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Journal Abstracts

August 2025

Sl. No	Article	Author	Source	Year
1	Chirp Scaling Algorithm for Enhanced SAR Data Processing using FPGA	*Srinivasulu P. Ajay Kumar Dharmireddy*	*I-Manager's Journal On Communication Engineering and Systems Vol. 13 No. 2*	2025

Abstract: Synthetic aperture radar (SAR) imaging is known for its high computational demands, which complicates its use in real-time applications. This paper introduces the chirp-scaling algorithm (CSA) tailored for real-time SAR applications, leveraging advanced field programmable gate array (FPGA) processors. The algorithm employs range Doppler techniques to compress a generated chirp signal, with MATLAB used for validation purposes. To facilitate the computationally demanding tasks like Fast Fourier Transform (FFT) and complex data multiplication, hardware acceleration is essential. Xilinx Vivado is employed to design and implement the required hardware acceleration on the Artix-7 FPGA board. The algorithm's performance has been evaluated through timing analysis and resource utilization. Results indicate reducing 12.4% LUT usage, 52.38% power consumption, significantly enhancing the algorithm's performance, while the speed of multiplication operations has been doubled due to with a modified Booth's algorithm.

Sl. No	Article	Author	Source	Year
2	Performance Analysis of Enhanced Maximal Ratio Combining over Fading Channels	*Shamla K.*, Athulya K. Muhammed K. V*	*I-Manager's Journal On Communication Engineering and Systems Vol. 13 No. 2*	2025

Abstract: This study investigates the performance of diversity combining techniques to enhance wireless communication reliability over fading channels. Specifically, it compares conventional Selection Combining (SC) and Maximal Ratio Combining (MRC) for two-dimensional modulation schemes, such as M-ary Phase Shift Keying (MPSK) and M-ary Quadrature Amplitude Modulation (MQAM). The analysis focuses on Symbol Error Rate (SER) and Bit Error Rate (BER) as key performance metrics, considering both paired and non-paired real and imaginary signal components. Results demonstrate that Enhanced MRC offers a significant Signal-to-Noise Ratio (SNR) advantage over Enhanced SC, with performance gains increasing with higher diversity orders. Theoretical derivations and simulations validate these findings, highlighting MRC's superiority in mitigating fading effects.

Sl. No	Article	Author	Source	Year
3	Adaptive Modulation Techniques for Elimination of Non-Gaussian Effects in Free Space Optical Communication	*Kankata Glory Prasanna, Madduri Bala Deepika* Yeggina Vinay Sai Karun Kumar, Bellapu Jai Shankar Sri Vastav, Venkatakrishnamoorthy T.*	*I-Manager's Journal On Communication Engineering and Systems Vol. 13 No. 2*	2025

Abstract: Free Space Optical (FSO) communication is a promising technique for quick, secure, and cost-effective data transport. The Non-Gaussian events such as atmospheric turbulence, aiming errors, and background noise significantly impair system performance in FSO Communication system. There are several standard adaptive schemes, such as Orthogonal Frequency Division Multiplexing (OFDM), Phase Shift Keying (PSK), and Quadrature Amplitude Modulation (QAM), against turbulence-induced fading is examined. The dynamic modulation adaptation, based on channel state prediction, improves spectral efficiency and signal integrity through theoretical modeling and simulations. This paper explores dynamic adaptive modulation techniques to mitigate these effects and ensure improved reliability and efficiency in FSO links. This adaptive algorithm introduced for better FSO deployments since they dramatically lower bit error rates (BER) and increase system capacity. The findings suggest that adaptive modulation techniques effectively reduce bit error rates (BER) and enhance system capacity, making them practical for real-world FSO deployments.

Sl. No	Article	Author	Source	Year
4	Micro Strip Patch Antenna Utilization in Cube Satellite Systems	*Veera Kumar B. Ajay Kumar Dharmireddy*	*I-Manager's Journal On Communication Engineering and Systems Vol. 13 No. 2*	2025

Abstract: This paper outlines the design of microstrip patch antennas, which serve as two primary types of antennas intended for Cube Satellites (CubeSats). This research introduces a novel approach for small satellite antennas by combining slot antennas with solar cells on a single panel, thereby optimizing the limited surface area of small satellites and substituting deployed wire antennas for specific operational frequencies. Antennas designed for uplink and downlink communication were developed to operate at a resonant frequency of 2.5 GHz. A peak directivity of 4.73 dBi was attained with the proposed antenna. The design methodology involves utilizing the gaps between the solar cells to etch slots, which function as radiating elements.

Sl. No	Article	Author	Source	Year
5	Role of Etching Processes in MEMS Fabrication	*Venkatramana Reddy*	*I-Manager's Journal On Communication Engineering and Systems Vol. 13 No. 2*	2025

Abstract: This research examines key techniques for both wet and dry etching to fabricate highly accurate microstructures in microelectromechanical systems (MEMS) devices. This paper discusses the employment of advanced techniques such as Deep Reactive Ion Etching (DRIE) and plasma etching for precise control over feature geometry. Other techniques, such as metal-assisted etching and wet etching, are also being studied. The paper focuses on the difficulties of achieving consistent etch rates and highlights the importance of process control via parameter adjustment. Sophisticated etching techniques are essential for modern MEMS applications and provide a foundation for future technologies. In brief, this review focuses on advanced MEMS etching techniques, highlighting the equilibrium between precision and cost-effectiveness for device designs across multiple sectors.

Sl. No	Article	Author	Source	Year
1	Contactless Shopping Cart Automation using RFID Tags with Security and Inventory Management during Pandemic Diseases Outbreak	*Palla Sravani*	*I-Manager's Journal On Wireless Communication Networks Vol. 13 No. 2*	2025

Abstract: Shopping malls are typically teeming with intense purchasing activity; however, long queue lines can be extremely time-consuming and may cause fatigue from pushing trolleys and waiting for payment processing. These challenges are particularly burdensome for the elderly, individuals with disabilities, pregnant women, and nursing mothers. During the pandemic, interacting with people in crowded malls became a major issue. To address these problems, a self-sustaining shopping cart was developed. As a customer adds items to the cart while moving, the system automatically generates a bill, requests payment, and updates inventory in real-time using a database. The design features an ATmega328 microcontroller with 32 KB ISP flash memory, an RFID reader, a WiFi module, and a 20 x 4 alphanumeric LCD screen. RFID tags are attached to products, and the billing process is managed using XAMPP, an open-source cross-platform software. The ESP8266 WiFi module transmits payment and product information to the original database. A dedicated webpage is also available for user interaction. This system integrates technologies from the Internet of Things and networking to ensure seamless data transfer from sensors to the database, enabling efficient and automated billing.

Sl. No	Article	Author	Source	Year
2	Simulation with Different Ad Hoc Network Scenarios of Routing Protocols in MANETs using OPNET Simulator	*Tanguturi Deepti, Uppe Nanaji, Mohan Rao C. P. V. N. J.*	*I-Manager's Journal On Wireless Communication Networks Vol. 13 No. 2*	2025

Abstract: Mobile Ad hoc Networks (MANETs) are dynamic wireless networks with no fixed infrastructure, where mobile nodes operate as both hosts and routers. The absence of centralized infrastructure, frequent topology changes, and limited bandwidth resources present challenges for routing. Various routing protocols have been developed to address these challenges, notably AODV, DSR, and OLSR. This study presents a comparative performance analysis of AODV, DSR (reactive protocols), and OLSR (a proactive protocol), using the OPNET Modeler simulation tool. Performance is evaluated under varying traffic loads, network sizes, and node mobility, with FTP traffic used to mimic realistic applications. Key performance metrics include average end-to-end delay and throughput. The results show that throughput improves, and end-to-end delay increases with larger network sizes and higher traffic loads. However, mobility does not significantly impact performance in larger networks. Among the protocols, OLSR shows superior performance in terms of end-to-end delay, while AODV outperforms others in throughput. DSR exhibits inconsistent delay behavior, particularly under heavy load and larger networks.

Sl. No	Article	Author	Source	Year
3	An Optimized Routing for IoT Devices using Node Features Based on Machine Learning Techniques	*Pranjal Maurya, Sangeeta Devi, Munish Saran, Rajan Kumar Yadav, Upendra Nath Tripathi*	*I-Manager's Journal On Wireless Communication Networks Vol. 13 No. 2*	2025

Abstract: The process of choosing a network path to transfer a packet from a source to a destination node is known as routing. Successful message delivery is difficult; thus, this paper presents an algorithm for Internet of Things (IoT) devices called Optimized Routing in IoT Using Machine Learning (ORuML). This algorithm predicts the network type of the source and destination nodes using machine learning named KNN, Decision Tree, and Support Vector Machine. The unique attributes of a node such as signal strength, link quality indicator, noise floor, and path length or number of hops between the ith node and the sink node are gathered from wireless sensor network (WSN) measurements conducted in an industrial environment used to train the ML model. Using these datasets, three

machine learning techniques KNN, DT, and SVM were employed to predict the network type of the nodes to find the best path for data transmission between source and destination. The results of the simulation show that the DT method predicts the best among the other machine learning algorithms used, outperforming KNN and SVM in terms of accuracy and AUC.

Sl. No	Article	Author	Source	Year
4	Optimization of 50-Node Wireless Sensor Networks using Centrality Measures: A Case Study with the Watts-Strogatz Model	*Suneela Kallakunta, Alluri Sreenivas*	*I-Manager's Journal On Wireless Communication Networks Vol. 13 No. 2*	2025

Abstract: This study provides a comprehensive understanding of optimizing a 50-node Wireless Sensor Network generated by the Watts-Strogatz model. The six-centrality metrics applied to node ranking and identification are Degree, Betweenness, Closeness, Eigenvector, Katz and Subgraph to determine which nodes can improve the efficacy of communication, pathways within the network, and survivability. Combining these centrality measures is another way to boost the performance of the WSN. From both industry and research perspectives, understanding the decreasing performance ratio during WSN optimization is crucial, as it provides valuable insights into the information-based optimization of key nodes that significantly influence traffic visibility and connection probabilities. The research demonstrates the benefits of a combined centrality approach in strengthening the architecture and functioning of wireless sensor networks.

Sl. No	Article	Author	Source	Year
5	Design and Development of Optic Controller for Domestic Appliances to Assist Paralytic	*Rajalaxmi S., Aruna M., Dharshini U., Bavasri D. M., Seenu A.*	*I-Manager's Journal On Wireless Communication Networks Vol. 13 No. 2*	2025

Abstract: High tech, newly developed devices are being inserted into patients' bodies to assist them in resuming normal activities, particularly individuals with paralysis, such as quadriplegics, who face significant challenges due to physical limitations. The development of a device to support those affected by paralysis has become essential. Moreover, many individuals are increasingly

inclined to digitize their daily routines to minimize physical exertion. The concept involves designing an assistive device that enables users to control everyday items with minimal physical effort, allowing home electrical appliances to be automated through a simple eyelid blink. Although various prototypes have been developed in the past, most have proven either unoriginal or difficult to operate. This initiative aims to develop a compact, user-friendly, webcam-based home automation system capable of controlling household electrical appliances efficiently. Additionally, this will reduce energy use and allow a disabled patient to control the lights and fans on their own. The setup uses a webcam which is programmed using AI technology to trace the blink count. The blink count is transferred to both the appliances through Wi-fi connection in which it checks for its compatible programmed values and the respective appliance is controlled by the relay module accordingly. It is to be noted that this innovation offers significant improvement in the lives of individuals with paralysis and ensures a higher accuracy rate compared to existing devices.

Sl. No	Article	Author	Source	Year
6	Performance Analysis of Modified Least Mean Squares Algorithm for Adaptive Beamforming in Smart Antennas for 5G Networks	*Venkatramana Reddy*	*I-Manager's Journal On Wireless Communication Networks Vol. 13 No. 2*	2025

Abstract: Adaptive beamforming is a crucial technique for enhancing the performance of 5G networks by mitigating interference and improving signal quality. This paper investigates the performance of a modified Least Mean Squares (LMS) algorithm with a variable step size for adaptive beamforming in smart antennas. The proposed algorithm dynamically adjusts the step size based on the instantaneous error, leading to improved convergence and reduced steady-state error compared to the standard LMS algorithm. The performance of the modified LMS algorithm is evaluated through simulations, considering various scenarios with different signal-to-noise ratios (SNRs) and angles of arrival. Simulation is done by using MATLAB software with uniform linear array as array geometry. The results demonstrate the effectiveness of the proposed algorithm in achieving faster convergence, better beam pattern formation, and lower mean squared error (MSE).

Sl. No	Article	Author	Source	Year
7	Enhancing MANETs for Military Applications: A Comprehensive Review of Innovations, Challenges, and Research Gaps	*Tongesai Machakaire*	*I-Manager's Journal On Wireless Communication Networks Vol. 13 No. 2*	2025

Abstract: Mobile Ad Hoc Networks (MANETs) have become indispensable in modern military operations; they provide decentralized, adaptive, and resilient communication frameworks in dynamic battlefield environments. This paper presents a comprehensive review of MANET innovations, challenges, and research gaps, focusing on advancements in security mechanisms, energy efficiency, routing optimization, interoperability, and AI-driven management systems. MANETs enhance military communication by enabling self-forming and self-healing networks, improving situational awareness, tactical coordination, and mission success. However, security vulnerabilities, energy constraints, and performance instability remain critical concerns that must be addressed to ensure operational resilience. Emerging technologies such as AI-powered security frameworks, blockchain authentication protocols, cognitive radio-based spectrum allocation, and energy-efficient routing strategies provide promising solutions to these challenges. The integration of autonomous optimization models, predictive analytics, and quantum cryptography further reinforces the robustness of military MANETs in contested and high-risk environments. Despite these innovations, research gaps persist, particularly in interoperability with legacy systems, cyber security frameworks, and large-scale deployment strategies. This review highlights the strategic importance of MANETs in military applications and provides insights into ongoing research aimed at enhancing their reliability and efficiency. Future advancements should prioritize intelligent, self- organizing, and cyber-secured MANET architectures, ensuring seamless communication, operational efficiency, and superior defense capabilities in next-generation warfare.

Sl. No	Article	Author	Source	Year
1	Smart Detection System with Real-Time Notifications for Smoke and Gas	*Kottnana Janakiram, Guntupalli Ganga Prasad*	*I-Manager's Journal On Embedded Systems Vol. 13 No. 2*	2025

Abstract: Gas leakage is one of the hazards that causes significant damage. Some of the risks include safety hazards: gas leaks can lead to explosions, fires, and pose significant risks to life and property. Economic losses: gas leaks can result in financial losses due to wasted resources. Uncontrolled gas leaks can lead to higher utility bills for consumers and loss of revenue for gas companies. Fire accidents are like disasters which causes enormous damage to both living and non- living things. The damage might be small or large,

but there is always some sort of loss. Ionization or a photoelectric sensor can both be used to detect smoke. Carbon dioxide can be sensed to identify fire without smoke. Carbon monoxide detection allows for the detection of incomplete burning. When taking into account primarily residences, shops, and small business stores, no one can predict when a fire or smoke will occur. Therefore, a device for continuous, low-cost monitoring is needed. Regarding this, a system has been designed that detects smoke, combustible gases, or fire and sends out an alert to warn those nearby, as well as sending warning notifications to store or house owners. WhatsApp, the most widely used app worldwide, serves as a platform for receiving notifications. The results show that the system was effective in repeatedly alerting and sending notifications whenever smoke or any combustible gas occurred and stops sending notifications when gas or smoke stops.

Sl. No	Article	Author	Source	Year
2	An IOT-Based System for Detecting Vehicle Accidents in Smart Cities	*Purna Chandra Rao E. N. V., Bhavana B., Tejasu A., Rajesh M., Srinivas S*	*I-Manager's Journal On Embedded Systems Vol. 13 No. 2*	2025

Abstract: The ability of smart sensors to record physical characteristics has completely changed the world. In applications related to the environment, disaster relief, transportation, and similar areas, the sensors provide essential data to the monitoring station. An Internet of Things-based framework is developed that uses sensors to identify car accidents, and the data is saved and tracked on the Thingspeak cloud. Using a GPS, accelerometer, and ultrasonic sensor, the warning is triggered anytime the car is involved in an accident. The communication module transmits the real-time coordinates message. The monitoring station takes the necessary action by recognizing the accident occurred and providing the emergency services to the hotspot immediately. The integrated method will be advantageous as it would identify any accidents involving the car and make it easier for the passengers to receive emergency assistance. In any smart city, the suggested structure would be helpful in saving lives.

Sl. No	Article	Author	Source	Year
3	Design Embedded System for Monitoring Heartbeat	*Shinde P. K. Pawar A. M. Deshpande J. D. Patil S. N.*	*I-Manager's Journal On Embedded Systems Vol. 13 No. 2*	2025

Abstract: Development of smart electronic system with high performance, large adoptability and portability, to sense the biomedical parameters is highly needed for medical instrumentation. Recently, in the biomedical field, there has been a growing demand for high-tech instrumentation to monitor various parameters such as temperature, blood pressure, heartbeat, and blood sugar, among others. Out of various parameter heart beat monitoring system plays significant role in daily life. Considering the need, an embedded system design based on advanced microcontroller for heartbeat measurement and presented in this paper. Heartbeat Sensor is an electronic device used to measure the heart rate, which refers to the speed of the heartbeat. Monitoring body temperature, heart rate, and blood pressure are fundamental practices for maintaining good health. The required firmware developed in Arduino IDE to show pulse count. The system is implemented for monitoring heartbeat of different age group person and obtained results discussed in this paper.

Sl. No	Article	Author	Source	Year
4	Detection of M-Pox using FET	*Dooslin Mercy Bai V. Dhinesh G.Dharun Hari D. Arun Kumar S. Sharan B.*	*I-Manager's Journal On Embedded Systems Vol. 13 No. 2*	2025

Abstract: A non-invasive FET biosensor used to detect M-Pox virus quickly and easily. The biosensor examines breath or saliva samples using a biorecognition layer that is intended to capture the important MPXV proteins, B6R and A42R, guaranteeing patient compliance and comfort. Its great sensitivity allows for the prompt detection of viral antigens at low concentrations, allowing for epidemic response. By emphasizing cost through easily accessible components, FET used in a variety of healthcare settings, including ones with limited resources. This novel strategy improves epidemic surveillance and is consistent with biomedical engineering developments, providing early and accurate diagnosis to meet global epidemiological concerns.

Sl. No	Article	Author	Source	Year
5	Integration of Embedded and IOT for Smart Pill Dispenser in Healthcare	*Saran S. P. Nishanth Kumar T. Sathiya Sundharam P. Suthanthira Vanitha N.*	*I-Manager's Journal On Embedded Systems Vol. 13 No. 2*	2025

Abstract: Healthcare advancements frequently outpace supporting technologies, leading to inefficiencies in medication management. Conventional systems rely on manual processes, resulting in missed doses, errors, and a lack of health monitoring features. This study introduces an IoT-based smart pill dispenser to overcome these challenges. The system automates medication dispensing using an embedded controller, ensuring accurate dosages at scheduled times while minimizing errors. Fingerprint authentication enhances security, restricting access to authorized users. Integrated health monitoring sensors track vital parameters like heart rate, ECG, fall detection, and blood oxygen levels, providing real- time feedback. Simulated with Proteus software, the system promotes patient safety, adherence, and improved healthcare outcomes.

Sl. No	Article	Author	Source	Year
6	Tech Yoga: The Smart Mat Revolution	*Pavithra S., Dhanya R., Dharshana M., Fathima Ishara N., Loka Shankari K. B., Soundariya S.*	*I-Manager's Journal On Embedded Systems Vol. 13 No. 2*	2025

Abstract: Yoga is a mind-body practice combining physical postures, breathing exercises, and meditation forimproved health and relaxation. It enhances flexibility, strength, and mental clarity, promoting overall well-being. A system for real time monitoring of body parameters during Yoga practice doesnot exist. Hence we have proposed a prototype for measuring body parameters. The smart yoga matrepresents a novel advancement in fitness technology, aiming to enrich yoga practice by combiningsensor-based monitoring with real-time feedback and digital guidance. By integrating advanced sensors, including pressure sensors, accelerometers, and gyroscopes, the smart yoga mat can detect subtle shifts in position, balance, and body pressure applied at various points on the mat. This smart yoga mat system ultimately offers a new paradigm for fitness and wellness devices by combining real-time body monitoring with user-centric app interfaces and data analysis. The incorporation of cloud storage for session data enables users to access and review theirpractice history across devices, reinforcing continuity and progress in their fitness journey. With applications extending beyond yoga to potentially include other forms of floor-based fitnessactivities, the smart yoga mat is poised to become an indispensable tool for individuals dedicated toimproving their physical health and mindfulness.

Sl. No	Article	Author	Source	Year
1	Behind the Breakthroughs: The Strategic Rise of Contract Research Organizations in Pharma	*Bondili Sadhana*	*I-Manager's Journal On Life Sciences Vol. 4 No. 1*	2025

Abstract: A contract research organization (CRO) works like an employed agent in the healthcare field with consistent information, understanding, and capability to manage and complete duties for the sponsor. The progressive growth and extent of sponsored subcontracting work has made this for-profit money making business in the earlier time. The patient-focused approach in drug discovery is used through balanced data created through CRO's services. This article points out the need to study the evolution and the current flow pattern of the CRO industry, its market size, and statistical reports highlighting the major firms and to discuss the pros and cons of the CROs. And trial and the efficiency to understand the prospects for augmented trial designs and results to reduce development costs.

Sl. No	Article	Author	Source	Year
2	Microbial Examination of Water	*Sujatha Lakshmi R., Srilakshmi B. Vijay Sundar G., Bhargavi G., Nagalakshmi M.*	*I-Manager's Journal On Life Sciences Vol. 4 No. 1*	2025

Abstract: Water is vital for life on Earth and is one of the most important resources on our planet. Microbial examination of water is essential for assessing its safety and suitability for human consumption. Standard microbiological methods, including total coliform and E. coli detection, were used to assess contamination levels. Results highlight the importance of routine monitoring to ensure water safety and public health protection. This analysis helps in identifying pollution sources and evaluating the effectiveness of water treatment methods. Ensuring microbiological water quality is crucial for preventing waterborne diseases like cholera, Typhoid fever and dysentery and for safeguarding public health.

Sl. No	Article	Author	Source	Year
3	A Study to Parallel the Anxiety Levels of Subjects with Possessing Homoeopathic Remedy Arsenicum Album 30 as a COVID-19 Preventive and with Devoid Off	*Sheeba S. Murugan M., Suman Sankar A. S.*	*I-Manager's Journal On Life Sciences Vol. 4 No. 1*	2025

Abstract: The emergence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) led to the global outbreak of coronavirus disease 2019 (COVID-19). A newly developed antigen panel detected anti-SARS-CoV-2 antibodies within days of symptom onset, achieving over 90% sensitivity and specificity within the first week. Antibody levels remained elevated in patients who required mechanical ventilation. Despite fluctuations in viral load, antibody levels did not significantly vary over the course of the illness. Interestingly, a high concentration of interleukin-10 (IL-10) was associated with a reduced antibody response, suggesting that this cytokine may play a suppressive role in the humoral immune response to COVID-19.This study also aims to assess the anxiety levels in individuals who did and did not receive the homeopathic remedy Arsenicum album 30 during the COVID-19 pandemic. It compares the mental health outcomes between those who were administered the prophylactic and those who were not. Arsenicum album 30, traditionally known in homeopathy for treating anxiety, restlessness, and heightened sensitivity to health-related fears, is being evaluated for its effectiveness in improving psychological well-being during the pandemic.

Sl. No	Article	Author	Source	Year
4	Alternative Medicine: Under-Evaluated or Ineffective	*Rehan Haider, Zameer Ahmed, Geetha Kumari Das, Sambreen Zameer*	*I-Manager's Journal On Life Sciences Vol. 4 No. 1*	2025

Abstract: Alternative medicine is getting more attention as an opportunity to enhance traditional medicine. Although some remedies, including acupuncture, traditional medicine, and conventional healing practices, have proven effective in certain cases, numerous possible alternatives remain underexplored or lack accurate experimental validation. The issue of complete cure is related to the extent to which these methods correlate with evidence-based treatment and adhere to strict standards. According to critics, several alternative medicines rely on informal evidence and lack systematic, objective testing, which raises concerns about effectiveness, safety, and repeatability. In contrast, supporters of traditional and integrative approaches highlight their potential for patient-centered care and their value in education. In addition, there is more attention, but the regulations governing medicine have shifted a lot, making it difficult to practice. The idea of integrated medicine which integrates traditional and alternative therapies, has emerged as a positive

model that focuses on the patient and allows for future research. It is important to understand how alternative drugs relate to traditional methods and how various properties can be integrated into modern healthcare. This paper examines the current state of medicine and differentiates between techniques that are backed by research and those that lack substantial support. Additionally, it discusses the ethical issues that lead to its acceptance at every instant.

Sl. No	Article	Author	Source	Year
5	Polycystic Ovarian Disease (PCOD): A Comprehensive Review of Pathophysiology, Clinical Manifestations, Psychological Impact, and Therapeutic Approaches	*Bondili Sadhana*	*I-Manager's Journal On Life Sciences Vol. 4 No. 1*	2025

Abstract: Polycystic Ovarian Disease (PCOD) is a common endocrine disorder affecting women of reproductive age worldwide. Characterized by hormonal imbalances, metabolic abnormalities, and polycystic ovarian morphology, PCOD is a leading cause of infertility and is associated with numerous systemic and psychological complications. The etiology is multifactorial, involving genetic predisposition, insulin resistance, and environmental influences. Insulin resistance exacerbates hyperandrogenism, disrupting normal follicular development and leading to anovulation. Clinically, PCOD presents with symptoms such as irregular menstruation, excessive facial and body hair, acne, alopecia, obesity, and infertility. Moreover, the disease adversely impacts mental health, contributing to anxiety, depression, and reduced self- esteem. Diagnosis relies on clinical assessment supported by biochemical tests and ultrasound imaging, with the Rotterdam criteria being widely accepted. Untreated PCOD increases the risk of metabolic syndrome, type 2 diabetes, cardiovascular diseases, and endometrial carcinoma. Management focuses on lifestyle interventions, pharmacotherapy, and assisted reproductive technologies designed to meet patient needs. Emerging treatments such as inositol supplementation and glucagon-like peptide-1 receptor agonists show promising results. This review aims to provide a detailed understanding of PCOD's pathophysiology, clinical features, diagnostic approaches, complications, and therapeutic options to facilitate early diagnosis and effective multidisciplinary management.

Sl. No	Article	Author	Source	Year
1	The Influence of Positive Behavioral Interventions and Supports on African American Students	*Owen Joseph, Derrick Tennia*	*I-Manager's Journal On Educational Psychology Vol. 18 No. 4*	2025

Abstract: Positive behavioral interventions and supports (PBIS) Tier 2 interventions are deemed an evidence-based practice that influences student academic and behavioral success. The problem addressed in this study was that there exists an academic and disciplinary disparity between African American students and peers of other races. The purpose of this qualitative descriptive case study was to explore how English language arts teachers in the United States described the influence of implementing Tier 2 PBIS on African American student behavior and academic achievement. PBIS formed the conceptual framework that guided this study. A qualitative methodology and a descriptive case study design were used. Data were collected from 26 English language arts teachers in the United States who had implemented Tier 2 PBIS practices on the high school level, Grades 9–12, with an African American student population. Data was collected and triangulated using 26 responses to a questionnaire, 13 interviews, and two focus groups with a total of nine participants and addressed an overarching question (RQ1) and two sub-questions. Data was analyzed using a six-step thematic analysis process. Results revealed behavioral skills training (BST) interventions of modeling and feedback influenced peer and teacher relationships and student learning, and social skills instructions facilitated the building of the social and academic community in the classroom.

Sl. No	Article	Author	Source	Year
2	Authentic Assessment Modalities in Problem-Based Learning	*Kumar Laxman*	*I-Manager's Journal On Educational Psychology Vol. 18 No. 4*	2025

Abstract: Problem-based learning (PBL) is an instructional approach that challenges students to think critically and work cooperatively in groups to seek solutions to real-world problems. These problems serve as cognitive stimulus to arouse students' curiosity and initiate learning of disciplinary subject content matter. Authentic assessment modes play a key role in the efficacious implementation of a PBL curriculum. This paper discusses student learning experiences in a tertiary institution that follows a PBL-based curriculum, involving 25 first year students ranging in age from 17 to 19 and evenly balanced in terms of gender. Qualitative data was collected from students' postings in their reflection journals, and key themes were analyzed and identified. Students found the assessment system to be robust, and the different modalities improved their higher-order thinking skills, communications, and collaboration abilities. Some key issues

focusing on the drawbacks of authentic assessment modalities in the PBL environment were raised as including lack of consistent and objective grading, etc.

Sl. No	Article	Author	Source	Year
3	Implementation of a Training Program for the Parents of Preschool Children: The Parent Academy	*Guluzar Sule Tepetas Cengiz, Ceyda Ceren Eraktas, Filiz Guney*	*I-Manager's Journal On Educational Psychology Vol. 18 No. 4*	2025
Abstract: Parent training assists parents in acquiring the essential skills and knowledge across various developmental areas. This study, grounded in the hypothesis that family education programs, which have demonstrated positive effects on both families and children, can enhance the quality of preschool education, seeks to evaluate and enhance parental skills and attitudes in child-rearing through an institution-based family education program called the Parent Academy Program. The study employed a case study design, a qualitative research approach, to examine the effectiveness of the Parent Academy Program. Fifteen parents, whose children were enrolled in three distinct independent kindergartens, participated in the study after responding to research announcements and completing participation forms. The educational needs of the parents were identified through various methods, including a Parent Academy Needs Assessment Pre-Interview Form administered by the investigators, interviews with school personnel, and a review of relevant literature. Drawing from the needs analysis and input from school administrators, preschool teachers, and counselors, a ten-week training program was developed. The data collected throughout the study were analyzed using the MAXQDA program. The findings of the study revealed significant shifts in parental attitudes and knowledge following the training. Parents reported improvements in their skills and knowledge, indicating the positive impact of the Parent Academy Program.				

Sl. No	Article	Author	Source	Year
4	The Adoption of Observation Technique in Coaching Process	*Adedayo Ogunleye*	*I-Manager's Journal On Educational Psychology Vol. 18 No. 4*	2025
Abstract: This research paper studies the impact of observation techniques in coaching processes in sports, business, and educational settings. In a mixed-methods design, qualitative data through interviews and quantitative data through surveys were collected from a				

sample of 50 coaches and 100 coachees to conduct both textual and talking analysis along with statistical quantification of the results. The paper illustrates that observation technique contributes considerably to the optimization of feedback mechanisms in the forms of objective, specific, and actionable insights that positively impact coachees' performance and self-awareness at the same time. From another perspective, the technique also strongly promotes the coach-coachee relationship. More specifically, the challenges of building relationship trust, empathy, and open communication can be greatly facilitated by coachability in observation. Although time and resource constraints and coachees' initial resistance to observation can be seen as the regular barriers to coaching effectiveness, relevant case studies are embedded into the paper to convey practical strategies to tackle those barriers. The research paper finally concludes that while the observation technique in coaching is powerful in nature, a careful plan and allocation of resources and environmental phenomena are required to successfully sustain and leverage the benefits. Implications for practice and further research directions are then presented to help optimize the impact of observation techniques in the coaching context.

Sl. No	Article	Author	Source	Year
5	Effect of Perceived Teacher's Sense of Humor on Academic Achievement of University Students about their Demographic Variable	*Gopikanta Suna, Abinash Dash, Tripurari Das*	*I-Manager's Journal On Educational Psychology Vol. 18 No. 4*	2025

Abstract: This study examines the effect of a teacher's sense of humor on the academic achievement of university students. A total of 180 university students, 90 from arts and 90 from science, were asked to rate their teacher's sense of humor in the classroom. An investigator measures the effect of teachers' sense of humor on their academic achievement. Where the investigator used stratified random sampling for sample selection, an ex post facto research method was used as the study's design. The findings showed a significant difference between the perceived teacher's sense of humor and university students' academic achievement concerning their stream. The study also revealed that teachers who use humor in the classroom are more approachable and likable, which may increase engagement and motivation to learn. The implications of these findings suggest that incorporating humor in the classroom can be an effective strategy for improving students' performance.

Sl. No	Article	Author	Source	Year
6	Digital Citizenship Behavior among College Students during the COVID-19 Pandemic	*Arul Lawrence A. S.*	*I-Manager's Journal On Educational Psychology Vol. 18 No. 4*	2025

Abstract: Digital citizenship behavior is the appropriate behavior when engaging with digital technology ethically, responsibly, and safely by individuals. This study intends to investigate college students' digital citizenship behavior based on background variables during the COVID-19 pandemic in Tamil Nadu among the college students who chose different programs from diploma to doctoral degree level. The digital citizenship questionnaire was used to collect data on the digital citizenship behavior of college students (Nordin et al. 2016). With the help of convenience sampling techniques, 304 online survey responses were obtained. The data was examined using percentages, mean, standard deviation, t-tests, and F-tests, and at 5% significance for table values, the hypotheses were tested. Findings show that college students in Tamil Nadu have a moderately high level of digital citizenship. Gender, marital status, mode of study, type of college, and internet use hours significantly affect digital citizenship behavior. In contrast, location, age group, level of study program, and nature of college do not significantly affect the digital citizenship behavior of the college students.

Sl. No	Article	Author	Source	Year
7	Spiritual Intelligence of Prospective Teachers: A Study	*Akash Padhan, Ranjit Kumar Behera, Chinmayee Padhan, Pravat Kumar Behera*	*I-Manager's Journal On Educational Psychology Vol. 18 No. 4*	2025

Abstract: This study focused on the investigation of the spiritual intelligence of prospective teachers with respect to their gender, locality, and stream. A descriptive survey method was used along with the sample of 105 prospective teachers through multistage sampling techniques. A standardized Sixfold Spiritual Intelligence Scale was used for data collection. Data were analyzed through SPSS software using statistical analysis, percentage analysis, mean, SD, and t-test. The study revealed that prospective teachers had a high level of spiritual intelligence in relation to their gender, locality, and stream, and there is no statistically significant difference in spiritual intelligence of prospective teachers between male and female, urban and rural, and arts and science. The investigator suggested that, for the development of spiritual intelligence among the students, the educational institutions, starting from pre-primary to higher education, should organize various seminars, conferences, workshops, yoga, and meditation programs. Besides this, parents should emphasize it and create such a conducive environment for the development of spiritual intelligence of the whole family at their home.

Sl. No	Article	Author	Source	Year
8	Metacognition and Language Learning: A Psychological Exploration of Learners Awareness and its Role in Language Acquisition	*Kashmi Mondal*	*I-Manager's Journal On Educational Psychology Vol. 18 No. 4*	2025

Abstract: This paper delves into the theoretical dimensions of metacognition, exploring how learners' awareness of their learning strategies and thought processes impacts language acquisition. Metacognition, or the awareness and regulation of one's own cognitive processes, plays a pivotal role in language learning by empowering learners to navigate the complexities of acquiring new linguistic skills. As an essential component of effective learning, metacognition enables students to plan, monitor, and evaluate their progress, fostering deeper engagement and adaptability in their educational journey. The study underscores the intricate interplay between teaching methodologies and learners' psychological dispositions, highlighting how designed instructional approaches can harness metacognitive skills to address diverse student interests and capabilities. Drawing from cognitive and educational theories, the paper examines strategies that promote metacognitive awareness, such as reflective practices, self-regulated learning, and collaborative activities, situating them within the broader psychological landscape of learner motivation, self-efficacy, and emotional intelligence. By adopting a psychological lens, the research bridges the gap between theoretical understanding and practical implications, offering educators insights into fostering a metacognitive culture in language classrooms. This exploration is particularly relevant in today's educational climate, where equipping the younger generation with cognitive and reflective skills is critical for their academic and personal growth. By addressing the dynamic relationship between metacognition, teaching-learning processes, and psychological factors, the study contributes to the ongoing quest to enhance the quality of education and paves the way for innovative practices that can transform language learning outcomes.

Sl. No	Article	Author	Source	Year
1	Career Development Opportunities in the Digital Era: Exploring MOOCs - SWAYAM in the Context of NEP 2020	*Pravat Kumar Behera, Sudhir Sudam Kaware*	*I-Manager's Journal On Educational Technology Vol. 22 No. 1*	2025

Abstract: The rapid development of the digital era has provided opportunities for career development through different digital platforms and created a new era of learning opportunities. In the context of India, the Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM) is India's own Massive Open Online Courses (MOOCs) platform that was launched by the government of India under the Ministry of Human Resource Development (MHRD) on July 9, 2017. This platform is based on three cardinal principles: access, equity, and quality. SWAYAM is a free, flexible, and accessible digital learning platform in India that seeks to offer quality and diverse education to all groups of learners irrespective of their caste, creed, and gender, including those who belong to disadvantaged and deprived groups. It connects with the vision of the National Education Policy (NEP) 2020, which focuses on equitable access to quality education, skill enhancement, and lifelong learning for the career development of the youth. The primary aims of NEP 2020 are to integrate technology at all levels of education to offer free, flexible, and accessible education; foster a culture and trends of a multidisciplinary learning environment; and ensure quality, inclusive education for all. This platform offers multiple courses by experienced educators aligning with learners' career opportunities and aspirations. SWAYAM helps to bridge the gap between traditional classrooms and the dynamic demands of modern education by offering diverse, relevant skill enhancement courses accessible to all learners. It provides quality educational resources by different resource persons from reputed institutions such as central universities, IIT, IIM, and NIT with learners from different socio-economic and geographical backgrounds, enabling inclusive and equitable education. The platform fosters a seamless transition between education and employability, empowering individuals to acquire critical skills, adapt to technological advancements, and meet global industry standards, thereby supporting lifelong learning and career growth aligned with NEP 2020. This study explores the potential of MOOCs-SWAYAM in fostering career development among higher education learners, focusing on its role in preparing learners with twenty-first-century life skills, enhancing self-confidence, and bridging the opportunity and resource gap to connect with mainstream education for nation-building.

Sl. No	Article	Author	Source	Year
2	Designing Online Learning Modules for Pre-Service Teachers using Cognitive Load Theory and Adaptive Expertise: A Design-Based Research Study	*David Squires , Sameera Massey, Robin Pizzitola, Carmen Tejeda-Delgado, David D. Jimenez*	*I-Manager's Journal On Educational Technology Vol. 22 No. 1*	2025

Abstract: Massive open online courses (MOOCs) have grown in popularity since 2008 but suffer from low completion rates, as low as 2%. This study examines how designing MOOCs with consideration of cognitive load can improve retention and learning outcomes, particularly for adult learners such as educators. Employing a design-based research methodology, five learning modules were developed and tested with pre-service teachers. The modules incorporated features like avatars, scenarios, feedback, multimedia, and accessibility considerations. Cognitive load was measured using an adapted NASA Task Load Index. Out of 247 participants, 175 completed surveys. Overall, participants reported low cognitive load. Qualitative themes included the helpfulness of scenario features, disconnect between simulations and the real world, and a desire for more strategies and examples. The primary concern was the transferability of learning to real classrooms. Future iterations should increase exposure to diverse scenarios to build adaptive expertise. With cognitive load-informed design, MOOCs can provide effective learning opportunities for busy adult professionals.

Sl. No	Article	Author	Source	Year
3	Generative Artificial Intelligence in Higher Education: Understanding Faculty Adoption through the Technology Acceptance Model	*Tony Robinson*	*I-Manager's Journal On Educational Technology Vol. 22 No. 1*	2025

Abstract: enerative artificial intelligence (AI) is increasingly transforming higher education by enhancing teaching methodologies, automating administrative tasks, and supporting research initiatives. Faculty adoption of generative AI is crucial for maximizing its potential benefits; however, its acceptance remains inconsistent due to factors such as usability, perceived usefulness, and ethical concerns. This study employs the Technology Acceptance Model (TAM) to investigate the relationships between Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Attitude (ATT), and Intention to Use (IU) among faculty in higher education. A quantitative correlational research design was used, with data collected through an online questionnaire distributed to faculty members. The results indicate that PEOU significantly predicts PU, reinforcing the importance of usability in AI adoption. However, PU negatively influences ATT, suggesting that while faculty members recognize AI's usefulness, they may have concerns regarding its implications for academic integrity and pedagogical changes. Despite this, ATT strongly predicts IU, indicating that faculty attitudes are the primary driver of AI

adoption. These findings underscore the importance of institutional AI training, ethical guidelines, and AI- integrated curriculum strategies to facilitate the responsible adoption of AI. Future research should incorporate qualitative insights and expand to multiple institutions to enhance generalizability and validity.

Sl. No	Article	Author	Source	Year
4	Digital Pedagogy in Classroom Teaching: Variation in Relation to Gender, Year of Teaching Experience and Location of School	*Rinku Prasad Sahu, Sadhujan Bankira*	*I-Manager's Journal On Educational Technology Vol. 22 No. 1*	2025

Abstract: The study aims to investigate the adoption of digital pedagogy in classroom teaching by the secondary school teachers and variation in relation to gender, years of teaching experience, and location of school in the Bolangir district of Odisha. For this purpose, the investigator has undertaken three dimensions of digital pedagogy, such as digital pedagogical orientation, digital pedagogical practice, and digital pedagogical competence of secondary school teachers. A descriptive survey was conducted consisting of 153 samples of secondary school teachers selected through a stratified purposive sampling technique. The data were collected through a self-made questionnaire. The research findings revealed significant differences in digital pedagogical orientation, digital competence, and digital practices in relation to gender, years of teaching experience, and residential type of teachers. Further, the study found that male teachers are highly digital pedagogy oriented, competent in digital pedagogy, and practice digital pedagogy more than female teachers. The research findings also reported the teachers having less than 5 years of teaching experience are highly digital pedagogy oriented and competent and practice the digital pedagogy more than the teachers having more than 5 years of teaching experience. The teachers posted in urban areas are highly oriented and competent and practice more digital pedagogy in the classroom than the teachers posted in rural areas.

Sl. No	Article	Author	Source	Year
5	Leveraging Wearable Technology for Personalized English Language Learning in Indian Technical Institutions: An Interdisciplinary Approach to Enhanced Pedagogy	*Kashmi Mondal*	*I-Manager's Journal On Educational Technology Vol. 22 No. 1*	2025

Abstract: This research examines the integration of wearable technology in English Language Teaching (ELT) within higher education technical institutions in India. Traditional ELT methodologies struggle to meet the diverse learning needs of students in large, resource-constrained classrooms. Limited access to skilled language instructors, varying proficiency levels, and low learner engagement further exacerbate these challenges. This study explores how wearable devices, such as smartwatches, augmented reality (AR) glasses, and language-enabled fitness trackers, can enhance personalized instruction, engagement, and overall language acquisition. The objectives of this research are to assess the feasibility of wearable technology in ELT, evaluate its impact on learner engagement, and analyze improvements in language proficiency. Grounded in experiential learning theory and sociocultural theory, the study employs a mixed-methods approach. Quantitative analysis measures proficiency improvements, while qualitative insights from students and instructors offer perspectives on usability and engagement. Findings indicate that wearable technologies significantly enhance listening and speaking skills through real-time feedback, immersive experiences, and adaptive learning pathways. However, challenges such as affordability, infrastructure limitations, and resistance to technology adoption require strategic intervention. The study highlights the need for collaboration among educators, technologists, and policymakers to ensure sustainable implementation. By leveraging wearable technology, technical institutions in India can bridge gaps in traditional ELT, fostering a learner-centric, technology-driven educational environment. Future research should explore scalability and long-term impacts on student employability.

Sl. No	Article	Author	Source	Year
6	Transforming MBA Education: The Impact of Flipped Blended Learning of Marketing and HR Management Courses on Students	*Venkatesh S Amin, Kavyashree K., Padmanabha C. H.*	*I-Manager's Journal On Educational Technology Vol. 22 No. 1*	2025

Abstract: This paper explores the transformational potential of flipped blended learning in MBA education, with a focus on enhancing skill development in Marketing, Finance, and Human Resources (HR). Flipped blended learning, a pedagogical model where students engage with foundational content outside the classroom and use in-class time for deeper, applied learning. It also offers a dynamic

alternative to traditional lecture-based methods. In the rapidly evolving fields of marketing, Finance, and HR, this model has the potential to foster critical thinking, problem-solving, and practical skills that are increasingly demanded by employers. Flipped classrooms students are introduced to learning material before class, either through case studies, videos, or study material. This allows the class to engage in discussion, debate and develop a thought process of making the concept simpler and easier. Hence, the time can be used for hands on project focus on applying on the knowledge rather than first time. Blended learning will lead to faster situation of learning as it is a combination of both online as well as off line. These two approaches. Students interact with digital content (like recorded lectures or online assignments) outside of class, then attend in-person or live online sessions for interactive, in-depth learning. This model leverages online resources for foundational knowledge and in-class time for practical application, allowing more personalized and active learning.

Sl. No	Article	Author	Source	Year
7	A Cost-Effective Approach to Barcode Implementation in Libraries: A Case Study of gLabels at Sankar Polytechnic College Library	*Vijayalakshmi B., Radha G., Veni Krishna Bharathi A.*	*I-Manager's Journal On Educational Technology Vol. 22 No. 1*	2025

Abstract: Libraries are increasingly adopting information and communication technologies to enhance their services. To ensure all libraries can benefit, regardless of budget, this study highlights gLabel, a freely available open-source tool for barcode label development. The purpose of this paper is to promote gLabel for low-budget libraries by exploring its features, installation process, and practical application. Through a case study of its implementation at Sankar Polytechnic College Library from June 2019 to June 2024, this research analyzes the software's effectiveness over a significant period. The study demonstrates how barcodes, generated using gLabel to encode accession numbers and decoded with scanners, streamline routine library tasks such as circulation, book searching, and shelf rectification, leading to faster and more efficient workflows, including stack verification. Furthermore, this paper briefly discusses the features of the latest version of gLabels.

Sl. No	Article	Author	Source	Year
1	Advanced Single Current Sensing Device for High Performance SRM Drive	*Malligunta Kiran Kumar and Dr O. Chandra Sekhar*	*International Journal of Electronic and Electrical Engineering Vol. 18 No. 1*	2025

Abstract: current control methodology depends on coordination between magnetic characteristics of SRM drive and rotor position. API regulated single current controlled strategy is antisymmetric 6/4 SRM drive system. The simulation results of the single current control technique are compared with those of the three wired current control method. The study shows the superior performance of the single current control method in respect of torque ripple minimization compared to three current sensor control methodology.

Sl. No	Article	Author	Source	Year
2	Heart Sound Signal Separation From Lung Sound Signal At Real Time Using Radial Basis Function Network	*K.Sathesh, Dr. N. J. R. Muniraj*	*International Journal of Electronic and Electrical Engineering Vol. 18 No. 1*	2025

Abstract: During lung sound recordings, an incessant noise source occurs due to heart sounds. The heart sound interference on lung sounds is significant especially at low flow rates. This paper presents a technique for separation of heart sound signal (HSS) from lung sound signal (LSS) using Radial Basis Function Network (RBF) with real time recorded sound signal. Here two signals are used in RBF network noise separation scheme. The two signals are raw signal and reference heart signal. The raw signal is given as input signal to R.BF network and reference heart signal is used as target signal. The proposed system is applied and the results show the error rate of the desired sound signal (DSS), signal to noise ratio (SNR) and execution time.

Sl. No	Article	Author	Source	Year
3	Implementation of 4096 Point FFT Using Modified 4 Point Radix 2 FFT Kernels To Reduce Latency	*Dr. Amos Jeeva Oli H*	*International Journal of Electronic and Electrical Engineering Vol. 18 No. 1*	2025

Abstract: An OFDM transceiver suffers from latency due to the calculation of FFT/IFFT. The objective of this paper is to exemplify a new approach for performing a 4k FFT in order to reduce latency by operating on the inputs as they arrive. The large sized FFT is realized using smaller FFT kernels as it does not increase the computational complexity. 4 point radix-2 FFT/IFFT is used since only adders are needed to develop the kernel which is used to evaluate 4096 point FFT. The large sized FFT is calculated by using these kernels over six pipeline stages and in parallel within stages. This approach significantly reduces the latency in the OFDM transceiver and usage of a modified 4 point radix 2 FFT/IFFT as the basic unit to evaluate the large 4096 point FFT/IFFT also reduces the computational requirements. The same has been implemented in a Spartan 3 FPGA and the latency is significantlyreduced

Sl. No	Article	Author	Source	Year
4	Modelling Surface Finish For Aluminium Based Hybrid Metal Matrix Composite By RSM	*V.Janakiraman , John David.S , Ramu Murugan*	*International Journal of Electronic and Electrical Engineering Vol. 18 No. 1*	2025

Abstract: Surface roughness an indicator of surface quality is one of the most specified customer requirements for machined parts. For efficient use of machine tools optimum cutting parameters are required. Several statistical modelling techniques have been used to generate models including surface response methodology. In this paper, The application of RSM on the turning process of Aluminium alloy with VCGX 160408- AL H10 tool had carried out the mathematical models of the surface roughness (Ra) so as to investigate the influences of machining parameters. The statistical significances of the fitted quadratic model for the surface roughness (Ra) were evaluated by the F-test of ANOVA. The optimum value of machining parameters, for the fitted quadratic model determined using SAO Method of Response surface methodology Technique.

Sl. No	Article	Author	Source	Year
5	An Intelligent Power Meter System	*Krishnagandhi P, Prabhakaran S*	*International Journal of Electronic and Electrical Engineering Vol. 18 No. 1*	2025

Abstract: Nowadays Electronics energy measurements are replacing conventional electro-mechanical meter technologies. A modern digital energy meter provides flexible energy read metering purposes. In Energy meter, which produce 3200 pulses for each and every unit consumed. The pulses were measured electrically by an LED in the meter through a blink. When the server sends a request to the client through GSM module, which reads this request and sends back the current reading through the wireless module. When the server sends the corresponding bill will be displayed on the LCD and also bill sent to the mobile clients. This paper focusses on GSM transmission protocol to establish connection between client and server develops on Embedded C, MPLAB and Visual C# software packages.

Sl. No	Article	Author	Source	Year
6	Design of 10 Bit R/2r Digital To Analog Converter In 180nm CMOS Technology	*Dr. D. Nageshwar Rao K. Rama Krishna Reddy N. Himashailaja G.Amulya*	*International Journal of Electronic and Electrical Engineering Vol. 18 No. 1*	2025

Abstract: R-2R ladder networks provide a simple means to convert digital information to an analog output. Although simple in design and function, applying an R2R resistor network to a real application requires attention to how the device is specified. Output errors due to resistor tolerances are often overlooked in the design of the digital to analog conversion (DAC) circuit and in the selection of the R/2R ladder itself. Resistor ladder networks provide a simple, inexpensive way to perform digital to analog conversion (DAC). The most popular networks are the binary weighted ladder and the R/2R ladder. Both devices will convert digital voltage information to analog, but the R-2R ladder has become the most popular due to the network's inherent accuracy superiority and ease of manufacture. This paper proposes an approach for designing an R-2R 10 bit Digital to Analog Converter (DAC) which could be made to operate at low voltage supply by efficiently exploiting the two stage Operational Amplifier (OpAmp) architecture and analyse the effect of various parameters on the characteristics of op-amp which operates at 2.5v power supply in 180nm CMOS technology. In this paper trade-off curves are computed between all characteristics such as gain, phase margin. The OPAMP is designed in 180nm technology and exhibits

a gain of 53.6db with a phase margin of 179 degrees where the operating point is 1.49v.R/2R DAC operates at a 2.5V power supply and simulation results are verified using virtuoso and are presented in the paper.

Sl. No	Article	Author	Source	Year
7	Design of Microstrip Patch Antenna For Enhancement of Gain Using Superstrate Layer and Array	*P.Poorna Priya , Mounika.T , S.Nimmelitha, V.Swetha , G.Bhargava krishna*	*International Journal of Electronic and Electrical Engineering Vol. 18 No. 1*	2025
Abstract: Superstrate layer is a additional layer over the substrate. The gain of an antenna can be enhanced by choosing suitable thickness and permittivity of a superstrate layer. Antenna array is a configuration of multiple antennas arranged to achieve a radiation pattern and gain. In this paper the proposed antenna has gain of about 4db and achieved very low return loss(-98db).				

Sl. No	Article	Author	Source	Year
1	International Journal of Control Theory and Applications	*Chichili Vinathia and Shaik Naseera*	*International Journal of Computer Science And Information Technology Vol. 18 No. 1*	2025
Abstract: In this era where the availability of digital information is growing exponentially, Recommendation systems are utilized to suggest items of interests for end users. Suggestions are done here by using statistical and clustering techniques that assist in predicting the interests of user. This paper proposes a Web Recommendation System for End Users by proposing algorithms Modified K-Means Clustering and Vector Space Model algorithm. Vector Space Model algorithm is exploited for enhancing the data classification and making it uniform followed by modified K-Means clustering on input data that is retrieved from using Vector Space Model algorithm. Recommendations are done by utilizing text categorization from Search Keyword				

Sl. No	Article	Author	Source	Year
2	Performance Comparison Of SVM And C4.5 Algorithms For Heat Diseases And Diabetics	*vishwananthan k, mayilvahanam k and christy pushpaleela*	*International Journal of Computer Science And Information Technology Vol. 18 No. 1*	2025

Abstract: The Purpose of This Research Paper Is to Study and Discuss the Various Classifications Algorithms Applied On Different Kinds of Medical Data Sets and Also Compares Its Performance. Among Various Classifications Algorithms, The Performance Analysis Was Done by Considering an Algorithm with Maximum Ac Curacies On Various Kinds of Medical Data Sets. Also This Paper Discusses the Comparison of SVM and C4.5 Algorithms On High Dimensional Patient Data Sets. In This Paper, We Will Predict Whether the Diabetic Patients Will Be Suffered from Heart Diseases or Not.

Sl. No	Article	Author	Source	Year
3	Web Image Based Auto Clustering of Cartoons using Contour Filter and Refine Technique	*C. Menakaa and N. Nagadeepa*	*International Journal of Computer Science And Information Technology Vol. 18 No. 1*	2025

Abstract: Downloading accurate images using internet is a difficult task. The classification of images is a challenging task in web mining research. Number of techniques is available to classify the images in the process of web image classification. In this work, technique considers two HTML tags namely alt and src for extracting images. In a group of web pages these two tags are taken into account to download the images. Mainly this approach considers the cartoon image category for example the character like Dora, Pokeman, Disney and cartoon web link for the extraction and storing. Three different modules are used here. LTP (Lexical Tag Parsing) technique is applied here to parse the given tags. Images are clustered and stored in their respective folders as per the category after clustering process. CFR (Contour Filter and Refine) algorithm is used here to refine the images for storing. MIA (Multilevel Image Annotation) technique is applied here to give annotation for all images which is in the cluster for best retrieval. Finally based upon the given input as image resultant image can be searched from various available clusters and return to the user along with its detailed description.

Sl. No	Article	Author	Source	Year
4	Modular Data Logger Sub-System Design with Real Time Constraints for Weather Balloon Satellite	*Bhushan C. Patila, Amit Patwardhanb and Rabinder Henry*	*International Journal of Computer Science And Information Technology Vol. 18 No. 1*	2025

Abstract: The main goal of the work presented here is to design a Modular Data logger system for low altitude weather balloon satellite that records temperature, humidity, particulate matters and infrequent anomalies for long durations. The data are obtained from sensors with respect to time and location. Multitasking embedded software with real time constraints have been developed to operate a data logging system based on an ARM based controller. The embedded software is implemented with combination of state machines and co-operative multitasking software. The results are obtained through Analog to Digital Converter and eight digital channels. These data are logged on to data storage system. Combination of State machine and Co-operative multitasking results in flexible multitasking system in which any number of channels can be added easily without affecting real time performance.

Sl. No	Article	Author	Source	Year
5	Lung Segmentation using Rotational Wavelet Gabour Filter	*Afshan Khanum, Purushothaman S., and Rajeswari P*	*International Journal of Computer Science And Information Technology Vol. 18 No. 1*	2025

Abstract: This paper presents the implementation of rotational wavelet Gabor filter for segmentation of lung images. Images are collected from early lung cancer action program (ELCAP) database. A lung image is preprocessed and subsequently segmented by using Gabor filter. The segmented image contains white patches. The segmentation accuracy of the implemented algorithm is presented for four different images.

Sl. No	Article	Author	Source	Year
6	School Policy of Kazakhstan in Conditions of Globalization	*Z. Yelbayevaa and A. Mynbayeva*	*International Journal of Computer Science And Information Technology Vol. 18 No. 1*	2025

Abstract: With an advent of globalization, the education system of most developed countries is in a state of continuous modernization and reformation. The innovation pace of Kazakhstan in the field of school education is among the best. This process is continuous and advancing with each passing year. In recent years, the country set big goals in the school policy, such as the transition to 12 year secondary education, and implementation of the trilingual education policy. The study defines the concept of "state education policy" and "school policy". By conducting surveys and interviews of 100 education managers: head masters and deputy head masters of public and private schools of Kazakhstan identified the main problems of school policy in the context of globalization. Based on the results of surveys and interviews the recommendations for improving Kazakhstan's school policy were made.

Sl. No	Article	Author	Source	Year
1	A Study of Bus Contention in the FPGA Framework	*Francesco Restuccia, Marco Pagani, Alessandro Biondi, Mauro Marinoni, Giorgio Buttazzo*	*Electronic Devices Vol. 14 No. 1*	2025

Abstract: FPGA System-on-Chips (SoCs) are heterogeneous platforms that combine general-purpose processors with a field programmable gate array (FPGA) fabric. The FPGA fabric is composed of a programmable logic in which hardware accelerators can be deployed to accelerate the execution of specific functionality. The main source of unpredictability when bounding the execution times of hardware accelerators pertains the access to the shared memories via the on-chip bus. This work is focused on bounding the worst-case bus contention experienced by the hardware accelerators deployed in the FPGA fabric. To this end, this work considers the AMBA AXI bus, which is the de-facto standard communication interface used in most the commercial off-the-shelf (COTS) FPGA SoCs, and presents an analysis technique to bound the response times of hardware accelerators implemented on such platforms. A fine-grained modeling of the AXI bus and AXI interconnects is first provided. Then, contention delays are studied under hierarchical bus infrastructures with arbitrary depths. Experimental results are finally presented to validate the proposed model with execution traces on two modern FPGA-based SoC produced by Xilinx (Zynq-7000 and Zynq-Ultrascale+ families) and to assess the performance of the proposed analysis.

Sl. No	Article	Author	Source	Year
2	Analysis of the Topology in Radio Networks using Undirected Connected Graphs	*Adam Ganczorz, Tomasz Jurdzi Dski, Mateusz Lewko, Andrzej Pelc*	*Electronic Devices Vol. 14 No. 1*	2025

Abstract: We consider the fundamental problems of size discovery and topology recognition in radio networks modeled by simple undirected connected graphs. Size discovery calls for all nodes to output the number of nodes in the graph, called its size, and in the task of topology recognition each node has to learn the topology of the graph and its position in it. We do not assume collision detection: in case of a collision, node v does not hear anything (except the background noise that it also hears when no neighbor transmits). The time of a deterministic algorithm for each of the above problems is the worst-case number of rounds it takes to solve it. Nodes have labels which are (not necessarily different) binary strings. Each node knows its own label and can use it when executing the algorithm. The length of a labeling scheme is the largest length of a label. For size discovery, we construct a labeling scheme of length O(log log Δ) (which is known to be optimal, even if collision detection is available) and we design an algorithm for this problem using this scheme and working in time O(log2 n), where n is the size of the graph. We also show that time complexity O(log2 n) is optimal for the problem of size discovery, whenever the labelling scheme is of optimal length O(log log Δ). For topology recognition, we construct a labeling scheme of length O(log Δ), and we design an algorithm for this problem using this scheme and working in time O DΔ + min(Δ2 , n), where D is the diameter of the graph. We also show that the length optimal

Sl. No	Article	Author	Source	Year
1	Best Practices for Cyber Security in Academic Libraries	*Ms. Pooja, Rekha D Pai*	*Information Security Education Journal Vol. 12 No. 1*	2025

Abstract: Information and Communication Technology (ICT) has helped libraries make all their electronic resources accessible to their users. Securing library-subscribed resources from scammers or unauthorised users is a big challenge in the present era. Cyber security is an area that needs to be studied in the present scenario, and the library is no exception. Institutions, including libraries, are one of the targeted areas of ransom ware attacks. Library computers, library patrons' data, and library subscribed resources are the target of cybercriminals. To overcome this, there is a need for cyber security in academic libraries. Manipal Academy of Higher Education (MAHE) has implemented IT policies to secure computer systems, networks, information, and digital assets and control cybercrimes in its various institutions. Librarian plays a significant role in protecting library resources be having cyber security

Sl. No	Article	Author	Source	Year
2	A Brief Review of the Awareness of Blockchain Technology and Cryptocurrency	*Prathima D*	*Information Security Education Journal Vol. 12 No. 1*	2025

Abstract: The technology through which records are kept will complicate hacking systems and even forging data stored in the blockchain, which is connectible to safety. It is known as distributed ledger technology or public ledger: distributed digital recording devices which record transactions and supplementary data appearing in various locations simultaneously. A digital currency transacts business in which a decentralised network does receipt and verification through a public ledger and cryptographic methods instead of a bank or other central authority. Decentralised cryptocurrencies such as Bitcoin now provide an outlet for personal wealth beyond restriction and confiscation. “As Bitcoin gains ground, more companies have started accepting the cryptocurrency.

Sl. No	Article	Author	Source	Year
3	Application and Mechanism of Blockchain Technology in Libraries	*Meeramani N, Anthoniraj S, Beemkumar, Shreyas*	*Information Security Education Journal Vol. 12 No. 1*	2025

Abstract: This paper presents an overview of the current state of blockchain technology and explores its potential applications in libraries. In the digital era, blockchain technology has emerged as a key area of interest, with numerous studies highlighting its potential benefits. However, further investigation is needed to fully understand the potential of blockchain in library settings and determine the best implementation strategies.

Sl. No	Article	Author	Source	Year
1	Users' Information Access Pattern in Kashmir: A Systematic Review	*Salik Parveaz, Asif Khan*	*Journal of Digital Information Management Vol. 23 No. 2*	2025

Abstract: Information seeking/access is an inherent practice through which humans cope with their environment. Advancements in technology have dramatically changed information-seeking, making it technologically driven and dependent. Due to its importance, the various aspects of information-access behaviour have been explored across populations, contexts, and geographies. A comprehensive analysis that contextualises and coherently integrates the findings of studies conducted in the Kashmir region of India is lacking. A search was conducted in the Google Scholar database to find the existing studies on information-seeking behaviour in Kashmir. Of 389 search results, 37 research studies met the inclusion criteria. This study uses a systematic review to explore the general information-seeking behaviour in Kashmir. Findings reveal that the Internet and libraries are popular sources of information. Research is the primary information needed by most users. Ease of access is the most cited criterion for source selection. Internet connectivity, infrastructure, and political climate are key factors affecting information-seeking behaviour. The Apriori system and content knowledge result in high recall and precision.

Sl. No	Article	Author	Source	Year
2	Harnessing Deep Learning for Scalp and Hair Disease Classification: A Comparative Study of Convolutional Neural Networks Architectures	*Dang Nguyen Nam Anh, Pham Ngoc Giau, Binh Nguyen Le Nguyen, An Mai, Nguyen Thi Minh Hien and Nguyen Tan Viet Tuyen*	*Journal of Digital Information Management Vol. 23 No. 2*	2025

Abstract: Scalp and hair diseases, affecting millions worldwide, pose significant challenges regarding accurate diagnosis and effective treatment. Traditionally reliant on expert evaluation, these conditions can often be misdiagnosed due to their complex and overlapping symptoms. In recent times, especially in information technology, convolutional neural networks (CNNS) have become more prominent thanks to their ability to analyse and process image data for classification and recognition tasks. CNNs learn to recognize patterns from images through convolutional layers to detect characteristic features in image sand have revolutionized the field of image recognition, offering promising applications in medical diagnostics. Despite their potential, few studies have thoroughly explored the capabilities

of multiple CNN architecturesin the context of dermatology. This study aims to bridge this gap by evaluating the effectiveness of several CNN models—VGG16, VGG19, Inception-V3, ResNet50, and ResNet152—in detecting scalp and hair diseases. The findings indicate that VGG16 and VGG19 consistently outper for mother models in accuracy across all disease categories, demon strating their robustness and reliability for this application. By providing a comparative analysis of these architectures with a user interface (UI), we seek to advance automated diagnostic methods, ultimately enhancing clinical decision-making and patient care.

Sl. No	Article	Author	Source	Year
3	A Review of the Emotion-Induced Music Recommendation Systems	*Pit Pichappan*	*Journal of Digital Information Management Vol. 23 No. 2*	2025

Abstract: This review discusses the evolution, approaches, methodologies, features, and outcomes of emotion-induced music recommendation systems (MRS) in light of the growing demand for personalised music experiences. Traditional MRS often overlook the emotional context of users, making the integration of emotion recognition a promising enhancement for user satisfaction. The paper examines 32 studies published between 2011 and 2025, detailing how various inputs, such as facial expressions and physiological signals, can inform personalised music recommendations. It highlights the application of advanced machine learning techniques and the challenges that arise, including the cold-start problem and the need for real-time processing capabilities. The review categorises existing systems into content-based filtering, sequential recommendations, and emotion detection using physiological signals. Additionally, it emphasises the importance of context-aware recommend der systems that factor in user environments. Future research is encouraged to address limitations in accuracy, scalability, and ethical considerations while exploring multimodal approaches for more robust MRS. Ultimately, the review highlights the transformative potential of emotion-based music recommendation systems (MRS) in enhancing user interaction and personalisation with digital music platforms.

Sl. No	Article	Author	Source	Year
1	Bit wise delay of vedic Multiplier	*Vijaya Lakshmi Bandi, M. Siva Kumar and phani Yedlapalli*	*International Journal of Wireless Communications and Networking Vol. 17 No. 1*	2025

Abstract: The Vedic multiplier is derived from the ancient mathematics called Vedic mathematics. The ancient mathematics has different sutras in that we use Urdhva Tiryagbhyam sutra which means clockwise and vertically. As we know that binary multiplication is not possible so that instead we use binary addition or subtraction instead of it. The key process for the multiplication is the speed of the processor. The fastest mode of multiplication is the Vedic multiplier. In this paper we want to show the delay and utilization of components available for the multiplier by executing the code. The comparison of delay from some papers was also proposed in this paper. The research is going on the Vedic mathematics to overcome the problems on the conventional mathematics. In future Vedic multiplier plays an important role in the DSP (Digital Signal Processing). As it is the fastest and efficient mode of operation. In this paper I am calculating the bit wise delay up to 32-bit. The whole analysis was done in Xilinx. The ISM wave forms for every bit up to 32-bit was to be obtained. The utilization, used, available, utilized analysis was also taken. The whole process was done in XILINX software.

Sl. No	Article	Author	Source	Year
2	FPGA Implementation of OTPES cryptographic algorithm for channel security	*B. Muralikrishna, Syed Shameem*	*International Journal of Wireless Communications and Networking Vol. 17 No. 1*	2025

Abstract: Electronic devices are turn out to be a part of human life due to rapid growth of smart technology. Communication between two different electronic devices involves either wired or wireless channel. Data security in wired or wireless channel is prime constraint. Cryptography is a solution for safe and secure transmission of data through channel. Data usage is increasing proportionally with increase of usage web sources, banking transactions and mobile communication etc. The proposed new algorithm performs some permutations to One Time Pad (OTP) algorithm. OTP algorithm encrypts the message multiplexed with a random key. Cracking possibility of the algorithm is less due to random key for each byte. Security level is enhanced in the proposed algorithm, which is designed using Verilog HDL, Synthesized & Simulated in Xilinx-ISE Simulator and results are tested on Spartan FPGA

Sl. No	Article	Author	Source	Year
3	A study of organized Retail in western up with special reference to preferred services by customer	*Rahul Singh, Sachin Bharadwaj and Smrita jain*	*International Journal of Wireless Communications and Networking Vol. 17 No. 1*	2025

Abstract: Retail means of selling goods from a set location, such as a department store, direct consumption by the purchaser. Retailing may include subordinated services, such as delivery of the products. Buyers may be individuals or businesses. In commerce a retailer buys goods or products in large quantities from manufactures either directly or through a wholesaler and then sells smaller quantities to the end-user. Shops maybe on residential streets, shopping streets with few or no houses or in a shopping mall.

Sl. No	Article	Author	Source	Year
4	DTSS-Double Tier spectrum sensing techniques for cognitive radio communications	*T. Lakshmibai and C. Parthasarathy*	*International Journal of Wireless Communications and Networking Vol. 17 No. 1*	2025

Abstract: In this proposed system, considering the fascinating scenario for the cognitive radios spectrum sensing, where the power and distance of the primary user treated as an important parameter for the detection. With prior knowledge of the accurate distance and power level, we propose the new technique so called Double Tier Spectrum Sensing (DTSS) which can be categorizes as the one of the blind spectrums sensing techniques in cognitive radio networks. In this mechanisms, Genetic Algorithm (GA) based estimator has been implemented and the simulation results confirms that the estimation are accurate.

Sl. No	Article	Author	Source	Year
5	Case study of electrical energy audit in heat treatment Industry	*K. Keerthi Jain, N. Kishore Kumar*	*International Journal of Wireless Communications and Networking Vol. 17 No. 1*	2025

Abstract: India is the sixth largest power generation country in the world, but it does not match the generation and demand. Presently, more initiative is taken on the generation part, rather than conservation of energy. In connection to that we started the initiative to save energy through MGR Vision 10MW. India is a country where 70% of the energy is used in the seven major sectors, namely Fertilizers, aluminium, textiles, cement, iron, steel and paper. In these sectors 5 to 10% of energy savings is possible by keeping good housekeeping and another 10 to 15% is possible with small investments like energy efficient devices, retrofits and suitable control systems, etc. This paper presents the electrical energy audit of Heat Treatment Industry in Chennai with the suitable recommendation for implementation. ETAP is used for the testing of proposed recommendation to reduce the power consumption. The financial cost analysis also presented in the paper.

Sl. No	Article	Author	Source	Year
6	Performance analysis of All-Optical D-flip-flop	*R. Manohari, K. Naga Murthi and Shanthi Prince*	*International Journal of Wireless Communications and Networking Vol. 17 No. 1*	2025

Abstract: For digital signal processing, All-Optical flip-flops are the key elements. Based on Semiconductor Optical Amplifier (SOA) the systematic model for All-Optical flip-flop is proposed and simulated. The strategy of optical pulse propagation in SOA based on cross-gain modulation (XGM) is used in this design. All-Optical D-flip-flop is simulated, and its functions are verified with the help of truth table. All-optical D-flip-flop is designed using all-optical logic gates. The functioning of the D-flip-flop is analyzed for different data rates. The performance is analyzed based on Q-factor and BER. Further improvement can be achieved by modifying the operation parameters of SOA.

Sl. No	Article	Author	Source	Year
1	The enhanced firefly algorithm based on modified exploitation and exploration mechanism	*Moath Sababha, Mohamed Zohdy and Maged Kafafy*	*International Journal of Fluid Mechanics Vol. 17 No. 1*	2025

Abstract: As a nature-inspired search algorithm, the Firefly algorithm (being a naturally outstanding search algorithm with few control parameters) may have a considerable influential performance. In this paper, we present a new firefly algorithm to address the parameter selection and adaptation strategy in the standard firefly algorithm. The proposed firefly algorithm introduces a modified exploration and exploitation mechanism, with adaptive randomness and absorption coefficients. The proposed method employs the adaptation of the randomness and absorption coefficients to be a function of time/iterations. Moreover, gray relational analysis advancing fireflies is used to allocate different information from appealing ones effectively. Standard benchmark functions are applied to verify the effects of these improvements, and it is illustrated that, in most situations, the performance of the proposed firefly algorithm is superior to (or at least highly competitive with) the standard firefly algorithm, and state-of-the-art approaches in terms of performance.

Sl. No	Article	Author	Source	Year
2	Design and implementation of a sensor-cloud platform for physical sensor management on cot environments	*Lei Hang, Wenquan jin, Hyeonsik Yoon*	*International Journal of Fluid Mechanics Vol. 17 No. 1*	2025

Abstract: The development of the Internet of Things (IoT) has increased the ubiquity of the Internet by integrating all objects for interaction via embedded systems, leading to a highly distributed network of devices communicating with human beings as well as other devices. In recent years, cloud computing has attracted a lot of attention from specialists and experts around the world. With the increasing number of distributed sensor nodes in wireless sensor networks, new models for interacting with wireless sensors using the cloud are intended to overcome restricted resources and efficiency. In this paper, we propose a novel sensor-cloud based platform which is able to virtualize physical sensors as virtual sensors in the CoT (Cloud of Things) environment. Virtual sensors, which are the essentials of this sensor-cloud architecture, simplify the process of generating a multiuser environment over resource-constrained physical wireless sensors and can help in implementing applications across different domains. Virtual sensors are dynamically provided in a group which advantages capability of the management the designed platform. An auto-detection approach on the basis of virtual sensorsis additionally proposed to identify the accessible physical sensors nodes even if the status of these sensors is offline. In order

to assess the usability of the designed platform, a smart-space-based IoT case study was implemented, and a series of experiments were carried out to evaluate the roposed system performance. Furthermore, a comparison analysis was made, and the results indicate that the proposed platform outperforms the existing platforms in numerous respects.

Sl. No	Article	Author	Source	Year
3	An effective switching algorithm for single phase matrix converter in induction heating applications	*Anand Kumar, Pradip Kumar Sadhu,*	*International Journal of Fluid Mechanics Vol. 17 No. 1*	2025

Abstract: Prevalent converters for induction heating (IH) applications employ two-stage conversion for generating high-frequency magnetic field, namely, AC to DC and then DC to high-frequency AC (HFAC). This research embarks upon a direct conversion of utility AC to high frequency AC with the design of a single-phase matrix converter (SPMC) as a resonant converter using a modified switching technique for IH application. The efficacy of the proposed approach is validated through different attributes such as unity power factor, sinusoidal input current and low total harmonic distortion (THD). The developed prototype-embedded system has high pragmatic deployment potential owing to its cost effectiveness using Arduino mega 2560 and high voltage/current as well as low switching time IXRH40N120 insulated-gate bipolar transistor (IGBT). Different results of the prototype-embedded system for IH application have been verified using Matlab Simulink environment to corroborate its efficacy.

Sl. No	Article	Author	Source	Year
4	A:" smart" Trap device for detection of crawling insects and other Arthropods in urban environments	*Panagiotis Eliopoulos, Nikolaos-Alexandros Tatlas*	*International Journal of Fluid Mechanics Vol. 17 No. 1*	2025

Abstract: We introduce a device for the automatic detecting and reporting of crawling insects in urban environments. It is a monitoring device for urban pests that complies with the context of smart homes and smart cities and is compatible with the emerging discipline of the Internet of Things (IoT). We believe it can find its place in every room of a hotel, hospital, military camp, and residence. This box-shaped device attracts targeted insect pests, senses the entering insect, and takes automatically a picture of the internal space of the box. The e-trap includes strong attractants (pheromone and/or food) to increase capture efficiency and traps the insect on its sticky

floor. The device carries the necessary optoelectronic sensors to monitor all entrances of the trap. As the insect enters it interrupts the infrared light source. This triggers a detection event; a picture is taken, and a timestamp is set before delivering the picture through the Wi-Fi to an authorized person/stakeholder. The device can be integrated seamlessly in urban environments and operates unobtrusively to human activities. We report results on various insect pests and depending on the insect species, can reach a detection accuracy ranging from 96 to 99%.

Sl. No	Article	Author	Source	Year
5	Multichannel and multistate All-Optical Switch using Quantum- Dot and sample-Grating semiconductor optical amplifie	*Omar Qasaimeh*	*International Journal of Fluid Mechanics Vol. 17 No. 1*	2025

Abstract: A novel type of multichannel and multistate all-optical switch using a single sample-grating quantum-dot-distributed feedback semiconductor optical amplifier has been proposed and theoretically demonstrated. The multichannel device, which operates below threshold, utilizes cross-gain modulation and the sample-grating technique. The multichannel outputs are strongly coupled and are utilized to get metastability at several wavelength channels. Three logic states can be obtained when the inputs are properly detuned to the sample-grating comb modes. The three logic states, which exhibit reasonable gain, are separated by wide hysteresis width and can be tuned to a different wavelength channel. The device characteristics are very useful for building all-optical logic gates, flip-flops, and decision circuits.

Sl. No	Article	Author	Source	Year
1	Automatic spray trajectory optimization on Bezier surface	*Wei Chen, Junjie Liu, Yang Tang and Huilin Ge*	*International Journal of Advances in Thermal Science and Engineering Vol. 16 No. 1*	2025

Abstract: The trajectory optimization of automatic spraying robot is still a challenging problem, which is very important in the whole spraying work. Spray trajectory optimization consists of two parts: spray space path and end-effector moving speed. A large number of spraying experiments have proved that it is very important to find the best initial trajectory of spraying. This paper presents an

automatic spray trajectory optimization that is based on the Bézier surface. Spray the workpiece for Bezier triangular surface modelling and find the best initial trajectory of the spraying robot, establish the appropriate spraying model, plan the appropriate space path, and finally plan the trajectory optimization along the specified painting path. The validity and practicability of the method presented in this paper are proved by an example. This method can also be extended to other applications.

Sl. No	Article	Author	Source	Year
2	Dual Authentication -based encryption with a delegation system to protect medical data in cloud computing	*Aymen Mudheher Badr, Yi Zhang and Hafiz*	*International Journal of Advances in Thermal Science and Engineering Vol. 16 No. 1*	2025

Abstract: The increasing use of cloud computing, especially in commercial, government and healthcare institutions, started with the use of computerized clouds. Clouds store important data, which reduces the cost of management and ensures easy access. To protect this data, cryptographic methods are used to ensure confidentiality of the data, as well as to secure access to user data and increase trust in cloud technology. In our paper, we suggest a new scheme to support an attribute-based encryption system (ABE) that involves multiple parties such as data owners, data users, cloud servers and authority. A verified and authenticated decryption process for the cloud environment is the imperative feature of our proposed architecture. The data owner encrypts their data and sends it to the cloud. The cloud server performs partial decryption, and the final decrypted data are shared for users as per their privileges. Thus, the data owner reduces complexity of productivity by delegating the decryption process to the cloud server. Analysis of the experimental results confirms that data access in the electronic cloud atmosphere is safer due to a controlled multiple-users-rights scheme. Our performance evaluation results show that the proposed model condensed the communication overhead and made Digital Imaging and Communications in Medicine (DICOM) more secure.

Sl. No	Article	Author	Source	Year
3	Finite -time stabilization for stochastic interval systems with time delay and application to energy-storing electrical circuits	*GuiciChen, Fei Wei and Wenbo Wang*	*International Journal of Advances in Thermal Science and Engineering Vol. 16 No. 1*	2025

Abstract: In this paper the problem of stochastic finite-time stabilization is investigated for stochastic delay interval systems. A nonlinear state feedback controller with input-to-state-delay is introduced. By employing the Lyapunov-Krasovsky functional method some sufficient conditions on stochastic finite- time stabilization are derived for closed -loop stochastic delay interval systems using the Ito's differential formula. Suitable nonlinear state feedback controllers can be designed in terms of linear matrix inequalities. The obtained results are finally applied to an energy -storing electrical circuit to illustrate the effectiveness of the proposed method.

Sl. No	Article	Author	Source	Year
4	On energy efficiency and performance evaluation of single board computer-based clusters: A Hadoop case study	*Basit Qureshi and Anis Koubaa*	*International Journal of Advances in Thermal Science and Engineering Vol. 16 No. 1*	2025

Abstract: Energy efficiency in a data center is a challenge and has garnered researchers' interest. In this study, we addressed the energy efficiency issue of a small-scale data center by utilizing Single Board Computer (SBC)-based clusters. A compact layout was designed to build two clusters using 20 nodes each. Extensive testing was carried out to analyze the performance of these clusters using popular performance benchmarks for task execution time, memory/storage utilization, network throughput and energy consumption. Further, we investigated the cost of operating SBC-based clusters by correlating energy utilization for the execution time of various benchmarks using workloads of different sizes. Results show that, although the low-cost benefit of a cluster built with ARM-based SBCs is desirable, these clusters yield low comparable performance and energy efficiency due to limited onboard capabilities. It is possible to tweak Hadoop configuration parameters for an ARM-based SBC cluster to efficiently utilize resources. We present a discussion on the effectiveness of the SBC-based clusters as a testbed for inexpensive and green cloud computing research.

Sl. No	Article	Author	Source	Year
5	Multilayer perception neural network-based Qos-Aware, content-Aware and device- A ware QoE prediction model: A proposed prediction model for medical ultrasound streaming over small Cell networks	*Ikram U. Rehman, Moustafa AND Nada Y. Philip*	*International Journal of Advances in Thermal Science and Engineering Vol. 16 No. 1*	2025

Abstract: This paper presents a QoS-aware, content-aware and device-aware nonintrusive medical QoE (m-QoE) prediction model over small cell networks. The proposed prediction model utilises a Multilayer Perceptron (MLP) neural network to predict m-QoE. It also acts as a platform to maintain and optimise the acceptable diagnostic quality through a device-aware adaptive video streaming mechanism. The proposed model is trained for an unseen dataset of input variables such as QoS, content features and display device characteristics, to produce an output value in the form of m-QoE (i.e. MOS). The efficiency of the proposed model is validated through subjective tests carried by medical experts. The prediction accuracy obtained via the correlation coefficient and Root Mean-Square-Error (RMSE) indicates that the proposed model succeeds in measuring m-QoE closer to the visual perception of the medical experts. Furthermore, we have addressed two main research questions: (1) How significant is ultrasound video content type in determining m-QoE? (2) How much of a role does the screen size and device resolution play in medical experts' diagnostic experience? The former is answered through the content classification of ultrasound video sequences based on their spatiotemporal features, by including these features in the proposed prediction model, and validating their significance through medical experts' subjective ratings. The latter is answered by conducting a novel subjective experiment of the ultrasound video sequences across multiple devices.

Sl. No	Article	Author	Source	Year
1	Roomfort: An Ontology-based comfort management application for hotels	*Daniele Spoladore, Sara Arlati*	*International Journal of Electronics, Electrical and Communication Engineering Vol. 16 No. 1*	2025

Abstract: Business traveling is attracting growing attention due to the expansion of international markets. This fact calls for an increasing attention of the tourism sector toward the needs of business travellers, who often require services that are different from the ones desired by leisure tourists. The application of smart solutions coming from Context Awareness and Ambient Intelligence aimed

at promoting guests' comfort and well-being, also in cases in which they have special needs, represents a promising solution to tackle business travellers' requirements and thus, to increase hotels attractiveness and incomes. In this context, this work introduces Roomfort, a smart comfort management system aimed at enhancing comfort of hotel room guests and leveraging on semantic representations of comfort, environment, and sensors. Roomfort provides a set of domain ontologies to formalize comfort-related metrics and to exploit the automatic reasoning capabilities provided by Semantic Web technologies, while gathering data through a network of sensors to ensure guests are provided with tailored comfort profiles during their stays in the hotel. Particular focus has been placed on visual comfort, since indoor lighting features constitute one of the main factors influencing the two main activities that most business travellers accomplish in their hotel room: working and relaxing.

Sl. No	Article	Author	Source	Year
2	A Heuristics-based policy to reduce the Curtailment of solar-power generation empowered by energy-storage systems	*Robert Basmadjian ,Hermann de Meer*	*International Journal of Electronics, Electrical and Communication Engineering Vol. 16 No. 1*	2025

Abstract: Renewable energy sources, on one hand, are environmentally friendly, but on the other, they suffer from volatility in power generation, which endangers power-grid stability. A viable solution to circumvent the intermittent behavior of renewables is the usage of energy-storage systems. In this paper, we study the energy management of a proof-of-concept system consisting of solar panels, energy-storage systems, a power grid, and household loads. Using neural networks, we identify the most relevant parameters impacting the power generation of solar panels and then train the corresponding network to derive forecasts. We also go one step further and propose a heuristics-based energy-management policy for the purpose of reducing curtailments. We show that our proposed policy outperforms the naive policy by 8%, which does not consider any power-generation forecasts.

Sl. No	Article	Author	Source	Year
3	High-Order sliding mode-based fixed -time active disturbance rejection control for quadrotor attitude system	*Chunlin song, Changzhu wei, feng yang and Naigang Cui*	*International Journal of Electronics, Electrical and Communication Engineering Vol. 16 No. 1*	2025

Abstract: This article presents a fixed-time active disturbance rejection control approach for the attitude control problem of quadrotor unmanned aerial vehicle in the presence of dynamic wind, mass eccentricity and an actuator fault. The control scheme applies the feedback linearization technique and enhances the performance of the traditional active disturbance rejection control (ADRC) based on the fixed-time high-order sliding mode method. A switching-type uniformly convergent differentiator is used to improve the extended state observer for estimating and attenuating the derived to achive fixed time convergence. The timely convergence of the designed extended state observer and the feedback law is proved theoretically. Mathematical simulations with detailed actuator models and real time experiments are performed to demonstrate the robustness and practicability of the proposed control scheme.

Sl. No	Article	Author	Source	Year
4	Empirical modelling of radiowave angular power distributions in different propagation environments at 60GHz for 5G	*Manuel Garcia Sanchez, Edgar Lemos Cid and Ana Vazquez Alejos*	*International Journal of Electronics, Electrical and Communication Engineering Vol. 16 No. 1*	2025

Abstract: The design of 5th generation (5G) wireless systems requires the description and modelling of the radio channel where communication will take place. As 5G will employ massive multiple input–multiple output (MIMO) to cope with the high data rates, the channel models should include the description of radio wave angular power distribution (APD) around the terminals. In this paper, we present the results of a measurement campaign of these APDs in four different environments and provide their main parameters. This will facilitate the incorporation of these results into current 5G channel models. We also analyse the maximum received power improvement that could be achieved by combining the power reaching the terminal from different angles and provide the improvement values for the four scenarios. The research was conducted at 60 GHz, one of the frequency bands proposed for 5G systems.

Sl. No	Article	Author	Source	Year
1	Experimental study on concrete in-filled light gauge steel hollow sections.	*C. Silambarasan, S. Senthil Selvan and D. Elango*	*International Journal of VLSI Design Vol. 16 No. 1*	2025

Abstract: The experimental study made on the behavior of rectangular Concrete Filled Cold-formed Steel Tubes (CFCST) samples under concentric compression applied on concrete considering the confinement effect. By reviewing the recent literatures related to the present work a detailed experimental program has been planned using different sizes of light gauge steel members. Previous studies have revealed that the splitting of steel and concrete in the interfaces between them could be the dominant cause for the initiation of failure in concrete filled steel tubes (CFST). Here four different sizes of square and rectangular specimens by varying one of the cross-sectional dimensions of the cold- formed steel tubes, keeping the other constant are column tested under axial compression. The two types of column were considered one plain concrete (PC) column and light gauge steel hollow section in-filled concrete. The present study would reveal the compressive ductile behavior due to the hoop stress developed by the concrete on cold-formed steel tubes against the monotonic loads by utilizing the steel concrete composite action.

Sl. No	Article	Author	Source	Year
2	Real power and voltage deviation control in micro grid using BESS	*S. Velmanikandan, V. Vammathi and W.A. Augusteen*	*International Journal of VLSI Design Vol. 16 No. 1*	2025

Abstract: Battery energy storage system is proposed in this paper. It is used for mitigate the real power and voltage deviation in micro grid. This can supply for the peculiar requirements of quality of the micro grid, such as the frequent voltage fluctuations, over current phenomenon, and bidirectional power flow BESS is also used for the frequency regulation application of BESS including the high-power penetration also. Load shedding is considered as one of the frequency control methods then the frequency control performance will improve the BESS combination. The system control strategy is also analyzed in detail by using MATLAB simulation. A set of BEES with load has been constructed. The experimental results are provided to validate the analyses.

Sl. No	Article	Author	Source	Year
3	Educational data classification and clustering using K-Means and K-nearest Neighbours	*Pratyush Galería and Manu Sood*	*International Journal of VLSI Design Vol. 16 No. 1*	2025

Abstract: With more stress on skilled manpower, quality education is most important and for that student's performance is of great concern to the higher education. Educational Data Mining helps in acquiring useful information related to students such as prediction of skilled students, finding new educational trends which are as per industry standards. In this paper-training dataset of students has been taken on the basis of their assessment and parameters defined. The clustering approach using K-Means is followed on training data for predicting results which not only helps us in getting skilled students which meet the industry standards as well help us in effective decision making. Using K-Means clustering, we have done pattern classification and clustered students based on their internal exams, attendance and class performance. Here, we have proposed K-Means and K-Nearest Neighbour techniques for prediction of the array of students and prediction of the class for test data using query point similarity between test data and training set records.

Sl. No	Article	Author	Source	Year
4	Theoretical and legal basis to conception of organized crime in modern conditions.	*Talgat Akimzhanov, Ramzan Tleukhan,*	*International Journal of VLSI Design Vol. 16 No. 1*	2025

Abstract: Article considers questions of the definitions which are completely reflecting content by the form of crime, all-recognized by scientists and practicians, opening an essence of organized crime. Now exhaustive signs of organized crime, where in legal relations there are many gaps, complicating law enforcement process concerning members of organized criminal groups, especially its top and many other things aren't worked out. In our opinion, "stability" and "unity" can be considered as synonyms which have the right to existence and have to be regulated along with other signs of organized criminal group in the existing penal legislation of the Republic of Kazakhstan. All these circumstances require searching of the new approaches in research work at studying of organized crime, which would give the chance to receive a true picture of organized crime.

Sl. No	Article	Author	Source	Year
5	Adaption of the Caltic Service quality model in the Tourism sector	*Maria Andreina Moros Ochoa, Juan Carlos*	*International Journal of VLSI Design Vol. 16 No. 1*	2025

Abstract: The tourism sector contributes (to a greater or lesser extent) to the economy of any country and even more in emerging economies such as Colombia. According to the World Tourism Organization (UNWTO) tourism accounts for 9% of world GDP; 1 in 11 jobs are generated in this sector and represent 6% of international trade (UNWTO, 2015). In conclusion, with an instrument that contains psychometric properties that make it valid and reliable to be applied to clients who have made use of the hotel service.

Sl. No	Article	Author	Source	Year
6	In search of Learner's subjectivity in Bruner's Narrative Curriculum	*Kang, Hyeon- Suk and Sbin, Hye-won*	*International Journal of VLSI Design Vol. 16 No. 1*	2025

Abstract: This study uses integrative forms of inquiry to examine the characteristics of the curriculum and narrative, which is a major idea of J. Bruner, who had a significant influence on psychology and pedagogy. This study also discusses the learner's viewpoint inherent in it. In education, the learner is paramount, because the curriculum or teaching changes according to the learner's mind. This study divides the existing perspective about the learner, or the problem of the mind of the learner, into four categories. It also examines the problem of the learner's subjectivity embedded in the categories. The curriculum emphasized in the existing perspective about the learner is a "delivery and conduit" concept, whereas the curriculum emphasized by Bruner is a curriculum focusing on meaning-making. Understanding the learner's mind and considering the process of constructing meaning are key aspects of the narrative curriculum. Teaching content in this curriculum should consider folk pedagogy. Thus, in this paper, we propose subjectivity, and a new teaching method related to the learner's mind, as inherent in Bruner's newly emphasized narrative curriculum.

Sl. No	Article	Author	Source	Year
7	Design of electromagnetic band gap based artificial ground plane	*Vasujadevi Midasala, S. Nagakishore*	*International Journal of VLSI Design Vol. 16 No. 1*	2025

Abstract: Communication systems are the most powerful things that are leading the universe with the development of technology and electronics. These increased the source of communication between nations, people, etc. It is done through wireless communication. The heart of communication is the antenna. As the growth of the population of our planet increases, it results in the increase of users of mobile, electronic devices that helps to communicate with each other. This increase in users causes terrible traffic in communication with a limited number of antennas. So basically, to reduce this traffic, we will introduce the antennas of multiple frequencies. With the increase in the number of antennas radiation and electromagnetic interference will increase. Due to this the parameters like gain, efficiency, directivity, etc. Will be nightmares in the field of communication. Thus, inorder to overcome these drawbacks in wireless communication a technique called Electromagnetic Band Gap (EBG) structures is introduced. The EBG structure is a 3-D object that provides the promising improvement in parameters such as gain, directivity, efficiency and antenna bandwidth of any antenna. EBG is a structure in which the conductors are placed with the electromagnetic band gaps of the substrate. These structures are used as patches for an antenna to reduce noise and maximum radiation interference caused by the number of conducting elements and the surface currents present in any of the micro-strip antennas. In a single word EBG structure is introduced to improve the performance of any of the low-profile antennas. This EBG structure is designed using software called HFSS. HFSS is a tool that automates the creation of geometry, configuration of the solution and post-processing reports of more than 25 antenna elements. This helps in the design of many simple antennas.