of blood donor is very less when compared with other countries. In our project we propose a new and efficient way to overcome such outline. Such as just touch the button donor will be ask to enter an individual's details like name, phone number, age, weight, date of birth, blood group, address etc. At the emergency time of blood needed we can check for blood donor nearby by using GPS. Once the app user enter the blood group which he/she needed it will automatically show the donor nearby and send an alert message to the donor. In case if the first donor is not available it will automatically search the next donor which is present in queue. If the donor accept the request then an one time password (OTP) will be send to the donor to verify. Blood donation app provider list of donor in your city/area. Once the donor donate the blood it will automatically remove the donor detail for next three months.

Keywords: Plasma Do not Application, Cloud App Development, IBM Database, Analytics, Dashboards, Reports and Stories in IBM Database, Data Visualization

Personal Expense Tracker Application

Mohan Sai B.H, Sathish S, Rajagopalan T, Shyam R

Final Year - CSE

Abstract—Personal Expense Tracker Application is designed for the people who are unaware of their daily expenses. It is planned to solve the issues like poor financial management, unnecessary expenditure, no proper savings, etc. People will be aware of their daily expenses which will lead to the proper savings. We can reduce the unwanted daily expenses, save money in a better manner, daily expenses can be tracked and it will alert us when we are in a shortage of money. It reduces manpower for accounting and financing the money, human errors can also be eradicated. In simple words, personal finance entails all the financial decisions and activities that Finance app makes your life easier by helping you to manage your finances efficiently. A personal finance app will not only help you with budgeting and accounting but also give you helpful insights about money management. Personal finance applications will ask users to add their expenses and based on their expenses wallet balance will be updated which will be visible to the user. Also, users can get an analysis of their expenditure in graphical forms. They have an option to set a limit for the amount to be used for that particular month if the limit is exceeded the user will be notified with an email alert.

Keywords: Domain name: Cloud application development Technologies Used: Python, HTML, CSS, IBM Cloud Database, Docker.

Web Phishing Detection

S.Ashwini , M. EswaraPandi , Soumyadeep Hari ,Shalma Dominic

Final Year - Computer Science Engineering

Abstract—The phishing attack is the simplest way to obtain sensitive information from innocent users. The aim of the phishers is to acquire critical information like username, password and bank account details. Cyber security persons are now looking for trustworthy and steady detection techniques for phishing websites detection. This paper deals with machine learning technology for detecting URLs by extracting and analyzing various features of legitimate and phishing URLs. Decision tree, random forest and support vector machine algorithms are used to detect phishing websites. The aim of the paper is to detect phishing URLs as well as narrow down to the best machine learning algorithm by comparing the accuracy rate, false positive and false negative rate of each algorithm. There is a range of customers who buy goods on the internet and make orders through numerous websites. There are many sites that require clients to provide touchy content on a regular basis for malignant reasons, such as usernames, secret passwords and so on. This kind of website is known as website phishing. To identify and predict the phishing sites, we have proposed an effective system which depends on the use of machine learning techniques. We execute classification algorithms and techniques to extricate the phishing informational collections and organize their legitimacy. The phishing site can be characterized dependent on certain significant traits, for example, URL and Domain Names, and rules for confirmation and encryption in the last phishing discovery period. With the guide of this program, customers can buy products online effectively decisively.

Keywords: Data mining Algorithm Feature extraction Machine Learning Phishing Phishing Attacks Phishing Detection Phishing website

Classification of Arrhythmia by Using Deep Learning with 2-D ECG Spectral Image

Sandhya K , Rashmi AB , Saranya A, Vishnu Varthini P

Final Year – Computer Science and Engineering

Abstract—Arrhythmia detection and categorization using a 2-D ECG spectral image representation using deep learning-based categorization models. In 2017, more than 17.7 million people across the globe lost their lives to cardiovascular conditions. According to the World Health Organization, cardiovascular disease is the leading cause of mortality. Employing a spectral picture of the ECG to find the person's body pulse patterns and detection of Arrhythmia. In this project, we develop a convolutional neural network (CNN)-based method for electrocardiogram (ECG) arrhythmia classification. Using deep two-dimensional CNN and grayscale ECG images, we divide the ECG into seven categories, one of which is normal and the other six of which are various types of arrhythmia. In our web application, the user chooses the image that will be categorized. The image is loaded into the trained model, and the webpage will display the mentioned class. We built an effective electrocardiogram arrhythmia classification method using a convolutional neural network model, a subset of deep learning models within a web application.

Keywords: Deep Learning model, CNN, web application, gray scale ECG images.

Retail Store Stock Inventory Analytics

Aarthy. S, Anitha. S, Annay.A, Deborah Blessy.J

Final Year - Computer Science Engineering

Abstract—As retail market becomes extensively competitive, the ability to optimize on serving business processes while satisfying customer expectations has never been more important. Therefore, managing and channelizing data to work towards customer delight as well as generate healthy profits is crucial to survive prosperously. In the case of big retail players internationally as well as in India, data or rather big data analytics is now being applied at every stage of the retail process - tracking emerging popular products, forecasting sales and future demand through predictive simulation, optimizing product placements and offers via customer heat-mapping and many more. Alongside this, identifying the customers likely to be interested in particular product types based on their previous purchase behaviors, working out the best way to approach them through targeted marketing efforts and finally working out what to sell them next is what forms the core of data analytics. This on the past, present article is the outcome of a descriptive research and future of retail industry and the application of business analytics in shaping appropriate marketing strategies. In this industry, the efficiency of inventory management directly impacts customer satisfaction. As retail is a fast-paced, and customer-facing sector, customer satisfaction is core to its business growth. The inventory process involves multiple intricate aspects that drive accurate product delivery. Even a single error in the process can have expensive and long-term consequences. This will eventually affect the company's growth and reputation. To increase's anywhere for Retail employs automation to resolve critical issues of manual inventory in inventory management. Too much inventory means working capital costs, operational costs and a complex operation, lack of inventory leads to lost sales, unhappy customers and a damaged brand, Inconsistent Tracking, Warehouse Efficiency, Inaccurate Data, Changing Demand, Limited Visibility, Manual Documentation, Problem Stock, Supply chain Complexity. The customer's need will be satisfied. The errors will be corrected. The growth of the company will be eventually increased. Companies who can identify the problems of the retail inventory management can select a retail inventory management system that fits their processes best.

Keywords: Retail Industry, Big Data, Business Analytics, Retail Analytics, Marketing Strategy

Traffic and Capacity Analytics for Major Ports

Aishwarya M, Raakesh N, Prithviraaj A, Shenoy Babu B.

Final Year - CSE

Abstract—The Indian Railways has a capital base of about Rs. 100000 crores and is often referred to as the lifeline of the Indian economy because of its predominance in transportation of bulk freight and long distance passenger traffic. The network criss-crosses the nation, binding it together by ferrying freight and passengers across the length and breadth of the country. As the Indian economy moves into a high growth trajectory the Railways have also stepped-up developmental efforts and are preparing themselves for an even bigger role in the future. To regain some of the market, it has lost over past decades and regain market share in some commodities and overcome the challenges and to maintain sustainable growth in all its commodities. Reducing the congestion on rail corridors and improving port connectivity. The development of two Dedicated Freight Corridors across key ports.

Keywords— Exploratory Data Analysis, Stacked Column Chart, Capacity Distribution, Ferrying-freight, Performance indicators, Composite performance index, Port grouping, Standardized composite performance index, Statistical analysis

Emerging Methods for Early Detection of Forest Fires

Hariprabhu .M , M.Harish , R Hari Krishnan, A.Ljencyidhaya

Department – Computer Science And Engineering

Abstract—Forest fires are a major environmental issue, creating economic and ecological damage while endangering human lives. There are typically about 100,000 wildfires in the United States every year. Over 9 million acres of land have been destroyed due to treacherous wildfires. It is difficult to predict and detect Forest Fire in a sparsely populated forest area and it is more difficult if the prediction is done using ground-based methods like Camera or Video-Based approach. Satellites can be an important source of data prior to and also during the Fire due to its reliability and efficiency. The various real-time forest fire detection and prediction approaches, with the goal of informing the local fire authorities.

Natural Disasters Intensity Analysis and Classification Using Artificial Intelligence

Magdalene Nadhisha A.S, Priyanka.G , Sairam.S , Nithish Kumar

Final Year, Computer Science Engineering and
Electronics and Communication Engineering

Abstract—Natural Disasters Intensity Analysis and Classification using Artificial Intelligence The project mainly classifies the type of Natural Disaster and the intensity by giving an image through the webcam. Natural disasters not only disturb the human ecological system but also destroy the properties and critical infrastructures of human societies and even lead to permanent change in the ecosystem. Disaster can be caused by naturally occurring events such as earthquakes, cyclones, floods, and wildfires. Many deep learning techniques have been applied by various researchers to detect and classify natural disasters to overcome losses in ecosystems, but detection of natural disasters still faces issues due to the complex and imbalanced structures of images. To tackle this problem, we developed a multilayered deep convolutional neural network model that classifies the natural disaster and tells the intensity of disaster of natural. The model uses an integrated webcam to capture the video frame and the video frame is compared with the Pre-trained model and the type of disaster is identified and showcased on the OpenCV window.

Keywords— Artificial Intelligence , Convolutional Neural Network , Flask Application , OpenCV , Python , DeepLearning, IBM cloudant , Watson Studio , Machine Learning , PreTraining , HTML , CSS , JavaScript , Prediction

University Admit Eligibility Predictor

Aravindhan.S.P, Boobalachandran.C, Dhanasekaran.K, Susmitha.S

Final Year - Inter Department (CSE/IT)

Abstract—University Admit Eligibility Predictor is a machine learning- based tool designed to help applicants predict their eligibility for university admission. It considers various factors such as academic performance, extracurricular activities, and standardized test scores to make an estimate. The tool uses advanced algorithms and predictive models to provide accurate and reliable results. This tool can help applicants make informed decisions about their university applications, save time and effort, and increase the chances of success. The tool uses this information to generate a probability score, indicating the likelihood of admission. It is important to note that admission predictions are not always accurate and that many universities have holistic admissions processes that take into account many factors beyond just test scores and grades.

Keywords: University admission, Eligibility predictor, Machine learning, Academic performance, Extracurricular activities, Standardized test scores, Algorithms, Predictive models, Informed decisions, Time-saving Success rates.

A Gesture-based Tool for Sterile Browsing of Radiology Images

Joe Lillian. J, Lokesh Kumar. M, Hariharan. P, Harish. V

Final Year – Computer Science and Engineering

Abstract—In this project we use gestures to browse radiology images. Gestures refer to non-verbal form of communication. A major challenge involved in this process is to provide doctors with efficient, intuitive, accurate and safe means of interaction without affecting the quality of their work. Keyboards and pointing devices, such as a mouse, are today ;s common method of human—computer interaction. However, the use of computer keyboards and mouse by doctors and nurses in intensive care units(ICUs) is a common method for spreading infections. Humans can recognize body and sign language easily. This is possible due to the combination of vision and synaptic interactions that were formed along brain development. In order to replicate this skill in computers, some problems need to be solved: how to separate objects of interest in images and which image capture technology and classification technique are more appropriate, among others.

Keywords: Python, Open CV, Tensor Flow, Flask, IBM Watson, Health Sector Tool.

Fertilizers Recommendation System For Disease Prediction

Himanshu Roy, Leslie John Vikram.M ,Motchaenok

Final Year- Computer Science And Engineering

Abstract—This document is a review report on the research conducted and the project made in the field of computer science and engineering to develop a system Fertilizers Recommendation for disease prediction. The report proposed the results that system is not designed to replace a biologist or other human monitor, but to act as an additional tool that helps the farmers to detect the plant situation where they can't easily observe and detect diseases. By studying plant patterns and connecting cameras to artificial intelligence (AI) systems we can find whether the plant is healthy or diseased. This project has been implemented by using various techniques like YOLO-based Convolutional Neural Network family of models for object detection and the most recent variation called YOLO v3. As a POC we make use of one camera that analyses the plant to assess the probability of having disease, if it is higher than an alert will be generated to attract the farmer ;s or the biologist ;s attention. Whereas the implementation of the project give the real world idea of how the system works and what changes can be done in order to improve the utility of the overall system.

Keywords: YOLO v3 , AI , Convolutional Neural Network ,Disease Detection.

Plasma Donor Application

Pavithra.R, Shalini.R, Suwetha.B, Swathi.K

Final Year – Department Name- Computer Science And Engineering

Abstract—Patients with serious liver problems and various coagulating inadequacies are given plasma.. At the point when a patient necessities plasma, it very well maybe testing to reach out to a benefactor inside the patient's loved ones what's more, companions on time. Because of an absence of mindfulness with respect to gift, there is an interest for plasma contributors, making it trying for the impacted patients to find givers. During the Coronavirus pandemic, the requirement for plasma expanded and the contributor rates diminished to give an insusceptibility lift to Coronavirus impacted patients It requires a long investment for a patient to find the appropriate giver, and it likewise requires investment for the spreading about the need for plasma benefactors to disperse via web-based entertainment to a bigger crowd. Subsequently, patients can't find the right giver inside a given time span. Our application empowers patients with serious liver ailments, blood thickening issues, and Coronavirus to rapidly and effectively find the right contributor inside the distributed period. The state of the impacted patient might endure and maybe bring about death, if the fitting plasma contributor can't be viewed as inside a specific measure of time.

Keywords: Domain name: Cloud application development Technologies Used: Python, HTML, CSS, IBM Cloud Database, Docker.

IoT based Crop Protection system

Fervez Ahamed.A ,Rishimurali.T , Pujit.S, Dharun.T

Final Year – Computer Science

Abstract—An intelligent crop protection system helps the farmers in protecting the crop from the animals and birds which destroys the crop. This system also helps farmers to monitor the soil moisture levels in the field and also the temperature, humidity values near the field. The motors and sprinklers in the field can be controlled using the mobile application. IoT-based agriculture system helps the farmer in monitoring different parameters of his field like soil moisture, Temperature, humidity using some sensors. Farmers can monitor all the sensor parameters by using a web or mobile application even if the farmer is not near his field. Watering the crop is one of the important tasks for the farmers. They can make the decision whether to water the crop or postpone it by monitoring the sensor parameters and control the motor pumps from the mobile application itself. All the sensor parameters are stored in the IBM Cloud ant DB. This offers an automated farming techniques, useful data collection and high-rigor crop control. Sophisticated sensor based architecture is proposed to monitor the conditions of the farms by using sensors and the information extracted from these sensors is stored on the internet. This stored information is obtained and evaluated to forecast the condition of farms, according to a period of time. Based on this evaluation, the necessary improvements can be made with better farming conditions in future

Keywords: IBM Watson, IBM Cloud ant DB

Detecting Glaucoma in Retinal Images Using Deep Learning Approach

J. Anitha Gnanaselvi, G. Maria Kalavathy

Abstract—Glaucoma is an unending and irreversible eye infection in which the optic nerve is consistently hurt, inciting disintegrating in vision and individual fulfillment. In this errand, we develop figuring in which we recognize glaucoma in starting periods by using Convolution Neural Network (CNN) in light of visual picture getting ready. This visual picture getting ready in perspective of the Deep Learning. A significant learning structure is proposed remembering the ultimate objective to get a different leveled depiction of fundus pictures to isolate among glaucoma and non-glaucoma outline. Wide examinations are performed on the fundus and OCT pictures datasets. The condition of the vascular arrangement of human the eye is an imperative characteristic factor in of ophthalmology. Its division in fundus imaging is a troublesome endeavor due to distinctive anatomical structures like vein, optic glass, optic plate, macula, and fovea. Vein division can help the distinguishing proof of masochist changes which are possible markers for arteriosclerosis, retinopathy? micro aneurysms and macular degeneration. The division of optic plate and optic holder from retinal pictures are used to figure a basic pointer, glass to plate extent accurately to help the specialists in the area of Glaucoma in fundus pictures. In this proposed work, a robotized division of anatomical structures in fundus pictures, for instance, vein and optic circle is done using YOLO Architecture.

Keywords: Convolutional neural network, fundus images, YOLO architecture.

Recognition Of Lung Carcinoma Using Ensemble Learning

Dr.K.Jayasakthi Velmurugan, Mrs.S.Hemavathi

Abstract—Lung cancer is due to the uncontrollable growth of cells in the lungs. It causes a serious breathing problem in both to inhale and exhale part of the chest. Cigarette smoking and passive smoking are the principal contributors to the cause of lung cancer as per the World Health Organization. The proposed methodology aims to predict the lung carcinoma at the earlier stage of the affected people and also increase the accuracy rate of the prediction using the Ensemble Learning approach. An analysis of the dataset by the Supervised Machine Learning Technique(SMLT) to capture several information will be done on the entire given dataset. This work consists of (i) validating the data (ii) visualizing the data (iii) training the model by given dataset using comparison of algorithms also predicting the accuracy rate based on the algorithm ;s result (iv) GUI based prediction results of lung carcinoma. The proposed approach is evaluated with the efficient performance rates of average accuracy. Recognition of lung carcinoma aims to predict lung cancer at the earlier stage and would help the patient to recover from it.

Prediction of Liver Tumour Using Deep Learning Method

A.Subashchandar, Dr.J.Jesu Jayarin,

Abstract—Prediction of the disease in the human being is the very long and difficult process in early days. Now a days, computer aided diagnosis plays an important role in the medical industry for predicting, analyzing and storing medical information with the images. Liver cancer (tumor) is the fifth most common cancer in men and the seventh most common in women and is the third leading cause of cancer-related death worldwide. Artificial intelligence, such as convolutional neural networks (CNNs), has been used in the interpretation of images, including pathology and radiology images with potential application in the diagnosis of liver tumor. There are various diseases associated with the human liver, some of which are hard to detect using just the information exchanged between a patient and a doctor. Motivated by the vast potential of artificial intelligence in medical field, the proposed research is to attempt to find a model which can predict the occurrence of liver tumor with the highest accuracy, based on different input factors. The Cancer Imaging Archive (TCIA) hosts a large archive of medical images of cancer and it is accessible and available for public download. The data are organized as “collections”; typically, patients ’imaging related by a common disease (e.g., lung cancer), image modality or type (MRI, CT, digital histopathology, etc). The data are stored in DICOM format in TCIA for radiology imaging. Supporting data related to the images such as patient outcomes, treatment details, genomics and expert analyses are also provided possibly.

KeyWords: deep learning, prediction, CNN

E-V Sensing System : A distributed Mobile Phone Based Social Networking System And its Applications

T.Monisha, J.Rahul

Abstract— In this paper we are going to discuss about the distributed mobile phone based social networking system and its applications in real world scenario. The e-shadow complements the current social network. E-Shadow has two main components :(1)Local profiles. They enable E-Shadow users to record and share their names, interests, and other information with fine-grained privacy controls. (2)Mobile phone based local social interaction tools. E-Shadow provides mobile phone software that enables the rich social interactions[1].It is used for information publishing and make use of interpersonal relevance in space and time. E-shadow which has more advantages and challenges facing todays world. We believe our E-Shadow concept and system can lead to a more tightly-knit temporary community in one’s physical vicinity. We have implemented the E-Shadow system on real world mobile phones.

Keyword—E-Shadow, information publishing, Mobile phones, information publishing-shadow direct driven matching.

Inclusion of Road Network in the Spatial Database for Features Searching Using Dynamic Index

S.Aravindh

Abstract—Spatial database systems manage large collections of geographic entities, which apart from spatial attributes contain non spatial information (e.g., name, size, type, price, etc.). An Interesting type of preference queries, which select the best spatial location with respect to the quality of facilities in its spatial neighborhood. Given a set D of interesting objects (e.g., candidate locations), a top-k spatial preference query retrieves the k objects in D with the highest scores. The score of an object is defined by the quality of features (e.g., facilities or services) in its spatial neighborhood. For example, using a real estate agency database of flats for lease, a customer may want to rank the flats with respect to the appropriateness of their location, defined after aggregating the qualities of other features (e.g., restaurants, cafes, hospital, market, etc.) within their spatial neighborhood. Such a neighborhood concept can be specified by the user via different functions. It can be an explicit circular region within a given distance from the flat. Another intuitive definition is to assign higher weights to the features based on their proximity to the flat. In this paper, we formally define spatial preference queries and propose appropriate indexing techniques and search algorithms for them. We extend [1] results with dynamic index structure in order to accommodate time -variant changes in the spatial data. In my current work is the top-k spatial preference query on road network, in which the distance between object and road is defined by their shortest path distance.

Keywords- spatial information, spatial location.

A Comparative Study of Big Mart Sales Prediction

Safia Naveed. S

Abstract—Nowadays shopping malls and Big Marts keep the track of their sales data of each and every individual item for predicting future demand of the customer and update the inventory management as well. These data stores basically contain a large number of customer data and individual item attributes in a data warehouse. Further, anomalies and frequent patterns are detected by mining the data store from the data warehouse. The resultant data can be used for predicting future sales volume with the help of different machine learning techniques for the retailers like Big Mart. In this paper, we propose a predictive model using Xgboost technique for predicting the sales of a company like Big Mart and found that the model produces better performance as compared to existing models. A comparative analysis of the model with others in terms performance metrics is also explained in details.

Keywords: Machine Learning, Sales Forecasting, Random Forest, Regression, Xgboost.

Highway Energy Harvesting by Windmills Using IoT

D. Jeevitha, Assistant Professor, Department of CSE

S. Bargunam, Assistant Professor, Department of CSE

Abstract—On Keeping in Mind on the heavy vehicles on highways/expressways, I found out that there is abundant of wind pressure generated on these roads due to wind disturbance/ wind turbulence created by these vehicles. As any vehicle passes on highway, it creates a very huge air pressure on the nearby surrounding areas. This high pressure of wind is till now of no use. Till now there is no as such technology developed to utilize this high-pressure column of wind so generated. With concern to this, I had tried to develop a windmill which work on the principle of these highway wind energy.

Keywords— *Cloud, VAWT, HAWT, Embedded C*

PROGRAMME SCHEDULE (ICONSTEM 2023)**Theme: Smart Systems and Innovative Technology for Industry 5.0**

Date : 06.04.2023

Time : 10.15 am-2.30pm

Mode of Presentation: Offline**Venue: ECE Block**

S.No	Conference Id	Paper Title	Authors
1	ICON23T279	Gas Leakage Detection For Industries Using IOT	Kumaran N, Abija Mercy J A, Kaviya M, LijithaAswi A
2	ICON23T280	Iot Based Child Safety Monitoring Device	Julian Thomas, Saravanan, Sanjay Anand L, Gospel Mathew,
3	ICON23T281	Smart Waste Management System For Metropolitan Cities	Arockia Kishore,-Balajee B 2-Ashik J, Gokul Raj L
4	ICON23T282	Smartfarmer- IOT Enabled Smart Farming Application	Syed Kabeer ,Vigneshpahty V , Gopi Krishnan , Gokul
5	ICON23T283	Skill/ Job Recommender Application	Shanmuganathan.S, Sri murugan.M , Siva varthanjan J A , BiyorsAbishiek J
6	ICON23T284	Smart Farming Using Iot	Sudharshan.B, Sudharshan.S , Sushil Kumar.R , Vinodh.N,
7	ICON23T285	Plasma Donor Application	Ramya N, Nandhini. L, sarika.P Sharathkumar R
8	ICON23T286	Gas Leakage Monitoring & Alerting System For Industries	Abdul Razzaq S, Akash B, Amalan Bosco A, Arishraaj K,
9	ICON23T287	Inventory Management For Retailers	Praveen, , Prashanth, Praveen Kumar, Rohan sri
10	ICON23T288	Visualizing And Predicting Heart Diseases With An Interactive Dashboard	Vishnupriya MS, Manorangitham T, Miruthula Shri P, Trisha A
11	ICON23T289	Fertilisers Recommendation System For Disease Prediction In Plants	Dhivya Shri Thendral G, Arivumathi R, Hamlin Anshika A, Kavya K
12	ICON23T290	Analytics For Hospitals Health Care-Data	Madhumitha P Nithya R, Krishnakanth B, Kishore A,
13	ICON23T291	University Admit Eligibility Predictor	Mohana M, Mohanapriya .T Ramya . S, Swathi Priya . M
14	ICON23T292	Voice Recognized System Using Machine-Learning Framework With FPGA Board	Vignesh.K, Varun.H , Shewag.R, Sreeraghavendra.R

15	ICON23T293	Smart Fashion Recommender	Nithish J, Nishanth C, Pavithran.S.V, Saisarath.B
16	ICON23T294	Personal Expense Tracker Application	Arunkumar S, Bharat Baral.V, Danielraj.C, Devesh D,
17	ICON23T295	Inventory Management For Business Operators	Dhanush Raj N, Immanuel K Kishore Kumar A, Dhana Jeyaanth K
18	ICON23T296	IOT Based Safety Gadget For Child Safety Monitoring And Notification	Muthuraj.S, AngleenaReji, Anupama.M, Divya.L
19	ICON23T297	Intelligent Vehicle Damage Assessment And Cost Estimator For Insurance Companies	Ganesh A R, Harish D, Hemanth Raj S N, Ignesh Andrews S
20	ICON23T298	Signs With Smart Connectivity For Better Road Safety	Bharath S, Bharath Kumar S, Deepak S, George J
21	ICON23T299	Gas Leakage Monitoring And Alerting System	Nandhakumar S, Naveen kumar.K, Sanjaikumar V, Vishnu raaj.V
22	ICON23T2100	Customer Care Registry	Midun,Meiyarasan, Sam Wilson, Venkatesh
23	ICON23T2101	AI-Powered Nutrition Analyzer For Fitness Enthusiasts	Infant Ricardo
24	ICON23T1238	Using Data Mining Techniques to Predict Students Performance to Support Decision Making University Admission System	Theetchenya S, Arla Venkat Royal, Guna R, Pushparaj M
25	ICON23T1239	Real Time Indian Sign Language Recognition using Hand Gesture and Text/Voice Generation	Vidyabharathi.D, Gaja Lakshmi.J, Bhuvana.K, Dinesh
26	ICON23T1240	Student's Assistant Educational Chatbot in Tamil Language and English Language	Theetchenya S, Akaash Kannan N K, Dhakshid Sabari M, Arun Kumar S
27	ICON23T1241	Fruit Over-ripeness Prediction Using Deep Learning	Theetchenya.S, Balasaravanan.V.P, Arjun.V, Anto Lourdu Xavier Raj.A, Avuddayappan Kasi Visvanathan

Gas Leakage detection for Industries using IOT

Kumaran N T, Abija Mercy J A, Kaviya M, Lijitha Aswi A

Final Year – Electronics and Communication Engineering.

Abstract—Internet of Things (IoT) is the networking of ‘things’ by which physical things can communicate with the help of sensors, electronics, software, and connectivity. These systems do not require any human interaction. Internet of Things aim towards making life simpler by automating every small task around us. As much as IoT helping in automating tasks, the benefits of IoT can also be extended for enhancing the existing safety standards. Safety plays a major role in today’s world and it is necessary that good safety systems are to be implemented in places of education and work. The traditional Gas Leakage Detector Systems though have great precision, fail to acknowledge a few factors in the field of alerting the people about the leakage. Therefore we have used the IoT technology to make a Gas Leakage Detector for society which having Smart Alerting techniques involving sending text message to the concerned authority and an ability performing data analytics on sensor readings.

Keywords: Internet of Things, Gas Leakage Detection, Arduino UNO, Node-Red.

IoT Based Child Safety Monitoring Device

Julian Thomas,Saravanan E, Sanjay Anand L, Gospel Mathew

Final Year – Electronics and Communication Engineering

Abstract—In today’s world children are less secure and have many issues concerning their security purpose. It is hard to monitor the whereabouts of children. Underage children may be impulsive in the way they act and in places to be. Most of the human behaviour is shaped in the childhood stage, in order to get morally acceptable behaviour child monitoring system is necessary. Children are prone to many accidents. The safety of children is very indispensable as children cannot protect themselves. The main goal of this project is to create a smart wearable device for children that uses refined technology to assure their safety. The project provides a smart solution for deflecting losing kids while going out alone or with their parents based on the Internet of Things (IoT). Our proposed strategy ensures utmost security and ensures live tracking for their kids. This project proposes a model for child safety through smart phones that can track their children’s location and give the precise coordinates of the child’s location in real-time anywhere. By monitoring the activities the security state of the child is examined.

Keywords: IoT, NODE-RED, JIRA, XML, ARM, API.

Smart Waste Management System for Metropolitan Cities

Arockia Kishore K,Balajee B, Ashik J, Gokul Raj L

Final Year – Electronics and communication Department

Abstract—Waste management is an integral part of the supply chains that our global economy relies on. Due to exponential growth of population there has been a remarkable increase in everyday waste wherein improper treatment and disposal cause serious socio-economic downturns. Sustainable waste management practices have become challenging due to our consumption behavior and changing social economic conditions. Waste management is a multidimensional problem that requires technology, economics, and socio cultural and political activities to go hand in hand. Our project attempts to summarize the key influential aspects in waste management practices, including the interaction of the abovementioned factors.

Keywords: Domain-Internet of Things ,Technology used- a series of wireless ultrasonic sensors that detect fill levels ,Programming language –Python.

Smart Farmer- IoT Enabled Smart Farming Application

Syed Kabeer S,Vigneshpahty V ,Gopi Krishnan , Gokul

Abstract—In recent times, the erratic weather and climatic changes have caused issues for farmers in predicting the perfect conditions to initiate farming. Though on a superficial scale it seems unpredictable, it can be determined with certain parameters with which crop planning can be done. Maintenance of farm fields during and after cultivation are also important. These can be performed by measuring soil moisture, humidity and temperature. Measurement of these parameters is performed using physical sensors. This system is in turn connected to IoT system which can provide a easy to access interface for farmers to read, analyze and take action based on the presented condition. Taking it a step ahead, the system can also gain access to motors and other electrical equipment used in farming and automates their operation. This can help with unsupervised operation ensuring accuracy and will cover definition of IOT based smart farming system, the components and used internal working principal of it.

Keywords: Internet of Things technology has brought revolution to each and every field of common man's. IoT based Smart Farming System assisting farmers in getting Live Data such as Temperature, Soil Moisture for efficient environment monitoring which will enable them to increase their overall yield and quality of products.

Skills/job recommender Application

Shanmuganathan.S, Sri Murugan.M , Siva Varthanhan J A , Biyorsor Abishiek J

Final Year – Electronics and Communication Engineering

Abstract—There has been a sudden boom in the technical industry and an increase in the number of good startups. Keeping track of various appropriate job openings in top industry names has become increasingly troublesome. This leads to deadlines and hence important opportunities being missed. Through this research paper, the aim is to automate this process to eliminate this problem. To achieve this, Puppeteer and Representational State Transfer (REST) APIs for web crawling have been used. A hybrid system of Content-Based Filtering and Collaborative Filtering is implemented to recommend these jobs. The intention is to aggregate and recommend appropriate jobs to jobseekers, especially in the engineering domain. The entire process of accessing numerous company websites hoping to find a relevant job opening listed on their career portals is simplified. The proposed recommendation system is tested on an array of test cases with a fully functioning user interface in the form of a web application. It has shown satisfactory results, outperforming the existing systems. It thus testifies to the agenda of quality over quantity.

Keyword: Cloud application, sensor.

Smart Farming using IoT

Sudharshan.B, Sudharshan.S , Sushil Kumar.R , Vinoth.N

Final Year – Electronics and Communication Engineering

Abstract—Internet of Things (IoT) play crucial role in smart agriculture. Smart farming is an emerging concept, because IoT sensors capable of providing information about their agriculture fields. The paper aims making use of evolving technology i. e. IoT and smart agriculture using automation. Monitoring environmental factors is the major factor to improve the yield of the efficient crops. The feature of this paper includes monitoring temperature and humidity in agricultural field through sensors using CC3200 single chip. Camera is interfaced with CC3200 to capture images and send that pictures through MMS to farmers mobile using Wi-Fi. Agriculture is the primary occupation in our country for ages. But now due to migration of people from rural to urban there is hindrance in agriculture. So to overcome this problem we go for smart agriculture techniques using IoT. This project includes various features like GPS based remote controlled monitoring, moisture & temperature sensing, intruders scaring, security, leaf wetness and proper irrigation facilities. It makes use of wireless sensor networks for nothing the soil properties, and environmental factors continuously.

Keyword: IoT, sensor.

Plasma Donor Application

Ramya L,Nandhini L, Sarika P,Sharath Kumar R

Abstract—Our project is to design a user-friendly web application that is like a scientific vehicle from which we can help reduce mortality or help those affected by COVID-19 by donating plasma from patients who have recovered without approved antiretroviral therapy planning for deadly COVID-19 infection, plasma therapy is an experimental approach to treat those COVID-positive patients and help them recover faster. Therapy, which is considered reliable and safe. If particular person has fully recovered from COVID-19, they are eligible to donate their plasma. As we all know the traditional methods of finding plasma, one has to find out for oneself by looking at hospital records and contacting donors have been recovered, sometimes may not be available at home and move to other places. In this type of scenario, the health of those who are sick becomes disastrous. Therefore, it is not considered a rapid process to find plasma. The main purpose of the proposed system, the donor who wants to donate plasma can simply register through the web application and can donate the plasma to the blood bank, the blood bank can apply for the donor and once the donor has accepted the request, the blood bank can add the units they need and the hospital can also send the request to the blood bank that urgently needs the plasma for the patient and can take the plasma from the blood bank.

Gas Leakage Monitoring &Alerting System for industries

Abdul Razzaq S Akash B, Amalan Bosco A, Arishraaj K G

Final Year -Electronics And Communication Department

Abstract—Gas Leakages in open or closed areas can prove to be dangerous and lethal. This project helps the industries in monitoring the emission of harmful gases. In several areas, the gas sensors will be integrated to monitor the gas leakage. If in any area gas leakage is detected the admins will be notified along with the location. In the web application, admins can view the sensor parameters. By using advance technology Wireless Sensor Networks, we can avoid the hazards. Device and network will provide huge safety to environment around the industries and localize people. Power, energy consumption and structure with respect to their industrial boundary.

Keywords: Gas leakage, Detected , Sensor , Hazards , safety , Energy Consumption .

Inventory Management for Retailers

Praveen, Prashanth, Praveen Kumar, Rohan sri

Final Year - ECE Department

Abstract—This project is aimed at developing a cloud based web application named Stock Management System for managing the stock system of any organization. The Stock Management System (SMS) refers to the system and processes to manage the stock of organization with the involvement of Technology system. This system can be used to store the details of the stock, stock maintenance, update the stock based on the sales details, and generate sales and stock report daily or weekly based . In this system we are solving different problem affecting to direct sales management and purchase management. Stock Management System is important to ensure quality control in businesses that handle transactions resolving around consumer goods. Without proper stock control, a large retail store may run out of stock on an important item. A good stock management system will alert the wholesaler when it is time to record. It is also on important means of automatically tracking large shipment. An automated Stock Management System helps to minimize the errors while recording the stock.

Visualizing And Predicting Heart Diseases With An Interactive Dashboard

Vishnupriya Ms, Manorangitham T, Miruthula Shri P, Trisha A

Final Year - ECE Department

Abstract—The leading cause of death in the developed world is heart disease. Therefore, there needs to be work done to help prevent the risks of having a heart attack or stroke. Use this dataset to predict which patients are most likely to suffer from a heart disease in the near future using the features given. Heart disease is one of the biggest causes of morbidity and mortality among the population of the world. Prediction of cardiovascular disease is regarded as one of the most important subjects in the section of clinical data analysis. The amount of data in the healthcare industry is huge. Data mining turns the large collection of raw healthcare data into information that can help to make informed decisions and predictions. Heart disease proves to be the leading cause of death for both women and men. This makes heart disease a major concern to be dealt with. But it is difficult to identify heart disease because of several contributory risk factors such as diabetes, high blood pressure, high cholesterol, abnormal pulse rate, and many other factors. Due to such constraints, scientists have turned towards modern approaches like Data Mining and Machine Learning for predicting the disease. In this project we are using IBM Cognos Analytics software for Visualizing and Predicting Heart Disease with an interactive dashboard.

Fertiliser Recommendation System for Disease Prediction

Dhivya Shri Thendral G, Arivumathi R, Hamlin Anshika A, Kavya K

Final Year - Electronics and Communication Engineering(ECE).

Abstract—Agriculture is the most important sector in today's life. Most plants are affected by a wide variety of bacterial and fungal diseases. Diseases on plants placed a major constraint on the production and a major threat to food security. Hence, early and accurate identification of plant diseases is essential to ensure high quantity and best quality. In recent years, the number of diseases on plants and the degree of harm caused has increased due to the variation in pathogen varieties, changes in cultivation methods, and inadequate plant protection techniques. An automated system is introduced to identify different diseases on plants by checking the symptoms shown on the leaves of the plant. Deep learning techniques are used to identify the diseases and suggest the precautions that can be taken for those diseases.

Analytics For Hospitals Health Care-Data

Madhumitha P , Nithya R, Krishnakanth B, Kishore A

Final Year - Electronics and Communication Engineering(ECE).

Abstract—Data is a powerful source being produced at an ever-increasing rate every day. Our traditional database systems are unable to handle this enormous amount of variety of data coming at an uncontrollable rate. This has led to the creation of a term called, ‘Data Analytics’, which refers to the voluminous datasets produced that are growing exponentially with time. The findings from this study suggest that applications of Data Analytics in healthcare can be observed from five perspectives: health awareness among the general public, interactions among stakeholders in the healthcare ecosystem, hospital management practices, treatment of specific medical conditions, and technology in healthcare service delivery. This recommends actionable future research agendas for scholars and practical implications for theory and practice.

Keywords: Data Scientist, Medical Image Analysis, Reduced Failure in Treatments, Virtual Assistance, Safeguarding Security

University Admit Eligibility Predictor

Mohana M, Mohanapriya .T , Ramya .S, Swathi Priya . M

Final Year - Electronics and Communication Engineering

Abstract—Students are often worried about their chances of admission to University. The aim of this project is to help students in shortlisting universities with their profiles. The predicted output gives them a fair idea about their admission chances in a particular university. This analysis should also help students who are currently preparing or will be preparing to get a better idea . A persons education plays a vital role in their life. While planning for education students often have several questions regarding the courses, universities, job opportunities, expenses involved, etc. Securing admission in their dream university is one of their main concerns. It is seen that often students prefer to pursue their education from universities which have global recognition. Build an application that predicts the university admission chances of a student powered by machine learning models. Train the model and host it on IBM cloud. The majority of international students studying in the USA are from India and China. In the past decade, India has seen a huge increase in the number of students opting to pursue their education from foreign universities in countries like The USA, Ireland, Australia, Germany, etc. Although there are significant universities and colleges in India, students are finding it difficult to get admission in the highly ranked colleges and also getting a job is a challenge as the ratio of number students to the number work opportunities available is quite high.

Keywords: Applied data science, Machine learning , Prediction of marks , IBM cloud

Voice recognized System using Machine-learning framework with FPGA board

Vignesh.K, Varun.H , Shewag.R, Sree Raghavendra.R

Final Year –B.E Electronics and Communication Engineering

Abstract—This project is about a voice recognized system and control using Artix 7 FPGA development kit. The system includes a hardware design in the Verilog HDL. By using the machine learning framework the system can identify the command more accurately. Model complier is the ML based hardware accelerator with a given set of data parameters specifying the architecture. In addition, with FFT used to filter the input signal. The system includes the main components: RFFT(Fast Fourier transform) module, machine learning concept, Pmod MIC3 and HB3 drivers. To run this model on an FPGA we will use Model complier . Model complier is an open source ML acceleration framework that will generate a hardware accelerator with a given set of parameters specifying the Model complier architecture. Model complier makes it very easy to compile ML models created with popular ML frameworks

Keywords: Verilog, Hardware accelerator, FFT, Pmod, Filters

Smart Fashion Recommender

Nithish J, Nishanth C, ,Pavithran S.V,Saisarath.B

Abstract—The type of fashion style that people prefer varies from person to person, and the classification of fashion styles often differs from person to person as well. Against this background, many methods have been proposed that generate different outfit images from a given outfit image .However, previous methods focus on the diversity and compatibility of the generated images, and often fail to reflect individual preferences. The purpose of this paper is to develop a system which outputs outfit images with partially modified outfit of the input image according to the user's preferred style. The generation of an outfit image with some changes in the outfit of the input image is achieved by extracting and updating the features of the color, texture and shape of the clothes from the original image and its segmentation mask. To classify images into the style of the individual's preference, we create the user's original dataset to learn the user's preference in advance by asking the user to classify a group of images into4 styles. We conducted an evaluation experiment of our system to confirm that our system reflects user's individual preference. As a result of the evaluation experiment, it was confirmed that the same image was recommended as different styles for different users, and that the users also thought that the recommended style was match to the style that the user's classification of the style. There are some challenges related to the bias of the data used and the learned model used to generate the images. Therefore, it is expected that improving these points will result in a system with higher recommended accuracy.

*Keywords:*IBM chatbot, Kubernetes, Docker, Python Flask

Personal Expense Tracker Application

Arunkumar S , Bharat Baral V , Danielraj Wycliff C, Devesh D

Final Year – Electronics and Communication Engineering

Abstract—Personal finance entails all the financial decisions and activities that a Finance app makes your life easier by helping you to manage your finances efficiently. A personal finance app will not only help you with budgeting and accounting but also give you helpful insights about money management. Personal finance applications will ask users to add their expenses and based on their expenses wallet balance will be updated which will be visible to the user. Also, users can get an analysis of their expenditure in graphical forms. They have an option to set a limit for the amount to be used for that particular month if the limit is exceeded the user will be notified with an email alert. Personal Expense Tracker Application is designed for the people who are unaware of their daily expenses. It is planned to solve the issues like poor financial management, unnecessary expenditure etc.

Keywords: Finance, Cloud Application Development, Management,Personal Expense Tracker.

Inventory management for business operators

Dhanush Raj N ,Immanuel K, Kishore Kumar A ,Dhana Jeyaanth K

Final Year - Electronics and Communication Engineering (ECE) and Information Technology (IT).

Abstract—An inventory management system is helpful for business operators, where shopkeepers keep records of purchases and sales. Mismanaged inventory means disappointed customers, and too much cash tied up in slower sales and warehouses. This inventory eliminates paperwork, human faults, and manual delay and speeds up the process. This inventory management system will have the ability to track sales and available inventory, telling a shopkeeper when it's time to reorder and how much to purchase. An inventory management system is a windows application developed for windows operating systems which focused on the area of inventory control and generation. The software is made up of two parts: The frontend is developed using Microsoft Visual Basic 2010 and the Backend from SQL server Database 2008.

Keywords: Database, Inventory, Public, Software

IoT-Based Safety Gadget For Child Safety Monitoring And Notification

Muthuraj.S, Angleena Reji, Anupama.M, Divya.L

Final Year - Electronics And Communication

Abstract—In today's world children are less secure and have many issues concerning their security purpose. More family's spent their time for work and social accountability but since Children are gifts of GOD they need the care of family. The current status of our country is not habitable for monitoring children in school. With the absence of a child monitoring system, it is hard to monitor the whereabouts of children. Underage children may be impulsive in the way they act and in places to be. Most of human behavior is shaped in the childhood stage, in order to get morally acceptable behavior child monitoring system is necessary. Children are prone to many accidents. The safety of children is very indispensable as children cannot protect themselves. The main goal of this project is to create a smart wearable device for children that uses refined technology to assure their safety. The paper provides a smart solution for deflecting losing kids while going out alone or with their parents based on the Internet of Things(IoT). Our proposed strategy ensures utmost security and ensures live tracking for their kids. This paper proposes a model for child safety through smartphones that can track their children's location and give the precise coordinates of the child's location in real-time anywhere. By monitoring the activities the security state of the child is examined

Keywords: IBM - International Business machines IoT - Internet of Things GIT - Global Information TrackerSMS - short message service GPS - Global Positioning System Wi-Fi - Wireless Fidelity IEEE - The Institute of Electrical and Electronics Engineers

Intelligent Vehicle Damage Assessment And Cost Estimator For The Insurance Company

Ganesh A R,Harish D ,Hemanth Raj S N,Ignesh Andrews S

Final Year – Electronics and communication Engineering

Abstract—Nowadays, a lot of money is being wasted in the car insurance business due to leakage claims. Claims leakage Underwriting leakage is characterized as the discrepancy between the actual payment of claims made and the sum that should have been paid if all of the industry's leading practices were applied. Visual examination and testing have been used to may these results. However, they impose delays in the processing of claims. The aim of this project is to build a VGG16 model that can detect the area of damage on a car. Users can upload pictures and the model can assess damage and estimate the cost of damage. This model can also be used by lenders if they are underwriting a car loan, especially for a used car.

Keywords: VGG16, car damage, insurance company, Artificial Intelligence, Visual examination

Signs With Smart Connectivity For Better Road Safety

Bharath S,Bharath Kumar S, Deepak S, ,George J

Final Year – Electronics and communication Department

Abstract—In present Systems the road signs and the speed limits are Static. But the road signs can be changed in some cases. We can consider some cases when there are some road diversions due to heavy traffic or due to accidents then we can change the road signs accordingly if they are digitalized. This project proposes a system which has digital sign boards on which the signs can be changed dynamically. If there is rainfall then the roads will be slippery and the speed limit would be decreased. There is a web app through which you can enter the data of the road diversions, accident prone areas and the information sign boards can be entered through web app. This data is retrieved and displayed on the sign boards accordingly.

Keywords: Domain-Internet of Things, Programming language -Python

Gas Leakage Monitoring and Alerting System

Nandha Kumar S , Naveen Kumar K , Sanjai Kumar V, Vishnu Raaj V

Final Year – Electronics And Communication Engineering

Abstract—In the past and in recent time's due to gas leakage, various disasters and accidents had takes place , which leads to downfall of workers health and economic wealth. To avoid this we made a precautionary measures and safety measurements using current technologies as safety plans. Industrial gases are toxic to the workers and the environment surrounded by. To solve this Internet Of Things(IOT) helps us with wireless sensing networks, so it provides accuracy about gas leakage in pipelines. Gas Leakage Monitoring and Alerting System tracks the toxic gas leakage detection in large scale Industries. This mechanism is efficient and reliable. It can able to sense gases like LPG, Methane etc... this system also ALERT us, by alarms and flash messages. This IOT with Wireless sensors helps in monitoring, detecting and alerting workers , staff and environment with messages and warning alarms. This can be achieved with the help of monitoring and detecting by Watson platform, Node Red and alerting by Fast2sms platform. In this way we can prevent huge losses and achieve a safe working environment for workers and staffs and surrounding environment too.

Keywords: Internet of things, Gas leakage monitoring and alerting system, Toxic gases.

Customer Care Registry

Midun , Meiyarasan , Sam Wilson, Venkatesh

Final Year – Electronics and Communication Engineering.

Abstract—This Application has been developed to help the customer in processing their complaints. The customers can raise the ticket with a detailed description of the issue. An Agent will be assigned to the Customer to solve the problem. Whenever the agent is assigned to the customer they will be notified with an email alert. Customers can view the status of the ticket till the service is provided. The main roles and responsibilities of the admin is to take care of the whole process. Starting from Admin login followed by the agent creation and assigning the customers complaints. Finally, He will be able to track the work assigned to the agent and notification will be sent to the customer. They can register for an account. After the login, they can create a complaint with a description of the problem they are facing. Each user will be assigned an agent. They can view the status of their complaint.

Keywords: Customer Satisfaction· Python-Flask· Docker· Cloud· User, Agent, Admin.

AI-powered Nutrition Analyzer for Fitness Enthusiasts

Infant Ricardo, kamesh p.,Immanuel j,Kishore s

Abstract—Food is essential for human life and has been the concern of many healthcare conventions. Nowadays new dietary assessment and nutrition analysis tools enable more opportunities to help people understand their daily eating habits, exploring nutrition patterns and maintain a healthy diet. Nutritional analysis is the process of determining the nutritional content of food. It is a vital part of analytical chemistry that provides information about the chemical composition, processing, quality control and contamination of food. The main aim of the project is to build a model which is used for classifying the fruit depends on the different characteristics like colour, shape, texture etc. Here the user can capture the images of different fruits and then the image will be sent to the trained model. The model analyses the image and detect the nutrition based on the fruits like (Sugar, Fibre, Protein, Calories, etc.). The technologies used in this project are Python,CNN,IBM Cloud,IBM Watson,IBM Cloudant DB,Deep Learning,Python-Flask. By the end of this project the user can access the application and upload the pictures of food that they eat so the application outputs the nutritional information.

Using Data Mining Techniques To Predict Students Performance To Support Decision Making University Admission System

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Abstract—The increasing demand for higher education has resulted in a significant challenge for universities to select the most suitable candidates for their programs. To address this challenge, there is a growing need for effective methods to predict student performance and support decision-making in university admission systems. In this system, we propose the use of data mining techniques to predict student performance based on academic and non-academic attributes. Our approach utilizes machine learning algorithms such as decision trees, logistic regression, and random forest to analyze a dataset of student records and identify the key factors that influence academic success. The results of our study indicate that these techniques can accurately predict student performance, achieving an accuracy rate of up to 85%. Additionally, we present a decision support system that integrates these predictive models into the university admission process, providing administrators with a tool to make informed decisions on student admission. Our proposed approach has the potential to improve the efficiency and fairness of university admission systems, enabling universities to select the most suitable candidates for their programs and contribute to the success of both students and institutions.

Keywords: Machine learning, Decision Tree, Logistic regression, Random forest

Real Time Indian Sign Language Recognition using Hand Gesture and Text/Voice Generation

Vidyabharathi.D, Gaja Lakshmi.J, Bhuvana.K, Dinesh Raj.V.M

Professor, Department of CSE, Sona College of Technology, Salem, India

Department of CSE, Sona College of Technology, Salem, India

Abstract—Communication with a person with hearing impairment is always a great challenge. Disabled people with hearing loss use sign language as a means of communicating with others. Hand gestures are one of the ways that sign language users can communicate nonverbally. Many people around the world have developed different sign language to communicate in their native language. In this paper, we present a proposed system for recognizing Indian Sign Language (ISL) based on hand gestures and generate the speech output for the recognized text. The purpose of this work is to develop a model that can recognize hand gestures in real time using computer vision and then the model is trained to generate the appropriate character, words, or sentences for the recognized sign. In order to enhance communication between the person with hearing impairment and the blind, this technology also offers voice output for the generated text. Additionally, this system offers the text to sign language generation paradigm, which enables two-way communication without the use of a translator.

Keywords- Indian Sign Language (ISL), Hand gestures, Computer Vision, Convolutional Neural Networks (CNN), Voice Output, Two-way communication

Student's Assistant Educational Chatbot in Tamil Language and English Language

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Abstract—A chatbot is a computer programme that simulates conversations with actual humans, typically via text-based messaging services. In the last few years, several chatbots have been created for use in education. An educational chatbot is a specific kind of chatbot created to help teachers and students with educational tasks. An educational Tamil chatbot that can converse with students in both Tamil language and English language is presented in this paper. Tamil is one of the most traditional and widely spoken Dravidian languages in India. The long short-term memory (LSTM) model for intent categorization was used in the chatbot ;s development along with natural language processing (NLP) methods and deep learning algorithms. The chatbot can be used to convey learning concepts to learners, primarily in Tamil language but also in English learning. The chatbot will be made to help in a variety of areas, such as Biology, Physics, Chemistry, etc., The chatbot described in this study has the potential to improve students ; educational experiences in both Tamil language and English Language. **Keywords**-Educational Tamil Chatbot, Tamil, and English, LSTM, Natural Language Processing

Fruit Over-ripeness Prediction Using Deep Learning

Theetchenya.S Balasaravanan. V.P Arjun. V, Anto Lourdu Xavier Raj.A Avuddayappan , Kasi Visvanathan

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Fruit Over-ripeness is a major issue for the food business, resulting in significant wasted food and financial losses. Fruits that are too ripe lose both their nutrient value and their attraction to consumers, which lowers sales and revenue for businesses. There is a need for precise and trustworthy ways to forecast fruit over-ripeness in order to address this problem. Models based on deep learning are the best for identifying over-ripening in fruits because they can learn and extract complicated features from big datasets. The goal of this project is to create a deep learning-based model that can forecast fruit over-ripeness. The model will be able to precisely forecast the number of days before a fruit turns overripe by examining the physical features of fruits, such as colour, texture, and size. To decrease food scraps and raise the calibre of the goods that are supplied to customers, the approach can be incorporated into the supply chain process. By enhancing the supply chains effectiveness, lowering food waste, and guaranteeing that consumers have access to high-quality fruits that are at the peak of freshness, this initiative is expected to have a substantial impact on the food sector overall. Two datasets of banana fruit are used in this study. The first one, which will be used to determine the days before the fruit becomes overripe, was produced by us, and the second dataset, which will be used to determine the fruiting stage, was acquired from a variety of sources including Kaggle. Models for both datasets are built using Resnet50.

Keyword: Deep Learning, Fruit over-ripeness, Resnet50

PROGRAMME SCHEDULE (ICONSTEM 2023)**Theme: Smart Systems and Innovative Technology for Industry 5.0**

Date : 06.04.2023

Time : 10.15 am-2.30pm

Mode of Presentation: Offline**Venue: Mechanical Block**

S.No	Conference Id	Paper Title	Authors
1	ICON23T311	Numerical Analysis of Flow Deflection In Supersonic C-D Nozzle	Vignesh R, S.DilipVarades , J.Lebi Antony , S.Manikandan
2	ICON23T312	Study of Effect of Sector Angular Tab At The Exit Of The Supersonic Nozzle	Vishnupriya S, Kalaivani N.S , Manikandan S
3	ICON23T313	CFD Analysis on High Lift Devices	Mukesh KumarT , S.Naveenkumar , R.VishnuVikaramaSimman
4	ICON23T314	Structural Analysis of Aircraft Wings	Harish S , S.Jagadeesh , B.siddharth
5	ICON23T315	Design And Optimization of Winglets	Faheema Begum B., SuhanaParimalaS., Ajith R. Mr .Mahendiran .S
6	ICON23T316	Thermal Analysis of Cracked Turbine Blade With Frictional Dampers	Nandhini E.M
7	ICON23T317	Flash-Tuning Ecu In Bikes To Improve Engine Performance By Using Ecu-Studio	HakashS , Vijayabaskar G, Purushothaman M
8	ICON23T318	Design And Development Of Sapling Transplanter Using 5 Dof Robotic Arm	J Ramadoss, Kishore.S Seljan.S, Immanuel Siddharth.M.J, Antony.N
9	ICON23T319	Experimental Analysis On Performance Of Standing Ac Using Alternate Refrigerants	Mr.J.Joel Abraham
10	ICON23T320	Electric Car With Solar Powered And Regenerative Recovery System By Using Super Capacitor	Shoban
11	ICON23T321	Ground Image Exploitation System Using Drone Telemetry	Dr. Paul Chandra Kumar J , Ravi Shankar P, Anishuyirppuraja A, RimmonSamtikC, Balamurugan N

12	ICON23T322	Precision Medical Payload Delivery Using Unmanned Aerial Drone	Dr. Paul Chandra Kumar J, Gowtham K, Aaromal V, Vijaya Prasath M R Gandeepan R
13	ICON23T323	Solar Sea Water Desalination Machine - Conception and Operation	Kirithick SharlinS , Santhosh Kumar P, Abdul BasithS, Dr. Paul Chandra Kumar J,Mohammed Thaha D
14	ICON23T324	Design And Development of A Mini Electric Scooter	K Saikumar, Soosai Maria Xavier M, Vairathasan T, Sokkattan Vignesh G Mr.P.Jegandhas
15	ICON23T325	Performance And Emission Test on Four Stroke Single Cylinder Diesel Engine Using Hydrogen As Fuel.	Deepak K , Jeffrin Rojith NM, Karthikeyan K, Manikandan K, Purushothaman M
16	ICON23T326	Contact Analysis on Human Foot Bone Interaction	Vishwe Rupa Malyan K
17	ICON23T327	Experimental Analysis of Performance And Emission Characteristics of A Diesel Engine Powered By Waste Oil.	Muthukumar
18	ICON23T328	Microstructural Study of Rotary Friction Welding With Two Dissimilar Metals	Suriya M
19	ICON23T329	Evaluation of Performance And Emission Characteristics of Diesel Engine Fueled With Diesel/Biodiesel Blend of Cassia Fitasula With Zinc Oxide Nano-Particle	Hari Babu ,Sam Nilson, Saravanan P, Keerthivasan R
20	ICON23T330	Prediction And Optimization of Engine Parameters of Diesel Engine Using Pyrogyllo Biodiesel Response Surface Methodology	Akash S, Arun K, Balaji S, Joseph LinsunGelraj J, Damodharan
21	ICON23T331	Design of Rocker Bogie Exploration Robot	Claude Aaron Cardoza R
22	ICON23T332	Numerical Analysis and Revamp C-D Nozzle for Superior Performance	Thanikaivel Murugan D, Manikandan S
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Numerical Analysis of Flow Deflection In Supersonicc-D Nozzle

R.Vignesh , S.DilipVarades , J.Lebi Antony , S.Manikandan

Abstract—In this study, CFD computational model has been established with an aim to properly simulate complex supersonic flow generated by a 3D C-D nozzle for the purpose of Thrust Vector Control (TVC) simulations. Jet tab thrust vector is a unique kind of thrust vector control device which generate control force by inserting tab into the nozzle exhaust. The tab with different x/d ratio are computed during this process. Nine configuration of tab were inserted axially at the exit of the nozzle for the exit Mach number 1.6, 1.8, 2.0. Using structured mesh, the RANS equations with k- ω SST turbulent model have been applied. The numerical results from the CFD analysis of various tab configurations is studied in order to find the optimum configuration of tab geometry which produce highest thrust vector control of all the nine models.

Keywords: Supersonic C-D nozzle, Flow deflection, CFD analysis, thrust vectoring, Jettab, force calculation, ANSYS.

Study of Effect of Sector Angular Tab at The Exit Of The Supersonic Nozzle

Vishnupriya S ,Kalaivani N.S ,Manikandan S

Abstract—This experiment is to evaluate the effect of tabs at different sector angle on the exit of the supersonic convergent-divergent(C-D) nozzle. In this experiment, we intend to carry out the flow in3D supersonic nozzle. The medium of the fluent is air. The nozzle with different mach no of 1.6,1.8and 2 will be used and the tab will be positioned at the exit of the nozzle. The tab will be varied with different angular positions are 60°,90°,120°.For each mach no at the exit of the nozzle, the three angular sector tabs will be simulated. Due to air flow through the supersonic nozzle, force acts on the tab and due to this force, moments forms in accordance with the Center of gravity. By doing the simulations in 3D supersonic nozzle, the maximum thrust will be calculated.

CFD Analysis on High Lift Devices

T.Mukesh Kumar , S.Naveenkumar , R.Vishnu Vikarama Simman

Abstract—In aircraft, a high lift device is a component on an aircraft's wing that increases the amount of lift produced by the wing. Wind tunnel test is a common method for wing analysis, but the problem with wind tunnel tests is that they are expensive and time consuming. The study was analyzed on NACA 23012 airfoil with flap to examine the aerodynamic coefficients and to identifying the forces acting on a airplane wing. A simple designed wing geometry was analyzed and modified by adding part on the flap to examine the wing flap. All calculation were made using CFD code Fluent. Conclusions were made to enhance the aerodynamic efficiency of the proposed configuration wing flap.

Keywords: Airplane wing, Flaps, Aerodynamics characteristics, CFD, Fluent

Structural Analysis Of Aircraft Wings

Harish S ,S.Jagadeesh , B.Siddharth

Abstract—The main purpose of the project is to design the wing and compare it with the materials and result in the material which produces the better efficiency than other . Initially the wings(normal , swept) are designed through solid modeling software “CATIA V5 R21” . Then the model is been analyzed through“ANSYS 2022 R1” software . In conclusion , the static structural analysis is done to find the suitable material is being selected for the aircraft wings. In this study the wing structure designed with skin , 2 spars , 8 stingers and 7 ribs are made into analysis.

Design And Optimization Of Winglets

Faheema Begum B.,Suhana Parimala S.,Ajith R. Mr .Mahendiran .S

Abstract—In today's world , fuel consumption is a major threat to our environment and commercial airliners play an important role as they are major consumers of fuel. Winglet is a device which is incorporated in the wings to reduce the consumption of fuel by reducing the aircraft's drag to make the aircraft stable during the flight . Blended winglets contribute in fuel savings by additional 3.2 percentage and they are used in most widely used commercial airline BOEING 757. Our project mainly aims to design and analyze a model with the parameters modified by changing the airfoil to give the best optimum flight to reduce the lift induced vortices with minimum pressure difference produced during lift as they are the major contributing factors to induced drag .The design is done in CATIA V5 and analysis in ANSYS fluent Workbench . The results are found for various velocities and pressure conditions until we get a successful design using a suitable airfoil where no vortices or reduced vortices can affect the pressure distribution over the wing of the aircraft which leads to induced drag.

Keywords: Wing, Winglet,Drag,Vortices,Lift,Airfoil

Thermal Analysis Of Cracked Turbine Blade With Frictional Dampers

Nandhini E.M

Abstract—Turbine blades usually gets affected by many external factors like stress and vibration acting on it which leads to crack and damages on the turbine blade. This paper investigates on the amount of total deformation caused on a normal blade and a cracked blade using frictional dampers. The model of the turbine is designed with 20 blades using Catia and the finite element analysis for thermal analysis of a cracked turbine blade with frictional dampers using Ansys. Finally the results are compared against original and cracked one.

Flash-Tuning ECU In Bikes To Improve Engine Performance By Using ECU-Studio

Hakash S, Vijayabaskar G, Purushothaman M

Abstract—The Engine Control Unit (ECU) is the core component for the engine systems for two-wheelers. Its software processes the system information and manages various functions such as fuel supply, air management, fuel injection, ignition and exhaust gas treatment. The engine control unit manages requirements concerning the engine operation such as rider ;s demand or exhaust-system demands based on the mixture composition. Torque is used as the key criterion for implementing all requirements. The air-fuel ratio is adjusted in order to provide the torque as efficiently as possible. The engine control unit allows assistance systems such as motorcycle stability control (MSC) to intervene with the engine torque. It is also able to manage upcoming features such as on board diagnosis, start/stop, functional safety and knock control. ECU tuning is an art of cracking the factory restrictions and making it better, which is something similar to jail breaking/rooting a Smartphone and enhancing its performance. The greater the RPM, more the ignition timing would advance. Programming an ECU is removing things like low RPM power restrictions, closed loop fuel maps, errors when upgrading parts and a plenty of other options. The ECU is removed from the motorcycle and connected to a programmer using a diagnostic cable. Here we uses ECU-studio software to Flash Tuning the ECU by remapping the whole program in C language there by using customizing the code the throttle restrictions are removed and this gives a considerable power gain in lower gears , timing retard is also removed to make engine rev faster . The reprogramming section in ECU is called Remapping , Remapping an ECU will result in about 10–15% increase in power and 15–20% increase in torque than a factory-tuned ECU. Even if we have other performance upgrades, sometimes an ECU remapping can make a huge difference in performance thus resulting in Remove restricted throttle opening, Increase RPM limiter, reduces excessive engine breaking and improve engine tractability Finally the overall readings are taken before and after Flash Tuning.

Keywords: ECU, Flash Tuning, ECU-Studio, Remapping

Design And Development Of Sapling Transplanter Using 5 Dof Robotic ARM

J.Ramadoss , Kishore.S, Seljan.S, Immanuel Siddharth.M.J,Anthony.N

Abstract—A transplanter is an agricultural machine used for transplanting seedlings to the field. Transplanter greatly reduce time required to transplant seedlings and increase efficiency and accuracy of the seedling process compared to manual transplanting. Roboticarm is widely used in industries, manufacturing lines and other industrial purposes. Robotic arm is used to implement complex industrial automation functionality which only humans can achieve. So here we propose the design and development of a fully automated robotic arm that can be used as a sapling transplanter. Our system consists of an assembly of mounts and parts designed to hold motors in place in order to achieve desired movement. Also it consists of a gripper designed with gear teeth in order to achieve gripping function as per motor rotation. The system consists of 5 motors needed to achieve the desired movement. A circuit board provided with it allows controlling the movement of the robotic arm according to the button pressed. This mechanism helps in understanding the working and control flow of industrial robotic arm design and fabrication processes.

Keywords :Transplanter,Roboticarm,Motors,Gripper,Circuit

Experimental Analysis on Performance of Standing AC Using Alternate Refrigerants

Mr.J.Joel Abraham

Abstract—From last many years Vapour Compression Refrigeration system (VCRS) was incorporated in most of refrigeration systems because of its favourable features like higher Coefficient of Performance (COP), higher Refrigerating Effect (RE) etc. VCRS Systems have wide range of applications including domestic and Industrial systems. In any refrigeration system refrigerant is the primary working fluid for absorbing as well as transmitting heat. Domestic and industrial refrigeration systems employ HFC's due to their excellent thermodynamic properties but Kyoto protocol categorized HFCs as global warming gases due to their higher value of GWP (1300). To meet the needs of global standards and eco-friendliness, it is very essential to find out the alternative refrigerants to HFCs. Alternate refrigerants to be used should fulfill the required characteristics like energy efficient heat transfer, higher refrigerating effect, higher condenser heat rejection rate and higher COP as well as it should have lower GWP and zero ODP. From Research, it was found that Mixed Refrigeration Systems or blends are thermally efficient and different types of nano fluids can be utilized along with R134a for improving and achieving excellent performance of a Refrigeration system.

Keywords: Fluid for absorbtion, kyoto protocol, Lower GWP, Higher COP, Zero ODP

Electric Car With Solar Powered and Regenerative Recovery System by Using Super Capacitor

Shoban

Abstract—During the last few decades, environmental impact of the petroleum based transportation infrastructure, along with the fear of peak oil, has led to renewed interest in an electric transportation infrastructure. EVs differ from fossil fuel-powered vehicles in that the electricity they consume can be generated from a wide range of sources, such as tidal power, solar power, and wind power. As it is well known one of the drawbacks of the electric vehicles is the driving range. The driving range can be increased with the help of self-generation and regeneration operation. A hysteretic control algorithm for battery charging by solar panel is given. A novel control method for bi-directional DC/DC is proposed to keep the battery discharging current within a certain limit and make full use of super capacitor. The switching transient between super-capacitor charging mode and discharging mode is also presented. Both simulation and experimental results demonstrate the effectiveness of the proposed strategy. Regenerative braking system replaces the traditional braking system in cars which produces more heat during braking. This system ensures high capability of energy storage in braking conditions and under normal operation

Ground Image Exploitation System using Drone Telemetry

Dr. Paul Chandra Kumar J ,Ravi Shankar P,Anishuyirppuraja, A,Rimmon Samtik C, Balamurugan N

Abstract—The Ground Exploitation Station is a field deployable transportable device that can collect information from airborne early warning and control via a drone telemetry system. The Ground system given in this article is a soldier with a remote transmitter and a display capable of receiving aerial footage of the opponent's terrain, allowing him to map his squad during combat. In future warfare, a weaponized aerial drone with telemetry is considered as a tool. With the growth of artificial intelligence, these drones will play an important role in the future. This article intends to develop a drone telemetry system that will aid our defense.

Keywords: Ground image exploitation system, In-flight image exploitation

Precision Medical Payload Delivery using Unmanned Aerial Drone

Dr. Paul Chandra Kumar J,Gowtham K, Aaromal V ,Vijaya Prasath M ,R Gandeepan R

Abstract—Drones are increasingly being used in a variety of purposes. It is the passion of young enthusiasts that has led to the incorporation of technology in drones. Despite their widespread use in other industries, the employment of drones in medicine is uncommon. Its first usage in the medical profession was observed during the COVID pandemic. This study focuses on the drone requirements needed for medical applications, as well as the benefits of deploying drones in the medical area. Drones can be used in emergency situations to reach remote regions where human access is impossible. Even inside metro areas, when a medical kit is to be brought to a hospital, traffic may slow down the transport vehicle, resulting in late delivery of medicine, which may cost a person's life. Drones can go many kilometers nonstop and escape traffic by choosing the aerial path, thanks to current technology. The study describes a drone capable of delivering a Medical Payload with such pinpoint accuracy that it will reach the doctor's hand.

Keywords: Delivery of healthcare, Medical Payload Delivery, Telemedicine

Solar Sea Water Desalination Machine - Conception and operation

**Kirithick Sharlin S ,Santhosh Kumar P,AbdulBasith S, Dr. Paul Chandra Kumar J,
Mohammed Thaha D**

Abstract—Just 3% of the water available on planet is fresh water. The ice glaciers contain two-thirds of this fresh water. Around 1.1 billion people worldwide lack sufficient access to any fresh water supplies, and over 2.7 billion people confront water scarcity at least once a month. Yet, as we all know, water covers 71% of the earth's surface, and 97% of that water is sea water. To answer the water problem with a clever revolutionary approach, a portable solar powered sea water desalination device is developed which can be used as a desalination unit as well as a water purifier. The unique build of the plant is described in this article.

Keywords: Seawater desalination, Saltwater desalination

Design and development of a Mini Electric scooter

K Saikumar, Soosai Maria Xavier M, Vairathasan T,Sokkattan Vignesh G Mr.P.Jegandhas

Abstract—Since the introduction of the internal combustion engine (ICE), modern mobility has fundamentally changed. Today, it is impossible to imagine modern transportation without motorized vehicles. Powered Two-Wheelers (PTWs) represent a relevant section of such vehicles. In recent years, electric low-powered PTWs, also called e-scooters, became notable trends a lot of us have ridden kick scooters as kids and are quite well versed by the fun and versatility offered by them. However, traditional kick scooters demand a lot of effort from the rider and hence becomes tiresome to ride after a while. This Motorized 2 Wheel Scooter takes the traditional kick scooter a step further making it a viable mode of short intercity commute. Extremely easy to use, this motorized scooter has been built to be intuitive and is driven by a powerful electric motor mated to a belt drive. Thereby, cutting back on emissions ensuring low service cost.

Performance And Emission Test On Four Stroke Single Cylinder Diesel Engine Using Hydrogen As Fuel

Deepak K, Jeffrin Rojith N M, Karthikeyan K, Manikandn K, Purushothaman M

Abstract—In the fast moving world, hydrocarbon based fuels have become significant for a century's development. The fuels derived from crude oil are critical source of energy for fuelling vehicles. However, crude oil based fuels are non-renewable. The present project using hydrogen was carried out in a direct injection diesel engine having a compression ratio of 17.5:1 and a capacity of 5.9 kW at a rated speed of 1800 rpm. In this project, the hydrogen is fed to the engine through the inlet manifold along with intake air during suction stroke of the engine. In order to maintain safety, the flame trap and flame arrestor were also used in the experimental setup. The results shows that there is an increase in Brake thermal efficiency of the engine and reduction in carbon monoxide emission when, the hydrogen is used as a dual fuel, in the operation of the diesel engine.

Keywords: Diesel engine, Hydrogen, Wide flammability limit, High burning rate, Engine-out emissions.

Contact Analysis on Human Foot Bone Interaction

Vishwe Rupa Malyan K

Abstract—Our object is to develop a 3d model of a foot which represent the exact foot behaviour or mimcs the foot behaviour in both shape wise as well as property wise the 3d model foot will replicate. This model is used to running simulations which cannot be run on a live human foot model. This can be used for the designing customized footwear. To overcome foot related diseases, to identify the strains developed in ankle of athletes, to those people who do their work standing for long duration of time, people subjected to do work in vibration platform, to avoid occupational hazards involving foot.

Experimental Analysis Of Performance And Emission Characteristics Of A Diesel Engine Powered By Waste Oil.

Muthukumar

Abstract—Waste oil is defined as any petroleum-based or synthetic oil that, through contamination, has become unsuitable for its original purpose due to the presence of impurities or loss of original properties. waste oil can be by-products of cooking oil, animal fat, yellow or brown grease, and sludge oil or soap stock that comes from the refining process of vegetable oil i.e the waste oil derived from households and industrial waste. the cooking oil are the most prominent sources of all. the depletion of fossil fuels as well as the rises of greenhouse gases had caused most government worldwide to follow the international energy policies for the use of biodiesel.one of the economical sources for biodiesel production is waste cooking oil. surprisingly India generates 3 million metric tons of 'used cooking oil'. The use of waste cooking oil is more sustainable if they can perform similarly to conventional diesel fuel. This paper deals with the experimental study carried out to evaluate the engine performance and exhaust emission of diesel engine operated by biodiesel from waste cooking oil at various engine speed. The biodiesel used are known as b5, which contains of 5% of waste cooking oil and95% of diesel fuel. The other one is b20, which contains of 20% of waste cooking oil plus 80% of diesel. Diesel was used as a comparison purposes. The results show that power and torque for b5 give the closest trend to diesel. in terms of heat release, diesel still dominates the highest value compared to b5 and b20. for exhaust emission, b5 andb20 showed improvement in the reduction of nox and pm.

Keywords: combustion characteristics, diesel engine, emission characteristics, waste oil

Microstructural Study of Rotary Friction Welding with Two Dissimilar Metals

Suriya M

Abstract—Nowadays, friction-welding method is accepted in many industries, particularly for joining dissimilar materials as a mass production process. It is due to advantages like less material waste, low production time, and low energy expenditure in it. Friction welding is carried out with change of speed. forging pressure. Friction welding is a non-conventional pressure welding process. It is considered most viable alternative to overcome the difficulties faced in conventional joining technique. Mostly used for joining material with varying physical and mechanical properties. We have mainly focused on Rotary Friction Welding (RFW). In this process kinetic energy is converted into heat energy thereby producing high quality weld. In this proposed work. The welding process was done by using dissimilar metals as Duplex Stainless Steel (DSS)and copper and also analyze.

Evaluation of performance and emission characteristics of diesel engine fueled with Diesel/Biodiesel blend of Cassia Fitsula with Zinc Oxide nano-particle

Hari Babu , Sam Nilson, Saravanan P, Keerthivasan R

Abstract—The evaluation of the performance and emission characteristics of a DI diesel engine fueled with diesel/biodiesel blends focuses on the study of the effects of using different proportions of biodiesel and diesel fuel on the engine's output and emissions. The main advantage of biodiesel is that it potentially reduces the key pollutants, carbon monoxide, unburnt hydrocarbons and particulate matters. This study aims to evaluate the performance and emission characteristics of a DI diesel engine fueled with a blend of diesel and biodiesel derived from Cassia Fistula, a non-edible plant oil. Additionally, the effect of adding zinc oxide nanoparticles to the fuel blend is also investigated. The findings of this studies have important implications for the use of biodiesel as a renewable alternative to diesel fuel and the development of sustainable transportation solutions. The results of the evaluation are typically reported in terms of brake specific fuel consumption, brake thermal efficiency, and emissions such as carbon monoxide, nitrogen oxides, and particulate matter.

Keywords: DI diesel Engine, Biodiesel, Cassia Fitsula, ZnO nano-particle. engine using response surface methodology

Prediction And Optimization Of Engine Parameters Of Diesel Engine Using Pyrogyllool Biodiesel Response Surface Methodology

Akash S, Arun K, Balaji S, Joseph Linsun Gelraj J, Damodharan D

Abstract—Biodiesel is promoted as an appropriate alternative fuel for use in diesel engine as it is non-toxic, biodegradable, and sulphur-free and does not require any change in current engines design. The key objective of this experimental study is to evaluate the best operational parameters of engine referring to performance and emissions of biodiesel powered CI engine by employing response surface methodology (RSM). In order to achieve maximum brake power (BP), brake thermal efficiency (BTE) and to reduce nitrogen oxide(NOx) and unburnt hydrocarbon (HC) emissions the optimization model is used. Effects of different factors such as fuel injection pressure (FIP), engine compression ratio (CR), and load on thermal performance have been studied in a single cylinder diesel engine. Experiments design was based on L20 orthogonal array Central composite design (CCD)method. RSM was employed to test the suitability of biodiesel in diesel engines and models were developed by using experimental results. Based on the optimization, the optimum engine parameters found were 18 CR, 180 bar FIP and 8.11 kg engine load. Under these settings, the optimum responses were found as 2.21 kW, 28.24%, 25.3 ppm and 174.6 ppm for BP, BTE, HC, and NOx, respectively. Meanwhile, R2 (coefficient of determination) values were found as 99.96%, 99.93%, 98.5%, 99.14%, and 99.78%, for BP, BTE, net heat release rate (NHRR), HC, and NOx, respectively.

Keywords: RSM, enginebehaviours, optimization, biodiesel

Design of Rocker Bogie Exploration Robot

Claude Aaron Cardoza R

Abstract—Rocker-bogie mechanism is proven and renowned for its excellent performance in all types of exploration robots, especially in Mars rover robots. The need to develop a highly stable suspension system capable of operating in multi terrain surfaces while keeping all the wheels in contact with the ground. To design a mechanism that can traverse terrains where the left and right rockers individually climb different obstacles. This paper aims to fabricate a low-cost explorer robot with a rocker-bogie mechanism that can run in all sorts of terrains.

Numerical Analysis and Revamp CD Nozzle For Superior Performance

Thanikaivel Murugan D, Manikandan S

Abstract—A CD nozzle was designed to control the rate of flow, speed, direction, and pressure of a stream that exhausts through it. This analysis was done over a CD nozzle to measure the pressure and Mach number variation with various divergent angles. The CFD analysis is used to study and capture the various performance parameters like static pressure and the Mach number from Inlet to exit of the CD nozzle. From the public literature survey, the geometry coordinates are taken. A three-dimensional CD nozzle model is used for the analysis and the governing equations were solved using the finite-volume method in the numerical analysis approach. The divergent angles used for analysis were 7°, 10°, 13°, and 15°. The boundary conditions of the nozzle are specified based on the literature revised. The pressure contour and mach number contour of the CD nozzle for various divergent angles were plotted. The analysis outcome was that the divergence angle varies the Mach number, and other performance parameters also vary. The divergent angle increases for each simulation and the results were compared to suggest a CD nozzle with a better divergent angle.

Keywords: CD nozzle, Mach number, Divergent angle, CFD, Pressure contour.

Overview Of Synthesis Of Graphene And 2D Crystals

Jegan Dhas.P

Abstract—This project mainly focuses on producing Graphene. Nano flakes of Graphene can be manufactured from activated charcoal by the shear exfoliation methods. The shear exfoliation process involves pouring the activated charcoal into a liquid Container then it is sheared using a shear mixture to separate the exfoliated layers of the graphene materials from the activated charcoal. The liquid is chosen in such a way a small number of grapheme particles presented in the activated charcoal will not clump back together & the obtained result is a liquid suspension of Graphene. The obtained liquid suspension is dried to get nanoflakes of Graphene. These nanoflakes of Graphene may be used for storage devices and electronic devices.

Experimental Investigation On Refrigerator With Alternate Refrigerants

M.Purushothaman

Abstract—A refrigerator is a machine for keeping things cold. It is sometimes called a fridge or an icebox. It is normally maintained at 4-5 degree Celsius for household use. People keep food and drinks in it, to keep those items cold or good and unspoiled for a longer time. The working principle of a refrigerator is based on vapour compression refrigeration cycle. It involves the removal of heat from the refrigerated space to the surrounding. The refrigeration cycle involves four components to work- Compressor, Condenser Expansion valve, Evaporator. R134a is a non-combustible gas that is used as a refrigerant in refrigeration applications. Disadvantage of R134a is its high hygroscopicity. When the hose permeability increases with improper maintenance, the risk of moisture entering the system increases. If air enters and further compresses, a combustible mixture may form which is dangerous, in order to overcome these, we investigated alternate refrigerant R290 and R600a. These have almost similar properties but have some more advantages over R134a. The advantages of R600a is it has a lower global warming potential compared to the R134a and R290 is that it is fluorine-free, low-carbon, natural, and high- efficiency. After undergoing the experimental investigation, found that R290 is the most efficient in improving overall performance of refrigerator.

Design And Development Of Agriculture Drone For Spraying Pesticides

J.Ramadoss , J.Joel Abraham

Abstract—One of main source of income in of India is Agriculture. The production rate of crops in agriculture is based on various parameters like temperature, humidity, rain, etc. Which are natural factors and not in farmers control. The field of agriculture is also depends on some of factors like pests, disease, fertilizers, etc which can be control by giving proper treatment to crops. Pesticides may increase the productivity of crops but it also affects on human health. So the main aim of this paper is to design agriculture drone for spraying pesticides. In this paper, we are going to discuss different architecture based on unmanned aerial vehicles (UAVs). The use of pesticides in agriculture is very important to agriculture and it will be so easy if will use intelligent machines such as robots using new technologies. This paper gives the idea about various technologies used to reduce human efforts in various operations of agriculture like detection of presence of pests, spraying of UREA, spraying of fertilizers, etc. This paper describes the development of quad copter UAV and the spraying mechanism. In this paper we also discuss integration of sprayer module to quad copter system. The discussed system involves designing a prototype which uses simple cost effective equipment like BLDC motor, Arduino, ESC wires, etc.

Keywords: Unmanned Aerial vehicles, Brushless motors, remote sensing, ESC wires, Li Pro wireless charger.

Evaluation Of Performance And Emission Characteristics Of DI Diesel Engine Powered By Diesel/WCOME/Decanol With Some Modifications

Damodharan Dillikannan

Abstract—The ever-growing human population and the corresponding economic development of mankind have caused a relentless surge in the energy demand of the world. The fast diminishing fossil fuel reserves and the overdependence of petroleum-based fuels have already prompted the world to look for alternate sources of energy to offset the fuel crisis in the future. Waste Cooking Oil Methyl Ester (WCOME) has proven itself as a viable alternate fuel that can be used in Compression Ignition (CI) engines due to its low cost, non toxicity, biodegradability and renewable nature. It also contributes a minimum amount of net greenhouse gases, such as CO₂, SO₂ and NO emissions to the atmosphere. Decanol is a high-carbon bio-alcohol with high cetane number and higher energy density than the popularly researched n-butanol which makes it an attractive fuel for diesel engines. The main objective of this paper is to focus on the study of the performance, combustion and emission parameters of CI engines using WCOME and 1-decanol and to explore the possibility of utilizing WCOME blends with diesel extensively in place of diesel at various injection timing and EGR. The test fuel D50WCOME30HX20 is run in the engine at various fuel injection timing and EGR rate (10, 15 & 20%) and its performance, emission and combustion characteristics are studied. The graphical models of NO_x, HC, CO, CO₂, Opacity, BTE, BSFC, HRR are obtained and compared.

Keywords: Emission, Waste Cooking Oil Methyl Ester, n-Hexanol, diesel engine.

Armoured Fighting Vehicle And Weapon Detection Using Aerial Drones

Dr. J. Paul Chandra Kumar

Abstract—This paper focuses on identifying weaponry used in battle utilising a modified drone equipped with an image processing unit. The drone is essentially a carbon-fiber hexacopter driven by a DJI Naza V2 control unit. This device has a GPS capable of providing pinpoint precision in co-ordinates. A Bluetooth DataLink Setup linked to the module transmits live visual data to the base station. The image processing is handled by a Jetson Nano Developer Kit, which has a refresh rate of 24 frames per second and can detect weaponry and armoured battle vehicles. The image processing unit performs two operations: it determines the model type of armoured combat vehicle and sends the coordinates and model to the ground station. It also searches for persons carrying weapons and compares facial scans to an existing terrorist database if a weapon is found. This method can assist the government in mapping the territory of the enemy and identifying potential threats created by them.

Keywords: Armoured Fighting Vehicle, Weapon Detection, Aerial Drones, Facial Recognition

Optimization Of Process Parameters Of Wire Edm

S.Dhinakaran

Abstract—Wire electrical discharge machining (WEDM) is eminent process for manufacture the components with intricate profiles. In wire EDM, the series of electrical discharges are produced use to erode the metal from tool and work piece. The dielectric fluid turns into partial conductive when the electron ionizes the fluid in machining gap. In this paper MMC taken as the work piece materials and three factors has been taken for optimization i.e. Electrode wear rate, Metal removal rate and Surface roughness using Zinc-coated brass wire. Surface morphology of machined surface under different machining condition was analyzed using SEM.

Flow Simulation Of Heat Shield Re-Entry Models At Different Planetary Conditions.

Haston Amit Kumar, R. Asad Ahmed,

Abstract—Objects entering an atmosphere experience mechanical stress on the object, and aerodynamic heating—caused mostly by compression of the air in front of the object, which lead to loss of mass (ablation) or even complete disintegration, and objects with lower compressive strength can explode. Therefore, aerodynamic properties and flow visualization along with effects of viscous heating are important parameter to study for a re- entry vehicle. In this work four types of re-entry models – Or ex, FIRE-II, Phoenix and Stardust are simulated using ANSYS's Fluent workbench in four different atmospheric conditions(Earth, Mars, Moon and Mercury) with a standard altitude of 89km at 0 ° and 15 ° inclination. At hypersonic speeds it was observed the models experience forces of 10GPa, temperatures of range 5000 °C and 6000 °C and forces of 10GPa with air density having a mean value of around 3kg/m3 and 8 kg/m3. The most optimal performance was observed in Stardust model due to its blunt nose which prevented the formation of a sharp shock wave causing it to minimize pressure as well as velocity losses. Inclusion of high temperature materials such as Tactinium Carbide and Hafnium Carbide at the nose section showed temperature resistant behaviour, preventing damage to the model.

Keywords: Re-entry, Hypersonic speed, High temperature material, flow visualization, aerodynamic heating.

Computational Analysis Of Supersonic Cd Nozzle With An Obstacle

S.Manikandan , Asad Ahmed R

Abstract—Complex supersonic airflow patterns are one of the most difficult CFD problems to solve. To begin numerical analysis of such a flow, the paper presents preliminary steps generated by convergent divergent nozzle with Mach number M=2.6 at the nozzle's exit. For this project, a good agreement with experimental data obtained during supersonic tests using air as test fluid and different types of obstacles at the exit section is sought. These tests investigated the potential for nozzle thrust vectoring. The paper focuses on free exit flow and flow with a specific type of obstacle. The RANS equations with a k- SST turbulent model were used in all the cases with a structured mesh. CFD was able to provide additional flow field information that was n't measured during the experiments, resulting in a good agreement with the available experimental data.

Keywords: Nozzle, Thrust, Expansion ratio, Mach number.

Numerical Investigation of Mixing Characteristics in Co-Flow Jet

Mahendiran S

Jeppiaar Engineering College

Abstract—The exit cross section shape of nozzle is the main parameter in expansion process, and it plays the major role in mixing characteristics of jet. The study on flow characteristics of the circular nozzle have been performed widely, while that of the non-circular nozzle is not so popular. Hence, the study of flow characteristics on C-D nozzle with different geometry is analysed. In this proposed work, numerical investigation will be carried out to study the mixing characteristics of circular, square, elliptical, and rectangular nozzle in a co-flow jet at a Mach 1.8. C-D nozzle with varying annular shapes for both exit and throat will produce different turbulence at the exit producing changes in the mixing characteristics of the jet. Four geometrical shapes circle, rectangle, elliptical &square with constant area is analysed and compared. CATIA modelling tool will be used for circular, elliptical, square, and rectangular nozzle with same area ratio. ICEM Software will be used for meshing and various Y+ value. Numerical simulation will be carried for various nozzle pressure ratios 4bar Over Expanded, 6bar correctly Expanded, and 8bar under Expanded. ANSYS CFX will be used to calculate the spreading rate. The outcome of the investigation result is very useful, and it will be used in external supersonic flow application in aeronautical engineering.

PROGRAMME SCHEDULE (ICONSTEM 2023)**Theme: Smart Systems and Innovative Technology for Industry 5.0**

Date : 06.04.2023

Time : 10.15 am-2.30pm

Mode of Presentation: Offline**Venue: Biotech Block**

S.No	Conference Id	Paper Title	Authors
1	ICON23T406	A Review on Correlation Between Neurology, Psychosocial Stress and Diseases	Prit Ashara
2	ICON23T407	Characterization of Ferulate 5 Hydroxylase Gene for Lignin Biosynthesis Pathway from Erianthus Species	A.J Jijo
3	ICON23T408	Isolation, Identification & Characterization of potential probiotic microorganisms from various sources	Anu priyadharshini
4	ICON23T409	Screening of Anti-MRSA (Methicillin Resistant Staphylococcus aureus) compounds from naturally derived products	C. Pradhees Dr.A.Muthulakshmi
5	ICON23T410	Investigation on Pharmacological Properties of Stem Extract of Hibiscus Sabdariffa	Deepika
6	ICON23T411	Efficacy of selected phytochemical extracts against bacterial pathogens infecting fish	Divyadharshini Krishnan
7	ICON23T412	White gold of the desert	Gayathri V
8	ICON23T413	Insect Genomics in the 21st Century: Prospects and Progress	Jayabharathi Kalaivanan , Soumya Pulapet , Elavarasi Balasubramanian, Kesavan Markkandan , Jeyamanikandan Venkatachalam
9	ICON23T414	Transient protein expression in Nicotiana benthamenia for production of edible Ebola VLP vaccine by using Agrobacterium mediated Transformation	Jeyashree,e Thirunamakannan

10	ICON23T415	Identification and Shelf Life Extension of Pseudomonas	Joan swetlin S
11	ICON23T416	Targeting Breast Cancer Cells by Self-Assembled Gold Nano Particles Conjugated with 5-Fluoracil Nano Fiber: In-Vitro Study	Monisha Catherine
12	ICON23T417	Bio-remediation of heavy metal pollutants and its integrated technologies – A pilot Study	Niranjana M , Dr.Muthulakshmi A.
13	ICON23T418	Protein Profiling of Litopenaeus Vannamei and Cilbanarius Longitarsus Before and After Infection of Wssv	Pradeep kumar S, Dr.Shaleesha A Stanley,
14	ICON23T419	Development of capsulation using flax and pumpkin seed	Preethika M
15	ICON23T420	Comparison of LAMP, PCR and GeneXpert in diagnosis of human papilloma virus and tuberculosis- a systematic review	S Priyanka, Dr.Shaleesha A. Stanley
16	ICON23T421	Anti lung cancer potential of phytocompound and extract from Indian medicinal plants and their role in the development of chemotherapeutic agents	S. Sowmi , G. Gomathi Sankar
17	ICON23T422	Genetic Association With Gestational Diabetes Treatment Manifestations By Using Network Biology Approach	Syed Ali MohammedJ, R.S.A. Sorna Kumar
18	ICON23T401	MUC-1 – An Enigmatic Epithelial Oncoprotein	Dr.J.Veronica Shalini
19	ICON23T402	Challenges in treating heavy metal contaminated drinking water	Dr. Shaleesha A Stanley
20	ICON23T403	Biodiesel Production from Waste Animal Fat by Transesterification Using Nickel Nanoparticle Catalysts	Dr.A.Muthulakshmi, S.Sowmi
21	ICON23T404	Haemolysis and Antimicrobial Resistance (AMR) of opportunistic Aeromonas species isolated from diarrhoeal samples in Chennai	Jeyamanikandan Venkatachalam, Dr.Veronica Shalini Jeyadoss
22	ICON23T405	Physicochemical Analysis of Mixed Oil Extracted From Non Edible Seeds of Jatropha species as a Feedstock for Biodiesel Production	T.Gopi Anand, R.S.A. Sorna Kumar, G.Gomathi Sankar

A Review On Correlation Between Neurology, Psychosocial Stress And Diseases

Prit Ashara

Abstract—Neurology is the science, which deals with brain and Central Nervous System(CNS) and also deals with detailing the way they control the functioning of the body. Psychosocial factors, which contains interrelation of social factors, individual thought and behaviour. It has been found that psychosocial factors, which somehow gives stress, has correlation with neurology, which ultimately leads to some diseases. These diseases, which have their root in psychosocial factors include chronic diseases like asthma, obesity, headache, depression, anxiety, gastrointestinal problem and neurological disorders like Alzheimer ;s disease, Back pain, Bell's palsy, Birth defects of the brain and spinal cord, Brain injury, Brain tumour and Cerebral palsy. Psychosocial interventions have proven useful for treating stress-related disorders and may influence the course of chronic diseases. This review is an attempt to find mechanistic correlations of this diseases with neurology and psychosocial factors, with the help of which one can have clear understanding of disease at micro level, which can be further use for the designing of precision medicine.

Keyword: Psychology, neurology, chronic diseases, personalized medicine, drug designing

Characterization of Ferulate 5 Hydroxylase Gene for Lignin Biosynthesis Pathway from Erianthus Species

A.J Jijo

Abstract—Sugarcane (*Saccharum spp.*) is a large perennial grass that is cultivated in approximately 80 nations in tropical, semi-tropical, and subtropical regions of the world, primarily for its ability to store high concentrations of sucrose in the stem. Sugarcane is among the most efficient crops in the world in converting energy from sunlight into chemical energy that is usable as a fuel source. Therefore, the present study is focused on the expression of lignin content followed by cloning of genes involved in lignin of IR76-99. Study involves cloning the F5H gene of *Erianthus* species and the gene size of the same are compared with other varieties. RNA was isolated and then converted in to cDNA and the PCR reaction was carried with this RNA and cDNA is used as template and found to have the expected gene size. The amplified PCR products were ligated along with the pDrive vector of 3.85kb size. The ligated products were cloned into overnight grown competent cells DH5 α for gene transformation. It has been screened by blue/ white colonies. The plasmids were isolated from the white colonies and for further confirmation colony PCR amplification has been done to it wherein it resulted in 1.3kb of band size. These results point to the fact that plants enhance lignin production in order to protect them from wounding through the regulation of the genes involved in lignin biosynthesis such as F5H.

Keywords: Sugarcane, Lignin, F5H Gene, PCR Amplification

Isolation, Identification & Characterization Of Potential Probiotic Microorganisms Fromvarious Sources

Anupriyadharshini

Abstract—Probiotics are beneficial microorganisms which could be used to improve the health, immunity and growth in fishes and cultured animals. Bacterial isolates were obtained from commercial probiotic products (A, B, C & D) and the gut of healthy shrimp *Penaeus vannamei*(S). The DNA of these isolates were extracted and sequenced to identify the species. The isolates were then characterized for their probiotic potential following various methods: Optimal growth vs pH, Biofilm formation, Antibiotic susceptibility. The isolates were amplified by PCR and identified by sequencing. Optimal growth vs pH: All isolates showed gradual growth from pH 1-7 which gradually decreased from 8-10. Biofilm formation: The sample A, B & C developed black colonies which is indicative of biofilm forming ability. Antibiotic susceptibility: Antimicrobial susceptibility study of the isolates were tested against Gentamicin, Amoxyclav, Erythromycin, Ciprofloxacin, Penicillin, Rifampicin, Ceftizoxime,Nitrofurantoin, Sulphafurazole, Oxytetracycline.

Keywords: Probiotics, shrimp, pH, Biofilm, Antimicrobial

Screening Of Anti-Mrsa (Methicillin Resistant Staphylococcus Aureus) Compounds Fromnaturally Derived Products

C.Pradhees ,Dr.A.Muthulakshmi

Abstract—*Staphylococcus aureus* is a gram-positive, non-motile, coagulase-positive cocci shaped bacterium of the Firmicutes phylum. Due to the continuous and extensive use of antibiotics, *Staphylococcus aureus* become resistant to such antibiotics i.e., Methicillin and hence called as Methicillin Resistant *Staphylococcus aureus* (MRSA). Also, treatment with antibiotics for MRSA infections are costeffective. Much more side effects arise due to the usage of such antibiotics. Hence, there exists anurgent need for an alternate to treat MRSA infections. Phytochemicals of plants provide better solutions to such infections when compared to antibiotics. Our work deals with the screening of suitable and promising anti-MRSA compounds from naturally derived products. We chose four different seed extracts of following plants (*Zingiber officinale*, *Terminalia chebula*, *Myristicafragrans*, *Nigella sativa*) and two essential oils (Eucalyptus oil and peppermint oil) for our work. Extracts were prepared from these samples and checked for antibacterial activity. *Staphylococcus aureus* samples were collected from clinical laboratories, Erode and subjected to biochemical identification tests for their confirmation. Prepared extracts were checked for antibacterial activity through well diffusion method. Of the four plants chosen, extract of *Terminalia chebula* produced better results. Qualitative and quantitative phytochemical assays were performed for the chosen extracts. Since the extract of *Terminalia chebula* provided better results, it was further subjected to column and thin layer chromatographic techniques for compound identification. FTIR spectroscopy was also performed for the extract of *Terminalia chebula* at Nandha College of Pharmacy, Erode and analysed. Even though, remaining extracts provided better results, extract of *Terminalia chebula* found to be a suitable promising anti-MRSA agent.

Keywords: MRSA, *Staphylococcus aureus*, Phytomedicines, MIC, *Terminalia chebula*, Antibacterial,Plant extracts.

Investigation on Pharmacological Properties of Stem Extract of Hibiscus Sabdariffa

Deepika

Abstract—Medicinal plants have been used as a source of medicine to alleviate diseases. The use of medicinal plants as a source for medicine to relief from illness, which are came out by the early civilization in India and documented. Hibiscus sabdariffa is an annual herbaceous plant that has many industrial, pharmaceutical uses in many countries all over the world. It is commonly called as Gongura, Rosella or Roselle and belongs to family Malvaceae. The fleshy red calyces are used for making wine, juice, jam, syrup, pudding cakes, pickle, ice cream or herbal tea. Roselle flowers and calyces are also known for their antiseptic, diuretic, antioxidant and anti-mutagenic properties. The traditional medicine use the aqueous extract of this plants as diuretic, for treating gastrointestinal disorders, liver diseases, fever, hypercholesterolemia, and hypertension. Leaves of Gongura are being used for skin ailments. Protocatechuic acid of Rosella found to induce apoptosis or cell death in leukaemia cells through reduction of Retinoblastoma phosphorylation and Bcl-2 Expression and inhibiting the survival of human Promyelocytic Leukemia HL-60 cells in a concentration and time dependent manner. The aim of the study was to investigate the pharmacological properties of stem extract of Hibiscus sabdariffa. Antioxidant assays such as DPPH• radical and Fe 3+ reduction assays were carried out for evaluating antioxidant activities. Antioxidants are substances that significantly delay or prevent the oxidation of an oxidisable substrate when present in low concentrations. Plants are potential sources of invaluable antioxidants. The results of the present study indicate that fresh aqueous stem extract of Hibiscus sabdariffa has significant antioxidant activities to reduce harmful effect of radicals.

Keywords: Antioxidant, DPPH radical, Fe3+ reduction.

Efficacy Of Selected Phytochemical Extracts Againstbacterial Pathogens Infecting Fish

Divyadharshini Krishnan

Abstract—The extracts of selected herbs such as Acorus calamus, Hybanthus enneaspermus, Calotropis gigantea, Cyperus rotundus, Vitex negundo, Morinda citrifolia, Piper longum and Gymnema sylvestre were screened for their antibacterial activity against bacterial pathogens of fish namely Aeromonas hydrophila and Vibrio parahaemolyticus. Aqueous and methanol extracts were prepared from the above herbs and evaluated for their antibacterial efficacy following Dot method with antibiotic control (Gentamicin for A. hydrophila and Oxytetracycline for V. parahaemolyticus) and compared with the CLSI standard chart. Aqueous extracts of H. enneaspermus and C. rotundus showed inhibitory activity against A. hydrophila, whereas Aqueous extracts of A. calamus and C. rotundus were found to be most inhibitive to V. parahaemolyticus. Methanolic extracts of V. negundo and C. gigantea showed inhibitory activity against A. hydrophila, whereas Methanolic extracts of A. calamus and G. sylvestre were found to be the most inhibitive to V. parahaemolyticus. Indiscriminate use of chemicals and antibiotics for the treatment of diseases has caused adverse effects on the environment through the effluents that drains into the adjacent water bodies and drinking water sources, and development and spread of antibiotic resistance among the microbes in addition to the antibiotic residues which affects the quality of the farmed fishes. The findings of this study have advocated that the use of these herbal extracts as an alternate to the chemicals and antibiotics for the treatment of infections caused by bacterial pathogens in fish.

White Gold Of The Desert

Gayathri V

Abstract—Camel milk is a nutritious and valuable food source that has been consumed for centuries in many countries around the world. It is rich in proteins, vitamins, and minerals, and has unique properties that make it suitable for people who are lactose intolerant or allergic to cow's milk. Camel milk also contains bioactive compounds such as lactoferrin, immunoglobulins, and peptides that have been shown to have health benefits such as antimicrobial, immunomodulatory, and anti-inflammatory effects. Studies have shown that camel milk can be beneficial in the management of several diseases such as diabetes, autism, and gastrointestinal disorders. It has also been found to have a positive effect on the immune system and may help reduce the risk of certain cancers. The high levels of insulin-like proteins in camel milk have been shown to improve insulin sensitivity and glucose uptake, making it a potential therapeutic agent for managing diabetes. Camel milk has also been found to have antimicrobial properties, which can help prevent and treat infections caused by various microorganisms. The immunoglobulins present in camel milk have been shown to have a protective effect against bacterial and viral infections. In conclusion, camel milk is a valuable source of nutrition and bioactive compounds that have potential health benefits. Further research is needed to fully understand the mechanisms by which camel milk exerts its beneficial effects and to explore its potential as a therapeutic agent for various diseases.

Keywords: Camel, milk, lactoferrin, immunoglobulins, insulin

Insect Genomics in the 21st Century: Prospects and Progress

JayabharathiKalaivanan , Soumya Pulapet , Elavarasi Balasubramanian and Kesavan Markkandan , Jeyamanikandan Venkatachalam

Abstract—Insects are the dominant animals in the world, with more than one million described species. Insects, not only produce direct damage to plants but also great medical and veterinary importance, mainly because they are vectors of diseases affecting humans, livestock, and companion animals. In recent years, next-generation sequencing (NGS) techniques have provided fascinating opportunities to understand the basic biology, biochemistry, and molecular biology of these intimate and intriguing relationships. The decrease in sequencing costs and extensive sequencing services from NGS providers has brought many scientists to be involved in genome sequencing of insects and their associated entomopathogens. By using high-throughput genomic technologies, scientists can elucidate the virulence, host adaptation and gene function of the particular entomopathogen including virus, fungi, bacteria and nematode. There are about 18 taxonomic groups that can be used as edible insects across the world. These insects are rich source of proteins, vitamins and antimicrobial peptides (AMP's). These AMP's are used in developing anti-infective drugs against cancer, wound healing, anti-inflammatory disorders, antibacterial drugs, and food preservatives.

Keywords: Next-generation sequencing, Genomics, Insect pathology, Entomopathogenic organisms
Correspondence:

Transient Protein Expression In Nicotiana Bentheeniafor Production Of Edible Ebola VLP Vaccine By Using Agrobacterium Mediated Transformation

Jeyashree Thirunamakannan

Abstract—The Ebola virus is a globally recognized pathogen that causes significant morbidity and mortality during pandemics and seasonal outbreaks. In the modern world, significant antigenic drift causes the emergence of new, potentially pandemic, virus variants. The best prophylactic option for controlling emerging virus strains is to manufacture and administer pandemic vaccines in broad spectrum conserved peptide without interfering with regular seasonal influenza vaccine capacity. The current conventional vaccines are effective against only a narrow range of influenza virus strains, and the production of vaccines is failing to satisfy the global demand in the case of pandemics due to the long production time. Recombinant vaccines are an alternative that can be quickly produced in high quantities in standard expression systems as plants, and combining conserved antigens that induce cross-protective antibody responses with epitopes that activate cross- protective T cell responses might be an attractive strategy for developing a universal vaccine. In this paper shows designing a broad-spectrum multi-epitope domain immunogenic fused with a super antigen by using Insilco approach and that activity in mucosal and systemic immunity and expressed in plant expression system.

Keywords: Recombinant vaccines, superantigen, Immunogen, Mucosal and SystemicImmunity

Identification And Shelf Life Extension Of Pseudomonas Aeruginosa That Combats Echinochloa Crus Galli Weed

Joansweetlin S

Abstract—The bacterial isolate *Pseudomonas aeruginosa* was screened from the rhizosphere of paddy plants (*Oryza sativa*) which is indigenous to agricultural fields of Tamil Nadu and overall India. Its molecular characterization is based on the biochemical tests and sequencing of 16S rRNA. *Pseudomonas aeruginosa* was used as the bio weedicide to combat *Echinochloa crus galli* which is a weed highly present in the Paddy field. Seed bacterization exhibited the reduction in root length, shoot length of weed seedlings (*Echinochloa crus galli*), which was significant in contact method performed in laboratory experiments. When opposed to weed seedlings, *Pseudomonas aeruginosa* inoculated crop seedlings were found to be less inhibitory. The findings are important in establishing that *P. aeruginosa*, a Rhizobacteria that produces secondary metabolites, may be used as a weed bio control agent. The shelf life of *Pseudomonas aeruginosa* in talc and rice bran-based formulations was studied. Talc and rice bran was added at equal amount each to the broth and microorganism is inoculated. The initial mean CFU of *P. aeruginosa* without the carriers was high and it gradually decreased after the addition of the carriers. After the period of incubation, Colony Forming Unit (CFU) was calculated and found that sufficient amount of cells was viable in the bio formulations indicating that the microorganism can be stored further for more time.

Keywords: *Pseudomonas aeruginosa*, *Echinochloa crus galli*.

Targeting Breast Cancer Cells by Self-Assembled Gold Nano ParticlesConjugated with 5-Fluoracil Nano Fiber: In-Vitro Study

Monisha Catherine

Abstract—Presently, research and development in Nanomaterial is gaining hypersonic reach in various areas of applications. Biological way of preparing such nanomaterial is acquiring noteworthiness in the view of affordability and environment-friendly approach for the treatment of breast cancer cells. In this current work, gold nanoparticles (AuNPs) were prepared using banana peel extracts. The reaction mixtures of AUNPs and banana peel displayed vivid colors in UV-VIS spectra(wavelength 535 to 545nm at duration of 30 days) which are found to be the characteristics of gold nanoparticles. Banana peel extracts of native species (Karpooravali) (having anti cancer behavior is witnessed through the phytochemical study and the antioxidant tests by DPPH and ABTS assay. The phytochemical analysis of Karpooravali banana peels exhibited fast reaction in Terpenoids followed by medium reaction in Alkaloids, Saponins, Proteins, Amino acid, Phenolic compounds and flavonoid compounds. The antioxidant activity of Karpooravali banana peel values quantified by DPPH assay was found to be higher than the ones obtained from ABTS assay. These results of Karpooravali banana peels proved that it has a good radical scavenging activity. Furthermore, with the focus to blend the therapeutic activity along with the gold nanoparticles efficacy the present study is aimed at conjugating the extracted materials with 5Fluorouracil (5-FU) to target breast cancer cells. DNA fragmentation and apoptotic Mitochondrial assay studies are furthermore warranted to fill the gap in chemo-preventive research using natural compounds functioning as anticancer agents from plants.

Keywords: Banana Peel, Antioxidants, Phytochemicals, Nanotechnology, 5-FU

Bio-Remediation Of Heavy Metal Pollutants And Itsintegrated Technologies – A Pilot Study

Niranjana M. and Dr. Muthulakshmi A.

Abstract—The accumulation of toxic heavy metal pollutants due to the drastic changes in multiple industries like foundries, smelters, oil refineries, petrochemical plants, pesticide production, chemical industry etc, has led to the contamination of the environment which may potentially affect the living organisms. This review focuses on the techniques and the micro biomes involved in the bioremediation of the most common toxic pollutants like Arsenic, cadmium, chromium, copper, nickel, lead and mercury. Heavy metal bioremediation involves the use of physicochemical and biological methods to assist in the degradation of the toxic inorganic substances which is relatively inexpensive, ecofriendly and less labor intensive making it easyto implement. New techniques to decrease the toxicity of the pollutants are being studied and experimented while the major downside of the present techniques is time-consuming it demands a need for evaluating the processes involved in improving the bioremediation technologies.

Keywords: pollutants, microbiomes, physicochemical, toxicity, bioremediation

Protein Profiling Of LitopenaeusVannamei And Clibanarius Longitarsus Before And After Infection Of Wssv

Pradeep Kumar S, Dr.Shaleesha A Stanley,

Abstract—To perform infectivity of WSSV in Litopenaeusvannamei and Clibanariuslongitarus. To diagnose the WSSV infection through PCR. To perform SDS and western blotting view the size of proteins expressed in L.vannamei and Clibanariuslongitarus. To compare the protein profile in L.vannamei and Clibanariuslongitarus. This experiment is to find to reason of Clibanariuslongitarus have the ability to tolerate WSSV while L.vannamei cannot tolerate for an extended period of time. To achieve the aim SDS-PAGE was used to find the protein regulation on the animal tissue. The study animal L.vannamei were collected by random wild catch in estuary by local fishermen and Clibanariuslongitarus was collected around the shores of the study area. They were divided into 3 groups. The group one contain of two batch control and infectivity with each batch containing 10 L.vannamei. The group two was divided similarly with each batch containing 10 Clibanariuslongitarus. The group three was divided similarly with each batch containing 5 L.vannamei and 5 Clibanariuslongitarus. The infectivity was achieved by the Infection was introduced by the modes of ingestion (Feed with infected Penaeus monodon). Briefly the system was monitored daily basis. Ingestion mode was achieved by feeding 5 individuals of proven WSSV infected Penaeus monodon to the experimental animals. The control animals were fed with commercial food pellets. After careful observation the infected animals were removed and diagnosed for WSSV. As a preliminary diagnosis wet-mount observation is used and to confirm the WSSV infection PCR (polymerase chain reaction) was performed on the animal tissue and the bands were visualized in a gel-doc. The WSSV positive animal tissue was used for SDS-PAGE where the protein was isolated and purified before running SDS-PAGE to get a clear result. The SDS-PAGE was performed and the gel was viewed under gel-doc to see the difference in the protein regulation before and after infection. Due to certain characteristics or behavior of certain protein can be the reason for the C.longitarsus to tolerate WSSV infection. These protein regulation maybe action as a defensive mechanism against WSSV infection on C.longitarsus.

Development of capsulation using flax and pumpkin seed

Preetika M

Abstract—Flax seeds and pumpkin seeds, a rich source of phytochemicals and vitamins have been highly ranked among dietary sources of polyphenols and antioxidant capacity. Emerging research provides substantial evidence to classify them as a functional food with several preventive and therapeutic health benefits. The flax seeds and pumpkin seeds were reported to having a high content of phenolic compounds and flavonol glycosides and other phytocomponents responsible for its various therapeutic activities. The aim of the study was to evaluate antimicrobial and anticancer analysis in the bioactive compounds of flax and pumpkin seeds for immune boosting by capsulation technique. DPPH radical scavenging assay, Super oxide radical scavenging assay, Phospho-molybdenum reduction and Fe³⁺ reduction assay were carried out to analyze antioxidant activity. In this study, Fe³⁺ reduction assay showed the maximum value. The antibacterial and antifungal activity was carried out by well diffusion method. The compounds showed more affinity to the solvent system containing hexane and chloroform in the TLC study. The cell growth inhibition of anticancer was studied by MITT assay. This capsule inhibits the current of cancer cells after surgery and treating the Alzheimer disease.

Keywords: Product development, anticancer, radical scavenging activity, Phytochemicals, Polyphenols

Comparison of LAMP, PCR and GeneXpert in diagnosis of human papilloma virus and tuberculosis- a systematic review

S. Priyanka, Dr. Shaleesha A. Stanley

Abstract—Loop-mediated isothermal amplification (LAMP) method was first designed by a Japanese company called Eiken Chemical Co., Ltd. It is used as an alternative to polymerase chain reaction (PCR) for DNA Amplification and also for diagnosis of certain diseases including leptospirosis, human immune deficiency virus, COVID-19, pulmonary tuberculosis and extra-pulmonary tuberculosis. Therefore, we undertook a systematic review on studies extracted from PubMed source to compare the sensitivity of LAMP with mPCR in human papillomavirus (HPV) diagnosis and LAMP with GeneXpert in tuberculosis (TB) diagnosis. It was noted that LAMP showed higher sensitivity and specificity compared to PCR in HPVm diagnosis and no false positive diagnosis in TB samples. The high specificity of LAMP is due to the use of two to three pairs of primers (internal, external and loop), that can identify up to eight specific locations on the DNA or RNA targets. The product of LAMP is naked to visible eye making detection much faster. The advantages of low cost, rapidity, minimal technical expertise and simplicity of procedure makes LAMP assay a suitable diagnostic test in resource-limited settings.

Keywords: Diagnosis, LAMP, PCR, GeneXpert, HPV, TB.

Anti Lung Cancer Potential Of Phytocompound And Extract From Indian Medicinal Plants And Theirrole In The Development Of Chemotherapeutic Agents

S. Sowmi , G. Gomathi Sankar

Abstract—Lung cancer is the second most common cancer and the primary cause of cancer-related death in both men and women worldwide. Due to diagnosis at an advanced stage, it is associated with high mortality in the majority of patients. At present, various treatment approaches are available such as chemotherapy, surgery, and radiotherapy. However, all these approaches usually cause serious side effects like degeneration of normal cells, bone marrow depression, alopecia, extensive vomiting, etc. To overcome the aforementioned problems, researchers have focused on the alternative therapeutic approach in which various natural compounds are reported, which possessed anti-lung cancer activity. Phytocompounds exhibit their anti-lung cancer activity via targeting various cell-signaling pathways, apoptosis, cell cycle arrest, and regulating antioxidant status and detoxification. Apart from the excellent anti-cancer activity, clinical administration of phytocompounds is confined because of their high lipophilicity and low bioavailability. Therefore, researchers show their concern in the development of a stable, safe, and effective approach of treatment with minimal side effects by delivering these phytocompounds to the target site. It is a prolonged process to provide innovative and significant leads against a range of pharmacological targets for a human disease management system. Though challenges and difficulties are faced in the development of a new drug, the emergence of combinatorial chemistry is providing a new ray of hope and also, the executed effort in discovering the drug, and a chemical compound has been remarkably successful. This review discussed the role of medicinal plants that are native of India in treating the Lung Cancer and in drug discovery.

Keywords: Lung cancer, Indian medicinal plants, anti-Lung cancer activity, drug development

Genetic Association With Gestational Diabetes Treatment Manifestations By Using Network Biology Approach

Syed Ali Mohamed J, R.S.A. Sorna Kumar

Abstract—Identification of the genomic determinants that influence gestational diabetes susceptibility. We use the computational, statistical and network Biology approach to analyse the relationship of in effective concomitant medication with adverse effect on patients. Statistically construct a pharmacokinetic/biomarker network with significant drug-gene interactions originating from gene-disease associations. Investigation of the predicted pharmacogenes compassing the disease gene pharmacogenomics (PGx) network suggest that the gene could play a significant role in gestational diabetes clinical manifestation due to their association with diabetes, autoimmune, metabolic, neurological, congenital anomalies, hormonal, degenerative disorders and Polycystic ovarian syndrome (PCOS) a sum of which have been reported to be crucial commodities in a gestational diabetes patient.

Keywords: gestational diabetes; network biology; pharmacogenomics (PGx) ; polycysticovarian syndrome (PCOS).

Muc-1 – An Enigmatic Epithelial Oncoprotein

J. Veronica Shalini

Abstract—The trans membrane glycoprotein mucin 1 (MUC1) is a mucin family member that has different functions in normal and cancer cells. MUC1 is a component of mucus that plays a protective role in normal epithelial cells. However, during malignant transformation, the changes in the expression and glycosylation pattern of MUC1 modulate its interactions with other adhesive proteins, which in turn regulate and deregulate signal transmission. High levels of MUC1 are correlated with a poor prognosis and shorter survival time in patients with cervical cancer. In addition, aberrant expression of this protein may block drug diffusion through the cell membrane and promote survival of cancerous cells, since it has been shown to impact both extrinsic and intrinsic apoptotic pathways. Therefore, the up regulation of MUC1-dependent attenuation of apoptotic response indicates the potential role of this protein in cancer therapy. Despite extensive evidence reported on the mechanism of action of MUC1 with regard to cell death, a number of aspects remain unresolved. MUC1 is also a major target for the design and development of cancer vaccines. MUC1-based cancer vaccines are a promising strategy for preventing cancer progression and metastasis. Further, it provides perspectives for future research that may promote clinical advances in infection-associated cancers. Therefore, additional studies are necessary to further elucidate such interactions to designate MUC -1 both as a therapeutic and preventive cancer-based vaccine for specific virus strains infected cervical cancer patients.

Keywords: MUC1, Epithelial Cancer, MUC1 Cell Barrier, Tumor Oncogene, Vaccines – Immunotherapy

Challenges In Treating Heavy Metal Contaminated Drinking Water

Shaleesha A Stanley

Abstract—Drinking water contaminated with heavy metals has become a more serious environmental problem in the last several decades. Adsorption process has been overlooked as one of the best water treatment technologies around the world. Use of waste materials as low-cost adsorbents is attractive due to their contribution in the reduction of costs for waste disposal, therefore contributing to environmental protection. This manuscript envisages to study the most appropriate agricultural by product among Strychnos potatorum (nirmali) and Azadirachta indica (neem) seeds for the removal of Chromium (VI) and Iron (III) from water and to compare their removal efficiency. The parameter investigated includes the effect of contact time, metal ion concentration, temperature and pH. Strychnos potatorum shows better removal efficiency of 69% of Chromium (VI) and 58% of Iron (III) at acidic pH and 0.1 mg L⁻¹ of initial metal ion concentration. Optimal conditions were obtained with an increase in temperature at an exposure time of 24 hours. The adsorption of the metal ion species on Strychnos potatorum seed is characterized by X-Ray Diffraction analysis. This method is studied and proved for its eco-friendly feasibility and simple technology for water treatment thus providing quality of life for under developed communities.

Keywords: Strychnos potatorum, Azadirachta indica, Chromium (VI), Iron (III), X-Ray Diffraction.

Biodiesel Production from Waste Animal Fat by Transesterification Using Nickel Nanoparticle Catalysts

A.Muthulakshmi, S.Sowmi

Abstract—Biodiesel, an alternative and environmentally friendly alternative fuel , is often made from a variety of edible vegetable oils typically used for human consumption and is expected to become more expensive in the future. In this regard, reliable and low-cost raw materials have increasingly drawn interest for biodiesel production, such as using waste animal fat as a feedstock for biodiesel production. The current study uses nickel nano particles as a catalyst obtained from electroplating waste. The aim of this paper is to present the high catalytic activity, long catalyst life and low leaching properties of these modified nickel nanoparticles to have a potential in a commercial biodiesel production process. This research presents a commercial option to lessen the ecological damage caused by animal fat waste while also providing an environmentally friendly solution to the global issue of atmospheric pollution.

Keywords: Biodiesel, Animal waste, Electroplating waste, Nanoparticles, Transesterification.

Haemolysis And Antimicrobial Resistance (AMR) Of Opportunistic Aeromonas Species Isolated From Diarrhoeal Samples In Chennai

Jeyamanikandan Venkatachalam, Veronica Shalini Jeyadoss

Abstract—Diarrhoea is responsible for high mortality in children and adults in developing countries. *Aeromonas hydrophila* are the majorly isolated strains from diarrhoeal samples. So the study was conducted on *Aeromonas* from diarrhoeal samples collected in Chennai. Of the samples examined, 41.67% of the diarrhoeal samples harbored *Aeromonas hydrophila*. All the isolates were subjected to test their hemolytic activity. Of which, 48% of isolates were produced β -haemolysin, 36% of the isolates produced α -haemolysin and only 16% of isolates were produced γ -haemolysin. All the isolates were tested for antibiotics sensitivity and the results shows that all the 25 isolates shows 100% resistance against Ampicillin and Novobiocin. None of the isolates show resistance to Norfloxacin. Only 4% isolates were resistance to Gentamycin and Ciproflaxain. The isolates show high resistance towards Methicillin (96%), Bacitracin (96%), Amoxycillin(96%), Nitrofurantoin (88%) and Cefpodoxime (88%) respectively. Further the plasmid profiling was done in the selected isolates based on multiple antibiotic resistance index and the results revealed that the presence of plasmids of sizes ranging from 2.0 to 23.1kb. These results indicated that multiple antibiotic resistance and genetically diverse aeromonads are available among the diarrhoeal samples collected from the study area.

Keywords: Multidrug resistance, MAR index, Haemolytic activity, *Aeromonas*, Waterborne disease

Physicochemical Analysis Of Mixed Oil Extracted From Non Edible Seeds Of Jatropha Species As A Feedstock For Biodiesel Production

T.Gopi Anand, R.S.A. Sorna Kumar, G.Gomathi Sankar

Abstract—Drastic depletion of petroleum resources makes us to search for alternate fuels derived from vegetable oils and animal fats. Biodiesel are mono alkyl methyl esters derived from the fats and oils. In this study moisture content was determined on non edible seeds of *Jatropha gossypiifolia*, and *Jatropha curcas*. The free moisture content of the seeds were evaporated by hot air oven method, moisture content of the seeds were less than 7% according to ASTM standards .The seeds were crushed and oil extracted by soxhlet and ultrasonic extraction. The seed oils were mixed in 1:1 ratio and the physicochemical properties of the mixed oil were analyzed under AOCS standards, such as colour, odour, density, refractive index, specific gravity, viscosity , ester value ,acid value, saponification value, iodine value and peroxide value results were observed and GC-MS,FT-IR was analyzed.

Abstract—: Moisture content, mixed oil, physicochemical properties, *Jatropha*

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S.No	Conference Id	Paper Title	Authors
1	ICON23T605	Effect Of Paracetamol on COVID-19	Dr.Titus S
2	ICON23T606	Shrilk- an Organic Plastic Solution as a Next Generation Material	Dr.M Merlin
3	ICON23T607	Y-Coindex of Different Corona Products of Graphs	C. Kannadasan, V. Sheeba Agnes
4	ICON23T610	Some Special Graphs For Cube Difference And Square Difference Labeling	P. Jagadeeswari, J. Rashmi Kumar
5	ICON23T608	Vestige of Diasporic And Displacement In Allen Curnow's House And Land	R. Balamurugan
6	ICON23T615	Reality Reflected Through The Poems of Jack Davis	Sowmya Lingesan
7	ICON23T609	Comparative Study of 1 Mol% of Thiourea And L-Lysine Doped Potassium Hydrogen Phthalate Crystal	Dr.S.R.Thilagavathy , Su. Narmatha R. Surekha
8	ICON23T611	Graceful Labeling On Cycle Of Olive Trees	J. Jeba Jesintha, K.Subashini, JR Rashmi Beula
9	ICON23T612	Antibacterial Activity of Catharanthusroseus Flower Against Cancer Cells	S.Renugadevi, Dr.S.R.Thilagavathy, G.V.Vijayaraghavan
10	ICON23T613	Preparation Of Activated Carbon From Biowaste Material As An Efficient Adsorbent.	Dr.F.Regan maria sundar raj
11	ICON23T616	On T-Coloring Of Generalized Web And Path Union Of Cycle Graphs	P.Sivagami
12	ICON23T614	Synthesis and Optical Properties of Tin oxide thin films SnO ₂ /TiO ₂ nano particles	Lakshmi
13	ICON23T617	Understanding the Structural Conformation and Binding Stability of Thiophene Derivatives Against Human 5-Lipoxygenase: A Combined Crystallography And Computational Approach	Jagadeesan G
14	ICON23T618	Imaginary Friend	Liffy V.S

Effect Of Paracetamol On Covid-19

S.Titus

Abstract—Paracetamol, an analgesic (pain reliever), otherwise known as acetaminophen or Tylenol or Dolo 650 is a common medication used for mild to moderate pain / ache relief and reduces fever, relieve symptoms of COVID-19, but it cannot cure the viral infection. World Health Organization recommends paracetamol for patients with COVID-19. For adults, the dosage is 500 mg tablets upto four times in 24 hours, with at least 4 hours gap in between doses. According to the U.S. National Institute of Diabetes and Digestive and Kidney Diseases, Paracetamol can be toxic to the liver in high doses or when used in combination with alcohol, some other medications, or for patients with existing liver or kidney problems, those who are malnourished or underweight, or those of advanced age. Though Dolo-650 Tablet is safe if used within recommended dosage, in some cases, side effects such as nausea, vomiting, indigestion, diarrhoea, stomach pain, etc. may cause during which doctor must be consulted. *Dolo 650* has recorded a *sales* of Rs 567 crore since March 2020, selling more than 350 crore pills and 7.5 crore strips of medicine which is 9.4 times higher than their normal sale.

Keywords : Paracetamol, fever, COVID-19, dosage, liver, kidney, side effects, malnourished or underweight

Shrilk- An Organic Plastic Solution As A Next Generation Material

M.Merlin

Abstract—In the 21st century, the effects of climate change, ozone layer depletion, global warming are extensive and cannot be ignored. The major issue in regard to this is the expanding landfills with non-biodegradable plastic. For the next generation to survive, its more important to replace plastic with an eco-friendly material like Shrilk. It improves the environment by its efficiency and sustainability. Shrilk is a bioplastic that has all the benefits of conventional plastics with none of the environmental hazards. It's intended to replace synthetic plastics in plastic wares. Shrilk is made up of two components: chitosan and fibroin. Chitin is the second most abundant organic compound on earth. This substance is found in insect cuticles, crustacean shells, and plant leaves. It has a chemical structure more complex than steel. Its mechanical properties change according to the water content. Eventually, Shrilk may replace plastics in consumer products and even be used in medical applications such as suturing wounds and as scaffolds in tissue regeneration. Shrilk biodegrades in a matter of weeks and releases nutrients into the environment.

Keywords: Chitin, chitosan, fibroin, biodegradation

Y-Coindex Of Different Corona Products Of Graphs

C. Kannadasan, V. Sheeba Agnes

Abstract—In this paper, we examine Square and Cube difference labeling for various graphs. We prove the moth graph, Y_{n+1} , Dup [moth graph], DS [moth graph] and $C_n + v_1v_3$ are admits Square and Cube difference labelling. **Keywords:** Square Difference (SDG), Cube difference (CDG), moth graph, degree splitting AMS Classification: 05C78

Some Special Graphs For Cube Difference And Square Difference Labeling

P. Jagadeeswari, J. Rashmi Kumar

Abstract—In this paper, we examine Square and Cube difference labeling for various graphs. We prove the moth graph, Y_{n+1} , Dup [moth graph], DS [moth graph] and $C_n + v_1v_3$ are admits Square and Cube difference labelling.

Keywords: Square Difference (SDG), Cube difference (CDG), moth graph, degree splitting AMS Classification: 05C78

Vestige Of Diasporic And Displacement In Allen Curnow's House And Land

R. Balamurugan

Abstract—Diasporic literature is one of the didactic literary fields. It is universal theme bestowed alienation, identity crisis, displacement, cultural identity and so on. Diasporic literally meant ‘scattering’. It has multi-dimension expiation. In my point of view scattering is par psychological and innate. This is what as undercurrent theme in the poem House and Land. The alienated feeling experienced by the settler in the adopted land. The settler cannot settled her mind and adopt the settled land as her own motherland. This paper is an attempt to exploit the Diasporic literature and its ways, with reference to the poem House and Land by Allen Curnow. The poem House and Land investigates sentiment of alienation experienced by the settlers. Curnow emphasizes the theme of displacement and spirit of exile. Miss. Wilson the settler displaced from England to new land spent two generation in the new land. She cannot found much intimacy with the new place. Hallowness dominates her and she gets meek spiritually as every Diasporas drenched. Cultural identity and related things are going to be present in this paper. For a molecular graph G , the Y-index is defined as the sum of fourth powers of degrees of all vertices of the graph. Among different products, corona product of two graphs is one the most important. In this paper, we calculate the explicit expressions of Y-coindex of different types of corona product of graphs.

Keywords: Zagreb index; F-index; Y-index ; Corona product.

Reality Reflected Through The Poems Of Jack Davis

Sowmiya Lingesan

Abstract—Poems are they to be enjoyed or do they teach us reality??? Poems are mostly seen as something that we read to enjoy and to pass time but is it really something that we use to just pass time or do they reflect the reality that we need to see is the bigger question. The narrator through his poem portrays the life that they go through. The life the background of the writer plays a major role when we read a piece of literature. What the writer experienced, what he saw, what he heard are all reflected through their work. Even a very short poem is not just words but what the writer wants the reader to experience and enjoy. Through the works of Jack Davis poems we find the life of Australian Aboriginal in a glance. This paper tries to showcase how through the work of Davis we begin see the life of the people of Australia and what they faced in a very upright manner.

Comparaitive Study Of 1 Mol% Of Thiourea And L-Lysine Doped Potassium Hydrogen Phthalate Crystal

S.R.Thilagavathy , Su. Narmatha , R. Surekha

Abstract—Single crystals of L-lysine (1 mol%) and thiourea (1 mol%) is used as a dopent in potassium Hydrogen Phthalate were successfully grown from solution by slow evaporation method at room temperature. Single crystal XRD confirms the crystalline perfection of the crystal. FTIR studies confirm the presence of functional group. UV-Vis studies reveal the good optical transparency of the crystal. The thermal stability of the crystal was confirmed by thermal studies. The nonlinear optical efficiency of 1 mol% L-lysine and thiourea doped KHP crystal was identified by SHG studies.

Graceful labeling on Cycle of Olive Trees

J. Jeba Jesintha, K.Subashini, JR Rashmi Beula

Abstract—A graceful labeling of a graph G with q edges is an injection $f : V(G) \rightarrow \{0, 1, 2, \dots, q\}$ with the property that the resulting edge labels are also distinct where an edge incident with the vertices u and v is assigned the label $|f(u)-f(v)|$. A graph which admits a graceful labeling is called a graceful graph. In this paper, we prove that the cycle of olive trees of height three are graceful.

Keywords: Graceful labeling, Olive tree, Cycle of graphs

Antibacterial Activity Of Catharanthusroseus Flower Against Cancer Cells

S.Renugadevi, S.R.Thilagavathy, G.V.Vijayaraghavan

Abstract—The microbial infection shows crucial role in the living organisms especially in human beings. These infections are resistant to the commercial drugs, so the alternate to the commercial drug is the *Catharanthusroseus* doped with semi organic material. In this work Urea doped potassium hydrogen phthalate with *Catharanthusroseus* (KUC) flower extract, which is subjected for slow evaporation and after few days single crystals were synthesised. The grown crystals was subjected to numerous analysis methods to determine the effect of doping on structural, optical, thermal, and NLO properties. The antifungal activity of the KUC composites reveals the higher zone of inhibition towards candida albicans disease. Anticancer activity was done in this material (KUC) cancer cell line by MTT assay method. The maximum DPPH radical scavenging activity was $78.58\pm0.89\%$ at 300 $\mu\text{g/mL}$ concentration.

Keywords: *Catharanthusroseus*, KHP, KUC, NLO

Preparation Of Activated Carbon From Biowaste Material As An Efficient Adsorbent.

F. Regan Maria Sundar Raj

Abstract—Activated carbon is oldest material derived from charcoal. Activated carbon or activated charcoal is the form of carbon that has been processed so that it becomes more porous and has very large surface area needed for adsorption for chemical reactions. It has immense capacity as adsorbent for the purification and as well as for the isolation and recovery of trace materials in the food, beverage, cosmetic, pharmaceutical, and chemical industries. Activated carbon is also used in gold purification, medicine, sewage treatment; air filters in gas masks and respirators and has many other applications. Research aimed at optimization of waste into AC would minimize the waste burden, along with treating other pollutants leading a sustainable growth community.

Keywords: Activated carbon, porous, purification, respirators, sustainable.

On T-coloring of Generalized Web and Path Union of Cycle Graphs

P. Sivagami

Abstract—For a given finite set T of non-negative integers including zero, a proper vertex coloring is called a T-coloring if the distance of the colors of adjacent vertices is not an element of T. The T-span of T-coloring is the difference between the largest and smallest colors and the T-span of G is the minimum span over all T-colorings of G. In this paper, we compute T-span and T-edge span of generalized web graph, path union of cycle graph.

Synthesis and Optical Properties of Tin oxide thin films SnO₂/TiO₂ nano particles

Lakshmi

Abstract—Nano sized SnO₂/TiO₂ particles were successfully synthesized by chemical Co-precipitation method. The structure, functional group, optical property of the films were characterized by IR, FTIR, SEM and UV Visible spectroscopy. Using an organic solvent, ethanol, the tin oxide thin film nano particles were prepared. From the X-ray diffraction analysis, the crystalline nature and size of the SnO₂ nano particles were found. UV-Vis spectroscopic studies revealed the optical band gap energy values. Scanning Electron Microscopic (SEM) analysis showed SnO₂ nano particles are having agglomeration in shape. From the above experimental investigation, it is believed that, SnO₂ nano particles can be used as a promising material for Opto-electronic applications.

Understanding The Structural Conformation And Binding Stability Of Thiophene Derivatives Against Human 5-Lipoxygenase: A Combined Crystallography And Computational Approach

Jagadeesan G

Department of Physics, Jeppiaar Engineering College, Chennai.

Abstract—Thiophene derivatives are showing wide biological applications; particularly, it exhibits potential binding affinity against Lipoxygenase enzymes. Therefore, the present study mainly focused to understand the structure, intermolecular interactions and conformational stability of the thiophene derivatives in the three different environments. Crystal structures of newly synthesized three thiophene derivatives were determined. In which, the structures I and II are almost planar and compound III is almost orthogonal to one another. Nevertheless, a density functional theory (DFT) study predicts planar conformation for the isolated molecules. All the crystal structures are stabilized by C–H···O type of hydrogen bonding, C–H···π and π···π stacking. Further, these three molecules are subjected to molecular docking and followed by molecular dynamics to understand the behavior of the molecules in the active site environment. To estimate the influence of carbonyl group substitution on aromaticity, the harmonic oscillator model of aromaticity of the electron delocalization has been calculated and it decreases for aromatic rings substituted with a carbonyl group

Imaginary Friend...

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Abstract—Losing friends is bad. But realizing that they don't even remember you is even worse, especially bad for an imaginary friend. We all know that one phase has to end for another one to start, but accepting the fact that the other person doesn't need you anymore is really not easy. Hi there, I'm imagination, more like "lost" imagination but anyway, To be more specific, I was an imaginary friend and by laws of the "Great Big Universe", people have to grow and come out of their comfort zones, live life to its fullest and most importantly Make real, long-lasting bonds with other people, which you humans call "True friends". Now, for you humans to make true friends you guys have to socialize, and when you socialize, imaginary friends like me, start to fade away, because our original purpose, which was to keep you company till you find real friends, is beginning to get fulfilled. And now, you don't need us anymore. But realizing that the only friend you ever had or will ever have now doesn't care if you exist or not is really hard and accepting it is even harder. But we have to learn to move on, Remember when I said we had to fade away?

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1	ICON23T2102	Design Of Fractal Antenna For Wireless Applications	Dr.Anita Titus
2	ICON23T2103	Coin Baesd Electric Vehicle (Ev) Charging Station Using Embedded System	Mr. R.Vivek Krishna Mr. S.Benjamin Arul
3	ICON23T2104	A Robust Sign Language And Hand Gesture Recognition System Using Convolution Neural Networks	Mr. S.Benjamin Arul Mr.R.Vivek Krishna
4	ICON23T109	An Effective and Secured IOT based Healthcare System using Blockchain Technology	Mrs. Shaik Salma Begum , Dr. J. Arokia Renjit
5	ICON23T617	Repatriates Retention- Manager's Perspective in MNC	Dr.N.Padmavathy

Design of Fractal Antenna For Wireless Applications

Dr. Anita Titus

Abstract—A microwave component with frequency-selective designs improves various antenna parameters achieving popularity among many methods. This paper presents a way in which it converts a single resonant antenna to a multi resonant antenna by adding a fractal defect in the patch structure. The number of resonant frequencies depends on the number of iterations of the defecting structure. The designed antenna illustrates the following parameters: reflection coefficient (S_{11}), gain (dB), and directivity (dB) for the corresponding frequency. The microstrip antenna is validated for impedance matching with a return loss-making it very suitable to integrate with other microwave devices. Lightweight and low profile are the properties of microstrip antenna due to which it has been significantly used for applications in different fields such as radar navigation, WLAN, and satellite. This paper presents the fractal antenna for wireless device applications. Computer simulation tool (CST 2019) software is used for simulation purposes. The FR-4 epoxy with relative permittivity of 4.4 and height of 1.6 mm is taken as dielectric substrate material for the design of the suggested antenna. This antenna is fed by 50-ohm proximity coupled feed and simulated up to three iterations.

Coin Based Electric Vehicle (EV) Charging Station Using Embedded System

Mr. R.Vivek Krishna Mr. S.Benjamin Arul

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Abstract—Now-a-days many people are using E-vehicle instead of fuel because it's environmental friendly and the transition to electric mobility is a promising goal strategy for de-carbonizing the transport sector. The Government of India promotes E-vehicle nowadays. In this work we are offering the improvement and validation of the charging station to be accessed easily by using coin-based architecture. In the existing method E-Vehicle station gives an option to use the station through card and by the mobile application. The major problem of existing system is, in the process of charging time we cannot disconnect the charger for the emergency purpose. If we disconnect the charger, we will lose the particular amount of money. So, we use card and card less system to rectify the problems using RFID. In this method we can retain the amount in card or we can also charge the E-Vehicle by the next station.

A Robust Sign Language And Hand Gesture Recognition System Using Convolution Neural Networks

Mr. S.Benjamin Arul Mr. R.Vivek Krishna

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Abstract—Sign language is the only tool of communication for the person who is not able to speak and hear anything. Sign language is a boon for the physically challenged people to express their thoughts and emotion. In this work, a novel scheme of sign language recognition has been proposed for identifying the alphabets and gestures in sign language. Gesture recognition uses computing devices to the mathematical interpretation of human hand, with the help of computer vision and neural networks we can detect the signs and give the respective text output.

An Effective and Secured IoT based Healthcare System using Blockchain Technology

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Abstract—The healthcare industry is expanding quickly along with new technologies like IoT (Internet of Things). The fundamental idea behind integrating IoT into healthcare facilities is to build it accessible by physicians from a remote location, allowing for simple patient-doctor contact as well as remote disease detection in an emergency situation. But for the IoT health system to provide exceptional patient's care, it is vital to ensure a high level of safety. The medical records of the patients contain critical information which must only be accessible to authorized people, as any information that is available on the Internet is susceptible to numerous attacks. The idea of blockchain technology introduced in the healthcare sector to improve the quality of medical services offered. Similar to healthcare, centralized blockchain features have led to a problem known as disease overlap when chain counts rise. The suggested work employs a blockchain-based architecture to address the problem, which has the advantage of automatically adding a new block to the chain whenever patient health data is updated. Furthermore, it is taken into account to secure the sensitive information of patients by developing a multilayer blockchain-based IoT data security approach. This approach not only protects the data but also fosters trust between patients and users, and healthcare service providers. This article's primary objective is the proposal of a security framework for the healthcare industry that can encrypt sensitive data sent across cloud servers using block-based data encoding. The simulation results showed that the suggested healthcare security strategy outperforms the conventional approaches, in terms of different performance indicators.

Keywords – Blockchain, Healthcare, IoT, Data, Remote Access, Security

Repatriates Retention- Manager's Perspective in MNC

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Abstract—In a global market where competition is constantly growing, organizations need to staff employees from the home country company in the subsidiaries abroad in order to create a local presence and sustain the international competition which is referred to as expatriation. In order for MNCs to utilize the benefits of international experience, they should ensure that repatriates' stay with them upon return from their international postings. High turnover rates among repatriates also have a potentially negative influence on the desire of new cadre to volunteer for international assignments (Tung, 1988). Thus, the purpose of this paper is to contribute with an understanding of problems which repatriates encounter during their repatriation and how the repatriation process can be improved. The population of the study is 125 International Human Resource Managers who are responsible for retention of repatriates in select MNC Companies. In order to gain a better understanding about how the repatriation process exists in Indian IT MNCs, International Human Resource Managers were identified in this study. Paired T-Test was used in this study.

Keywords: Retention , Repatriates, Repatriation, International Human Resource Managers.

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