International Journal Of Advance Research, Ideas And Innovations In Technology

VOLUME 11 - ISSUE 6

IJARIIT

SPECTRUM

International Journal of Advance Research, Ideas and Innovations in Technology

November-December, 2025

48	119	49	4
PAPERS	AUTHORS	INSTITUTIONS	COUNTRIES

INSIDE THIS ISSUE

Locating the Role of Naga Women in the Naga Political Process... p. 1

Performance Appraisal- A source of employee motivation in a Small Organisation p. 6

Hospital Appointment and Patient Management System p. 14

IJARIIT SPECTRUM

Spectrum is an e-magazine with the comprehensive collection of all the papers that have been published in our journal over the last two months — Volume 11, Issue 6 (November-December, 2025). This edition brings together 48 papers by 119 authors from 49 institutions. Each entry links to the abstract and the full paper.

ABOUT IJARIIT

Our motto: to promote originality in thinking, backed by sincere and honest research.

International Journal of Advance Research, Ideas and Innovations in Technology is an open-access, peer-reviewed journal. We make publishing simple and transparent, so researchers can focus on their work:

- Online submission, free of charge
- Review result usually within 2 hours
- Updates by email and WhatsApp at every step
- Track your paper online with your tracking key
- One publication fee for all authors, paid only after acceptance
- Published online within 48 hours of payment
- e-Certificate for every author



e-ISSN 2454-132X

THIS EDITION AT A GLANCE

Research areas	
Artificial Intelligence	2
Political Science	1
Management	1
Web Development	1
Neuroscience	1
Information Technology	1

Authors by country	
India	45
Indonesia	1
Saudi Arabia	1
Madagascar	1

© 2025, IJARIIT.COM All Rights Reserved

Indexing of Volume 11 – Issue 6

S. No	Title	Page Number	Links
1.	**Locating the Role of Naga Women in the Naga Political Process since the Nineties** *Narotila Imchen* **Dimapur Government College, Dimapur, Nagaland**	1-5	View Abstract Download PDF
2.	**Performance Appraisal- A source of employee motivation in a Small Organisation** *Rakshita Bhatt* **Graphic Era Deemed to be University, Uttarakhand**	6-13	View Abstract Download PDF
3.	**Hospital Appointment and Patient Management System** *Deepika, Poorvi S Jadimath, Sneha C Yaligar, Preeti S Puranik* **Basaveshwar Engineering College, Bagalkot**	14-17	View Abstract Download PDF
4.	**The Biochemical Basis of Schizophrenia: The Dopamine Hypothesis and Beyond** *Bhumika Teckchandany* **Suncity School, Gurgaon**	18-24	View Abstract Download PDF
5.	**Early Diabetic Retinopathy Detection using Federated Learning** *Dharish Prasath D, Kalai arasi. M, Faziya. A, Jai Ganesh. S, Kavitha. I* **SRM Valliammai Engineering College, Kattankulathur, Kanchipuram, Tamil Nadu**	25-33	View Abstract Download PDF
6.	**Financial Literacy among Youth** *Ridhaan Jain* **Shri Ram School, Aravali**	34-40	View Abstract Download PDF
7.	**Harnessing the Wind: Evaluating Technological Advancements, Policy Frameworks, and Environmental Strategies for Large-Scale Wind Energy Adoption in India** *Vivaan Dumir* **Oberoi International School, Mumbai, India**	41-48	View Abstract Download PDF
8.	**The Role of Mathematics in Sports Statistics: Analyzing Player Performance** *Kashyap Jalali* **Edify School, Karnataka, Bengaluru**	49-59	View Abstract Download PDF

© 2025, IJARIIT.COM All Rights Reserved

S.No	Title	Page Number	Links
9.	**An Intelligent Matchmaking System for Peer-Assisted Learning in Educational Communities** *Vinay Kumar Siddha, Poojitha Karuturi, Palli Kalyan Babu, Kona Karthik, Sneha Pradhan* **Sri Vasavi Engineering College, Andhra Pradesh**	60-64	View Abstract Download PDF
10.	**Chess and Business: Strategic Thinking, Risk, and Cognitive Ability** *Jaisal Kohli* **Shiv Nadar School, Gurgaon**	65-69	View Abstract Download PDF
11.	**Interpreting Opaque Scheduling Heuristics in Timetabling via Surrogate GNN** *Kashish Ukey, Nakul Badwaik, Labdhi Soni, Ojas Kamde, Smita Nirkhi* **GH Raisoni College of Engineering and Management, Nagpur, Maharashtra**	70-79	View Abstract Download PDF
12.	**Visual Storytelling on Instagram: Redefining Digital Narratives in Indian Contexts** *Vidhi Sikka, Mayank Arora* **Tecnia Institute of Advanced Studies, Delhi**	80-86	View Abstract Download PDF
13.	**Tackling Rural Healthcare Gaps: Intelligent Doctor Recommendation by Distil BERT with Coordinated Medicine Delivery** *Mansi Yadav, Mohammad Faizan, Nitin Singh Thakur, Neha Kumari* **Oriental Institute of Science and Technology, Madhya Pradesh**	87-91	View Abstract Download PDF
14.	**Real-Time Detection of Obfuscated Abusive Multilingual Comments using Prompt-Tuned and LoRA Fine-Tuned LLMs** *Ayushi Gupta, Arjita Prajapati, Anushka Agrawal, Ayushi Uikey, Anamika Joshi* **Oriental Institute of Science and Technology, Madhya Pradesh**	92-96	View Abstract Download PDF
15.	**Smart Home System Automation Based on Zigbee Protocol with Internal Cloud Server** *Muhammad Sulkhan Arif, Wawan Heryawan, bangbang Hermanto* **Politeknik Negeri, Indonesia**	97-103	View Abstract Download PDF
16.	**The Impact of English language on different languages** *Aanya Chahal* **Heritage Xperiential Learning School, Haryana**	104-107	View Abstract Download PDF
17.	**The Triple Barrier: Pricing, Distribution, and Policy Dynamics Shaping Organic Food Sustainability in India** *Naina Singh Khatkar* **Delhi Public School, Haryana**	115-120	View Abstract Download PDF

© 2025, IJARIIT.COM All Rights Reserved

S.No	Title	Page Number	Links
18.	**How Can Global Brands Balance Cultural Authenticity and Universal Appeal in an Era of Glocalization?** *Siya Saroj* **SP Jain School of Global Management, Dubai, Mumbai, Singapore and Sydney**	121-130	View Abstract Download PDF
19.	**Smart Basket** *Rajwardhan Ashok Pawar, Rupesh Natha Pawar, Paresh Rajendra Jagtap, Shahid Nazim Mulani, S. P. Suryawanshi* **Adarsh Institute of Technology and Research Centre, Maharashtra**	131-132	View Abstract Download PDF
20.	**Data-Driven Crop Recommendation for Rajasthan Using Linear and Ensemble Models** *Aryaveer Jain* **Hill Spring International School, Maharashtra**	133-142	View Abstract Download PDF
21.	**A Study of Clustering Analysis in Identification of Butterfly Species** *Ajaykumar R* **Christ College Mysore, Karnataka**	143-147	View Abstract Download PDF
22.	**Ergonomic Mechanical Tools for Reducing Repetitive Strain Injuries among Workers in Small-Scale Manufacturing Units** *Nevaan Aggarwal* **Shiv Nadar School, Haryana**	148-151	View Abstract Download PDF
23.	**AI Bias in Data Training** *Sarjas Gauhar Singh* **Heritage Xperiential Learning School, Haryana**	152-156	View Abstract Download PDF
24.	**Parkinson's Disease – History, detection, and cure** *Prisha Teotia* **Suncity World School, Haryana**	157-160	View Abstract Download PDF
25.	**AI-Driven Smart Air Quality Monitoring and Predictive Pollution Control System Using IoT and Edge Computing** *Daksh Jain* **Jayshree Periwal International School, Rajasthan**	161-169	View Abstract Download PDF
26.	**Greenscan: An AI-Powered, Cross-Platform System for Instant Plant Identification and Care Guidance** *Vaishnavi Duratkar, Twinkal Sapate, Snehal Ninawe, Sanket Barapatre, Ashwary Dhakate, Sharwari Mohadikar, Prajakta Singham, Mamta Balbudhe* **Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra**	170-173	View Abstract Download PDF

© 2025, IJARIIT.COM All Rights Reserved

S.No	Title	Page Number	Links
27.	**Geospatial Threat Assessment: Safety Analytics using RNN, XGBoost and Isolation Forest** *Mukul Malviya, Mohak Pandagre, Kushagra Singh Chouhan, Mayank Dhakar* **Oriental Institute of Science and Technology, Madhya Pradesh**	174-185	View Abstract Download PDF
28.	**Hydrogen Yield Efficiency Based on Current Density in AWE** *Harmaya Thukral* **Oberoi International School, Maharashtra**	186-192	View Abstract Download PDF
29.	**Expenzo – The Smart Finance Tracker** *Sahil C. Madankar, Sankalp S. Pawar, Tanushree S. Patle, Vidhi P. Harode, Shivang R. Nagpure, Sakshi S. Zade, Shrawani H. Bijwar, Prof. P. A. Kuchewar, Prof. M. R. Balbudhe* **Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra**	193-196	View Abstract Download PDF
30.	**HPTLC-Based Qualitative Identification of Gallic Acid in Rauvolfia serpentina Roots Collected from Diverse Agro-Climatic Zones of India** *Poornima Shrivastava, Aparna Alia, Bharty Kumar* **Rajeev Gandhi College, Madhya Pradesh, Govt. MVM College, Madhya Pradesh**	197-200	View Abstract Download PDF
31.	**Artificial Intelligence : JobBot** *Sushil Kumar B, Shiv Shobhith M* **Visvesvaraya Technological University, Karnataka**	201-203	View Abstract Download PDF
32.	**India’s Evolving Foreign Policy: Leadership and Diplomacy in the Global South (2000–2025)** *Kabir Bhasin* **Scottish High International School, Haryana**	204-211	View Abstract Download PDF
33.	**How Does Perceived Control in a Managerial Role Influence Physiological Stress Responses During Financial Fraud Situations?** *Yana Pranati Sharma* **O.P. Jindal Global University, Haryana**	212-217	View Abstract Download PDF
34.	**Comparative Physicochemical Profiling of Finger Millet (Eleusine coracana) and Pearl Millet (Pennisetum glaucum) Cultivars** *Anubha Pandey, CBS Dangi* **RKDF University, Madhya Pradesh**	218-219	View Abstract Download PDF
35.	**Clinical Evaluation Report on Aswini Hiran Strong Pain Oil** *Dr Gandhimathi, Mr.Anil Kumar* **GR Ayurvedic Research Centre, Tamil Nadu, Aswini Homeo and Ayurvedic Product Pvt. Ltd., Telangana**	220-226	View Abstract Download PDF

© 2025, IJARIIT.COM All Rights Reserved

S.No	Title	Page Number	Links
36.	**Effectiveness of Structured Teaching Programme on Knowledge Regarding Telemedicine among Nursing Students in Selected Nursing Colleges of District Mandi, H.P.** *Nikita Sharma, Sunita Devi, Priyanka Sharma* **Abhilashi College of Nursing, Himachal Pradesh**	227-234	View Abstract Download PDF
37.	**How Might Behavioural Economic Principles Be Applied to Encourage Sustainable Consumer Behaviour in Product Design?** *Amaira Singh Chhabra* **The Shri Ram School, Haryana**	235-241	View Abstract Download PDF
38.	**Women at Work: The Economics of Gender Inequality** *Myra Khurana* **GD Goenka Public School Model Town, Delhi**	242-253	View Abstract Download PDF
39.	**Evaluating the Proliferative and Inhibitory Effects of Selected Indian Spices and Herbs on Vigna Radiata Cell Growth** *Seema Bajpai, Aarav Chetan Jain, Dhairya Milin Shah, Nishka Sachin Koneri, Pahal Kayur Shah, Ms. Ranjana Yadav* **Utpal Shanghvi Global School, Maharashtra**	254-289	View Abstract Download PDF
40.	**AI-Driven Portfolio Optimisation Strategies in High-Inflation Macroeconomic Conditions** *Adya Goyal* **Amity University, Uttar Pradesh**	290-296	View Abstract Download PDF
41.	**Autonomous Drone Navigation Using Computer Vision: Challenges and Future Directions** *Muhammad Jamil Sani, Jamal Nasser Alotaibi* **Qassim University, Saudi Arabia**	297-304	View Abstract Download PDF
42.	**Transforming Library Management, Leveraging Data Analytics through A Strategic Approach** *Mr. Kishore Ramdas Ingale, Dr. Anil P Sarode, Ms. Shubhada Sachin Apte* **Tata Consultancy Services, Maharashtra, M J College, Maharashtra**	305-310	View Abstract Download PDF
43.	**Determinants of School Orientation in Urban and Rural Areas of Analamanga Antananarivo, Madagascar** *Radanielina Tsaranto Evatiana Rahaliva, Andrianarimanana Jean Claude Omer, Rakotoson Olivia, Andrianjary Myriam* **University of Antananarivo, Madagascar, University of Antsirabe, Madagascar**	311-318	View Abstract Download PDF

© 2025, IJARIIT.COM All Rights Reserved

S.No	Title	Page Number	Links
44.	**The River Imperative: Innovative Strategic Management for India's Water Prosperity** *H. M. Vishwanatha Sastry, B. K. Viswanath* **Kelsatek Solutions Pvt Ltd, Karnataka, X Mec Bgl Water Supply, Karnataka**	319-322	View Abstract Download PDF
45.	**Haunted Milk, Hollow Markets, Maternal Spectrality, Patriarchal Trade, and Feminist IR Readings of AGOA through Toni Morrison's Beloved** *Phalak Singh Khatkar* **Panjab University, India**	323-328	View Abstract Download PDF
46.	**The Impact of Various Music Genres on the Emotional and Psychological State of Different Age Groups** *Sujay Aitha* **India International School in Japan, Tokyo, Japan**	329-333	View Abstract Download PDF
47.	**A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge regarding Good Touch & Bad Touch among Children in Selected Schools of Distt. Mandi (H.P.).** *Neha Kumari, Pallavi Mehra, Isha Thakur* **Abhilashi Nursing College, Himachal Pradesh**	334-342	View Abstract Download PDF
48.	**Blockchain Based Document Verification System** *Nistha, Dr. Manjunatha P B, Aneesh B, Likitha B C, Vaishnavi B Shetty* **Bangalore Institute of Technology, Karnataka**	343-348	View Abstract Download PDF

© 2025, IJARIIT.COM All Rights Reserved

ABSTRACTS

1 Locating the Role of Naga Women in the Naga Political Process since the Nineties

Paper ID V11I6-1140 · Pages 1-5 · Political Science

Narotila Imchen, Assistant Professor, Dimapur Government College, Dimapur, Nagaland

The 1990s were a significant period in Naga politics. The period witnessed the intensification of inter-factional violence between warring Naga insurgent groups. The signing of the ceasefire agreement between the Indian government and the Nationalist Socialist Council of Nagaland (Isak-Muivah) in 1997, and the subsequent peace talks that followed decades of violence, opened democratic space for Naga civil society to actively engage in the political process. Within this new dispensation, Naga women's entry into the public sphere as 'mothers', rooted in private values and attributes such as nurturing, caring, and pacificatio, assumes significance. Naga women, traditionally confined to the private sphere, carved out a space for themselves in the public sphere by mobilizing for peace through a motherhood strategy. Based on primary and secondary sources, the paper examines the unique role that Naga women play in the public sphere, within the constraints of a traditional patriarchal ethos and Naga tribal customary practices that define gendered roles and perceptions for women. The paper concludes that the peace activism of Naga women in the public sphere has, in a way, empowered their political agency to assert for gender justice and greater participation and representation in formal politics. The 1990s were a significant period in Naga politics. The period witnessed the intensification of inter-factional violence between warring Naga insurgent groups. The signing of the ceasefire agreement between the Indian government and the Nationalist Socialist Council of Nagaland (Isak-Muivah) in 1997, and the subsequent peace talks that followed decades of violence, opened democratic space for Naga civil society to actively engage in the political process. Within this new dispensation, Naga women's entry into the public sphere as 'mothers', rooted in private values and attributes such as nurturing, caring, and pacification, assumes significance. Naga women, traditionally confined to the private sphere, carved out a space for themselves in the public sphere by mobilizing for peace through a motherhood strategy. Based on primary and secondary sources, the paper examines the unique role that Naga women play in the public sphere, within the constraints of a traditional patriarchal ethos and Naga tribal customary practices that define gendered roles and perceptions for women.

Keywords: Political Process, Peace Process, Civil Society, Patriarchy, Naga Women, Naga Mothers Association

Read Full Paper · Download PDF · Back to index

---

2 Performance Appraisal- A source of employee motivation in a Small Organisation

Paper ID V11I6-1156 · Pages 6-13 · Management

Rakshita Bhatt, Research Scholar, Graphic Era Deemed to be University, Uttarakhand

In today's competitive and dynamic business environment, small organisations play a crucial role in economic development and job creation. However, their success largely depends on the motivation and commitment of

© 2025, IJARIIT.COM All Rights Reserved

their employees. Performance appraisal, when implemented effectively, serves as a key human resource tool to recognise employee contributions, provide constructive feedback, and foster motivation. This paper explores how performance appraisal systems influence employee motivation in small organisations. It analyses the relationship between fair evaluation, feedback mechanisms, goal alignment, and intrinsic as well as extrinsic motivation. The study is based on a mixed-method approach involving surveys and interviews conducted among employees of small enterprises. Findings reveal that transparent and participatory appraisal systems enhance motivation and job satisfaction, while a lack of clarity and bias in evaluation tend to demotivate employees. The paper concludes with recommendations for designing simple yet effective performance appraisal systems tailored to the needs of small organisations.

Keywords: Performance Appraisal, Employee Motivation, Small Organisations, Human Resource Management, Fairness, Feedback, Transparency, Job Satisfaction

Read Full Paper · Download PDF · Back to index

---

3 Hospital Appointment and Patient Management System

Paper ID V11I6-1150 · Pages 14-17 · Web Development

Deepika, Student, Basaveshwar Engineering College, Bagalkot
Poorvi S Jadimath, Student, Basaveshwar Engineering College, Bagalkot
Sneha C Yaligar, Student, Basaveshwar Engineering College, Bagalkot
Preeti S Puranik, Associate Professor, Basaveshwar Engineering College, Bagalkot

The CareSync Hospital and Patient Management System is a web-based platform designed to streamline hospital operations and improve patient care efficiency. The system provides separate login access for patients, doctors, nursing staff, administrative staff, and transport teams. Each user role has distinct functionalities tailored to their responsibilities. Patients can register, book appointments, view doctor schedules, access their medical history, and receive billing details online. Doctors can manage patient records, update diagnosis reports, and track appointments. The administrative staff can oversee hospital operations such as room and bed availability, billing, and staff scheduling. Nursing staff can track patient vitals, medication schedules, and treatment updates, while the transport team manages ambulance and in-hospital patient transfers efficiently. CareSync enhances hospital management by integrating modules like Appointment Scheduling, Room and Bed Booking, Billing Management, and Transport Coordination, all in a secure and user-friendly interface. The system minimizes manual paperwork, reduces human error, and ensures better coordination between departments. Ultimately, CareSync improves healthcare service delivery and patient satisfaction through automation, accessibility, and data centralization.

Keywords: Hospital Management System, Patient Management, Appointment Scheduling, Healthcare Automation, Payment and Billing System, Web Application, CareSync.

Read Full Paper · Download PDF · Back to index

© 2025, IJARIIT.COM All Rights Reserved

4 The Biochemical Basis of Schizophrenia: The Dopamine Hypothesis and Beyond

Paper ID V11I6-1149 · Pages 18-24 · Neuroscience

Bhumika Teckchandany, Student, Suncity School, Gurgaon

Schizophrenia is a complex neuropsychiatric disorder marked by a wide spectrum of symptoms, yet its biochemical basis remains unclear. While the classical dopamine hypothesis links excess dopaminergic activity to hallucinations and delusions, recent research implicates glutamatergic, GABAergic, serotonergic, and cholinergic systems, along with inflammatory and oxidative stress pathways. This paper argues that schizophrenia results from interactions among multiple neurotransmitter and receptor systems. By reviewing neuroimaging, pharmacological, and clinical trial evidence, it demonstrates that understanding receptor-specific contributions is crucial for developing targeted therapies addressing both cognitive deficits and affective symptoms.

Keywords: Schizophrenia, Dopamine Hypothesis, Glutamate Dysfunction, NMDA Receptor Hypofunction, GABAergic Dysfunction, Serotonin Modulation, Neuroinflammation, Personalized Psychiatry

Read Full Paper · Download PDF · Back to index

---

5 Early Diabetic Retinopathy Detection using Federated Learning

Paper ID V11I6-1161 · Pages 25-33 · Information Technology

Dharish Prasath D, Student, SRM Valliammai Engineering College, Kattankulathur, Kanchipuram, Tamil Nadu
Kalai arasi. M, Student, SRM Valliammai Engineering College, Kattankulathur, Kanchipuram, Tamil Nadu
Faziya. A, Student, SRM Valliammai Engineering College, Kattankulathur, Kanchipuram, Tamil Nadu
Jai Ganesh. S, Student, SRM Valliammai Engineering College, Kattankulathur, Kanchipuram, Tamil Nadu
Kavitha. I, Assistant Professor, SRM Valliammai Engineering College, Kattankulathur, Kanchipuram, Tamil Nadu

Diabetic Retinopathy (DR) is a leading cause of vision loss worldwide, primarily affecting individuals with prolonged diabetes. Early detection is crucial to prevent irreversible blindness. This project proposes a secure and intelligent framework for the early detection of Diabetic Retinopathy using Federated Learning (FL), ensuring both data privacy and efficient model training across multiple healthcare institutions. The system utilizes Optical Coherence Tomography (OCT) images for accurate retinal analysis and employs Convolutional Neural Networks (CNNs) such as ResNet-50 and VGG-16 for disease classification. To enhance data security, Multi-Factor Authentication (MFA) is integrated, allowing only authorized medical professionals to access sensitive information. Unlike traditional centralized AI models, the proposed system prevents raw data sharing, thus maintaining patient confidentiality while improving diagnostic performance. Future enhancements, including Homomorphic Encryption (HE) and Explainable AI (XAI), will further strengthen data protection and interpretability of results. Overall, this system contributes to Sustainable Development Goal (SDG 3): Good Health and Well-being, by promoting accessible, secure, and intelligent healthcare solutions for early eye disease diagnosis.

© 2025, IJARIIT.COM All Rights Reserved

Keywords: Diabetic Retinopathy, Federated Learning, Optical Coherence Tomography (OCT), Convolutional Neural Network (CNN), Multi-Factor Authentication (MFA), Data Privacy, Secure Healthcare, Early Disease Detection, Homomorphic Encryption (HE), and Explainable AI (XAI).

Read Full Paper · Download PDF · Back to index

---

6 Financial Literacy among Youth

Paper ID V11I6-1165 · Pages 34-40 · Financial Literacy

Ridhaan Jain, Student, Shri Ram School, Aravali

Financial literacy has emerged as a critical life skill in the 21st century, particularly for young people navigating an increasingly digital and complex financial environment. This paper examines the growing financial literacy gap among youth, emphasizing its implications for personal well-being, national productivity, and sustainable economic growth. It analyzes barriers such as limited access to structured financial education, overreliance on social media for financial advice, and the rising incidence of digital scams. Drawing on global comparisons, it highlights how countries like Singapore, Canada, and Australia have successfully integrated financial literacy into school curricula, while India continues to lag. The study underscores the urgent need to embed financial education into formal schooling, enhance teacher training, and strengthen digital financial awareness. Government initiatives such as the National Strategy for Financial Education (NSFE 2020–2025) demonstrate progress, yet a stronger post-2025 roadmap is essential. The paper concludes that equipping youth with financial skills not only improves individual financial resilience but also drives entrepreneurship, savings, and inclusive national development.

Keywords: Financial Literacy, Youth, Financial Education, Digital Finance, Economic Development, Financial Inclusion, Entrepreneurship, India, National Strategy for Financial Education (NSFE), Global Comparison

Read Full Paper · Download PDF · Back to index

---

7 Harnessing the Wind: Evaluating Technological Advancements, Policy Frameworks, and Environmental Strategies for Large-Scale Wind Energy Adoption in India

Paper ID V11I6-1164 · Pages 41-48 · Renewable Energy

Vivaan Dumir, Student, Oberoi International School, Mumbai, India

India’s transition to clean energy is crucial for achieving its goal of 500 GW of non-fossil fuel capacity by 2030 and mitigating its dependence on coal. This research examines how advancements in wind energy technology, supportive policy frameworks, and sustainable environmental practices can collectively drive large-scale wind energy adoption in India. It explores the evolution of turbine design and efficiency, the promise of offshore wind energy, and the integration of digitalization and energy storage systems that enhance reliability and cost-effectiveness. The study further analyzes India’s policy landscape—including Power Purchase Agreements (PPAs), Renewable Purchase Obligations (RPOs), and incentives under the National Action Plan on Climate Change—highlighting their role in promoting investor confidence and infrastructure development. Moreover, it discusses environmental sustainability through Environmental Impact Assessments (EIAs), community

© 2025, IJARIIT.COM All Rights Reserved

engagement, and wildlife protection strategies. By comparing global best practices from Denmark, Germany, and China, the research identifies pathways for India to overcome challenges such as grid integration, regulatory inconsistencies, and land acquisition barriers. Ultimately, this paper concludes that a synergistic approach—combining technological innovation, policy support, and environmental stewardship—can position India as a global leader in sustainable wind energy development.

Keywords: Wind energy, Offshore Wind, Renewable Energy Policy, Turbine Technology, Grid Integration, Environmental Impact Assessment (EIA), Sustainable Development, Climate Change Mitigation

Read Full Paper · Download PDF · Back to index

---

8 The Role of Mathematics in Sports Statistics: Analyzing Player Performance

Paper ID V11I6-1147 · Pages 49-59 · Statistics

Kashyap Jalali, Student, Edify School, Karnataka, Bengaluru

Mathematics forms the backbone of modern sports analytics, enabling the transformation of raw performance data into structured, quantifiable insights that enhance both individual and team evaluation. This study examines how mathematical and statistical tools—including weighted averages, regression analysis, principal component analysis (PCA), z-score standardization, clustering methods, Monte Carlo simulations, and Expected Goals (xG/xA) models—collectively contribute to a sophisticated understanding of athlete performance. By applying these techniques, the research demonstrates how multidimensional player data can be normalized, compared, and interpreted to produce objective ratings and identify key performance indicators. Furthermore, the study highlights the predictive power of mathematical modelling in sports. Regression-based forecasting and probabilistic simulations allow analysts to estimate goal-scoring likelihood, evaluate tactical strategies, and anticipate match outcomes with greater accuracy. Dimensionality-reduction methods, such as PCA and factor analysis, streamline complex datasets into meaningful components, revealing hidden patterns and correlations within player behavior. Beyond individual assessments, mathematics also enhances broader strategic decision-making in areas such as player recruitment, opponent analysis, load management, and game planning. The findings emphasize that the integration of quantitative models not only improves analytical precision but also reduces subjective bias, resulting in a more transparent and reliable framework for performance evaluation. Overall, this research illustrates the essential role mathematics plays in shaping the contemporary sports analytics landscape, demonstrating how rigorous quantitative analysis contributes to improved tactical understanding, more informed coaching decisions, and data-driven competitive advantage.

Keywords: Sports Analytics, Player Performance Evaluation, Statistical Analysis, Quantitative Analysis, Regression Analysis, Monte Carlo Simulations

Read Full Paper · Download PDF · Back to index

© 2025, IJARIIT.COM All Rights Reserved

9 An Intelligent Matchmaking System for Peer-Assisted Learning in Educational Communities

Paper ID V11I6-1169 · Pages 60-64 · Education Technology

Vinay Kumar Siddha, Student, Sri Vasavi Engineering College, Andhra Pradesh
Poojitha Karuturi, Student, Sri Vasavi Engineering College, Andhra Pradesh
Palli Kalyan Babu, Student, Sri Vasavi Engineering College, Andhra Pradesh
Kona Karthik, Student, Sri Vasavi Engineering College, Andhra Pradesh
Sneha Pradhan, Assistant Professor, Sri Vasavi Engineering College, Andhra Pradesh

This study presents an AI-driven intelligent matchmaking system that facilitates peer-assisted learning in educational communities by dynamically connecting students based on academic profiles, shared interests, and availability. The system addresses critical challenges in modern digital learning environments, including inefficient peer matching, a lack of personalization, and low student engagement. By leveraging machine learning algorithms, particularly TF-IDF vectorization and cosine similarity, the platform intelligently forms collaborative study groups that promote peer-to-peer knowledge exchange. The system integrates gamified learning features, including badges, points, and leaderboards, to sustain motivation, and incorporates real-time progress tracking through comprehensive analytics dashboards. Built using a microservice architecture with React.js frontend and FastAPI backend, the platform demonstrates superior scalability and modularity compared with traditional learning management systems. The testing results indicate the successful implementation of all core functionalities with 100% test case pass rates across the user management, matchmaking, resource sharing, and gamification modules. The system represents a significant advancement in creating student-centered, adaptive digital learning ecosystems that foster meaningful academic collaboration beyond conventional classroom boundaries.

Keywords: Peer-Assisted Learning, Intelligent Matchmaking System, Educational Technology, Machine Learning Algorithms, Gamification in Education, Collaborative Learning Platforms, Microservices Architecture

Read Full Paper · Download PDF · Back to index

---

10 Chess and Business: Strategic Thinking, Risk, and Cognitive Ability

Paper ID V11I6-1144 · Pages 65-69 · Business Strategy

Jaisal Kohli, Student, Shiv Nadar School, Gurgaon

This paper explores how the strategic plays and discipline that chess cultivates translate into strategic thinking, cognitive and leadership abilities, and risk perception in the real business world. Studies cited in this paper show that people who interact with this strategic gameplay regularly generally display higher cognitive and problem-solving abilities and are more adept at dealing with high-stakes situations in the business world. This paper also looks at differences in risk-taking tendencies between different genders. This paper analyses the overlap between chess strategies and abilities that develop from regular interaction with the game, and the critical thinking, and business strategies which likely develop from the game as well, to the point where even the elite credit their success to the game.

Keywords: Chess strategies, Business Strategies, Strategic Thinking, Problem Solving, Cognitive Abilities.

© 2025, IJARIIT.COM All Rights Reserved

Read Full Paper · Download PDF · Back to index

11 Interpreting Opaque Scheduling Heuristics in Timetabling via Surrogate GNN

Paper ID V11I6-1159 · Pages 70-79 · Explainable Ai

Kashish Ukey, Student, GH Raisoni College of Engineering and Management, Nagpur, Maharashtra
Nakul Badwaik, Student, GH Raisoni College of Engineering and Management, Nagpur, Maharashtra
Labdhi Soni, Student, GH Raisoni College of Engineering and Management, Nagpur, Maharashtra
Ojas Kamde, Student, GH Raisoni College of Engineering and Management, Nagpur, Maharashtra
Smita Nirkhi, GH Raisoni College of Engineering and Management, Nagpur, Maharashtra

Opaque timetabling heuristics often deliver strong schedules yet remain difficult to interpret, limiting trust, diagnosis, and controlled adaptation in educational scenarios. This work presents a practical pipeline that learns a constraint-aware graph neural network (GNN) surrogate from input-output pairs of a black-box timetabling solver and then applies global explainability to characterize the surrogate's decision-making logic across entities and relations in the context of timetabling. Using a synthetic dataset with hard constraints, the study evaluates both the assignment fidelity to the solver outputs and the feasibility under hard constraints, complementing these with global explanations and counterfactual sensitivity analysis. The results highlight which entities and relations most influence the predicted assignments. The pipeline is intended as a methods-oriented contribution that standardizes data generation, surrogate training, and explanation estimators for timetabling, enabling reproducible assessment of interpretability alongside fidelity and feasibility without claiming domain deployment readiness.

Keywords: Scheduling Algorithms, Surrogate Models, Explainable Artificial Intelligence, Black-Box Optimization, Model Interpretability, Decision Support Systems

Read Full Paper · Download PDF · Back to index

12 Visual Storytelling on Instagram: Redefining Digital Narratives in Indian Contexts

Paper ID V11I6-1190 · Pages 80-86 · Media And Communication

Vidhi Sikka, Student, Tecnia Institute of Advanced Studies, Delhi
Mayank Arora, Assistant Professor, Tecnia Institute of Advanced Studies, Delhi

In contemporary India, Instagram has evolved into a powerful site of visual storytelling where images, reels, and aesthetic choices continually reshape how narratives are created, shared, and consumed. This paper explores how Indian creators—from rural artisans and independent journalists to lifestyle influencers and grassroots activists—use Instagram to express identity, culture, and socio-political consciousness. Moving beyond the platform's commercialised image culture, the study highlights how Indian users adapt Instagram's global features into localised storytelling traditions such as "darshana," "kahani," "dastangoi," and "lok-drishti." Through qualitative digital ethnography, content analysis of 200 Instagram accounts, and semi-structured interviews with 25 creators, this paper argues that Instagram in India is not merely a social media platform but a transformative narrative ecosystem. It enables micro-communities, democratizes content creation, and crafts new hybrid forms of cultural expression that blend imagery, captions, hashtags, and audio-

© 2025, IJARIIT.COM All Rights Reserved

visual cues. Findings reveal that Indian Instagram storytelling is shaped by regional languages, socio-economic aspirations, caste-class markers, digital literacy gaps, and platform algorithms that reward emotion-driven, relatable, and visually immersive content. The paper concludes with implications for digital culture, media literacy, and storytelling futures in India.

Keywords: Instagram, Visual Storytelling, Indian Digital Culture, Narrative Studies, Influencers, Digital Identity.

Read Full Paper · Download PDF · Back to index

---

13 Tackling Rural Healthcare Gaps: Intelligent Doctor Recommendation by Distil BERT with Coordinated Medicine Delivery

Paper ID V11I6-1197 · Pages 87-91 · Artificial Intelligence In Healthcare

Mansi Yadav, Student, Oriental Institute of Science and Technology, Madhya Pradesh
Mohammad Faizan, Student, Oriental Institute of Science and Technology, Madhya Pradesh
Nitin Singh Thakur, Student, Oriental Institute of Science and Technology, Madhya Pradesh
Neha Kumari, Student, Oriental Institute of Science and Technology, Madhya Pradesh

In rural healthcare, patients often struggle to navigate complex medical systems, leading to misdirected consultations and treatment delays. Traditional paper-based clinics further exacerbate inefficiencies with crowded queues and poor emergency handling. Current digital solutions typically offer only basic appointment booking or generic disease prediction, failing to provide personalized guidance or integrate the complete patient journey. Our AI-powered platform addresses these gaps using a fine-tuned Distil BERT model that analyses patient-described symptoms and recommends appropriate medical specialities with 83.8% accuracy. The system seamlessly integrates intelligent doctor matching with a token-based queue management system, real-time emergency SOS alerts, and digital prescription generation. This creates a comprehensive, patient-centric workflow from initial symptom assessment through treatment completion. Future enhancements will incorporate multi-lingual support, voice-input capabilities, pharmacy integration, and telemedicine modules to further expand accessibility and create a complete healthcare ecosystem for underserved communities.

Keywords: Healthcare Access, Rural Healthcare, Doctor Recommendation System, Distil BERT, Natural Language Processing, Symptom Classification, Real-time Alert System, Digital Prescription.

Read Full Paper · Download PDF · Back to index

---

14 Real-Time Detection of Obfuscated Abusive Multilingual Comments using Prompt-Tuned and LoRA Fine-Tuned LLMs

Paper ID V11I6-1224 · Pages 92-96 · Computer Science Engineering

Ayushi Gupta, Student, Oriental Institute of Science and Technology, Madhya Pradesh
Arjita Prajapati, Student, Oriental Institute of Science and Technology, Madhya Pradesh
Anushka Agrawal, Student, Oriental Institute of Science and Technology, Madhya Pradesh
Ayushi Uikey, Student, Oriental Institute of Science and Technology, Madhya Pradesh
Anamika Joshi, Professor, Oriental Institute of Science and Technology, Madhya Pradesh

The rapid expansion of multilingual communication on social media has led to a surge in abusive, toxic, and

© 2025, IJARIIT.COM All Rights Reserved

offensive user-generated content. Traditional rule-based filters and monolingual detection systems fail to address modern linguistic challenges such as code-mixing (English–Hindi– Hinglish), transliteration variance, and obfuscation (e.g., “id!ot”, “b!tch”). To address these limitations, this work proposes a real-time multilingual abusive comment detection framework built using a LoRA-based parameter-efficient fine-tuning approach on Multi-lingual BERT (mBERT), augmented with a custom preprocessing pipeline and prompt-based linguistic normalization. The proposed system integrates leetspeak decoding, repeated-character normalization, slang expansion, context-driven abusive-pattern recognition, and Hindi transliteration handling, significantly improving classification robustness. The fine-tuning utilizes Low-Rank Adaptation (LoRA) to enable efficient domain adaptation without full-model training costs. A Flask-based REST API and Web Interface provide real-time detection capabilities with confidence scoring and content-restriction logic. Experiments show improved F1 scores on code-mixed and obfuscated datasets, demonstrating substantial gains over baseline mBERT and rule-based systems. Future work aims to extend the system to multimodal toxicity detection, emoji-semantic embeddings, and adversarial robustness.

Keywords: Abusive Speech Detection, Multilingual NLP, mBERT, LoRA Fine-Tuning, Text Normalization, Obfuscation Handling, Real-Time Moderation.

Read Full Paper · Download PDF · Back to index

---

15 Smart Home System Automation Based on Zigbee Protocol with Internal Cloud Server

Paper ID V11I6-1226 · Pages 97-103 · Electrical Engineering

Muhammad Sulkhan Arif, Politeknik Negeri, Indonesia
Wawan Heryawan, Politeknik Negeri, Indonesia
bangbang Hermanto, Politeknik Negeri, Indonesia

The standard protocols used in educational, business, residential, and industrial environments in Indonesia still rely on standard protocols such as Wi-Fi and Bluetooth. This applied research is related to a standard protocol called Zigbee, which is IEEE 802.15.4 standard that has begun to be widely used in networks for IoT-based control purposes. In smart home technology, connectivity is very important. To build a smart home system, users must consider the connectivity or communication between one smart home device and another. The most familiar and widely used communication protocol network for smart home devices is currently Wi-Fi. However, alternative wireless connectivity protocols are now emerging, one of which is Zigbee. Zigbee is a global standard for low-power, short-range networks, offering a complete and operable Internet of Things (IoT) solution for homes and buildings. Zigbee has features that enable it to manage its own network and data exchange on the network, and it can support hundreds of devices and has reliable security features. In this applied research, monitoring uses the Zigbee protocol with a cluster topology consisting of a Zigbee coordinator and several Zigbee end devices that will be installed in locations with or without wall obstructions.

Keywords: Zigbee, IoT, Smart Home.

Read Full Paper · Download PDF · Back to index

© 2025, IJARIIT.COM All Rights Reserved

16 The Impact of English language on different languages

Paper ID V11I6-1189 · Pages 104-107 · Sociocultural Linguistics

Aanya Chahal, Student, Heritage Xperiential Learning School, Haryana

This research paper examines the impact of English on different languages, German, Hindi and French. It looks at how English has evolved from being a regional language confined to a small area to a lingua franca through colonial expansion and globalisation. This research shows that the impact of English is neither uniform nor superficial. This paper highlights how the English language influences each of these three languages differently based on different historical, political, and socio-cultural contexts. This paper demonstrates how English simultaneously opens a path for global opportunities, but at the same time presents a challenge to linguistic integrity and heritage.

Keywords: Language Erosion, Language Imperialism, Language Hybridization, Loanwords and Borrowing, Globalisation.

Read Full Paper · Download PDF · Back to index

---

17 The Triple Barrier: Pricing, Distribution, and Policy Dynamics Shaping Organic Food Sustainability in India

Paper ID V11I6-1248 · Pages 115-120 · Organic Food Sustainability

Naina Singh Khatkar, Student, Delhi Public School, Haryana

This study employs the rigorous frameworks of the Triple Bottom Line (TBL)—assessing people, planet, and profit and Value Chain Analysis (VCA) to investigate the structural imperatives of pricing, distribution, and policy in determining the long-term sustainability of India’s burgeoning organic food sector. The market demonstrates robust economic potential, with growth projections estimated up to a Compound Annual Growth Rate (CAGR) of 20.13% through 2033, driven largely by burgeoning urban health consciousness and a strong global export orientation. However, the analysis indicates that true sustainability remains structurally fragile. The sector faces a critical "triple barrier" that restricts value capture and systemic resilience. The report concludes that achieving a sustainable organic ecosystem by 2030 requires integrated policy intervention, specifically focusing on certification reform, public-private investment in cold-chain logistics, and implementing dual incentive models to ensure fair pricing and broader market access.

Keywords: Organic Food Sustainability, Organic Food Sector in India, Policy Intervention Models, Social Sustainability, Policy Regulation.

Read Full Paper · Download PDF · Back to index

---

18 How Can Global Brands Balance Cultural Authenticity and Universal Appeal in an Era of Glocalization?

Paper ID V11I6-1255 · Pages 121-130 · Global Branding Strategy

Siya Saroj, Student, SP Jain School of Global Management, Dubai, Mumbai, Singapore and Sydney

In today’s globalized yet culturally diverse marketplace, multinational brands face the complex challenge of balancing universal brand identity with localized cultural relevance. This research explores the strategic

© 2025, IJARIIT.COM All Rights Reserved

concept of glocalization, which integrates global brand consistency with authentic local adaptation to enhance consumer resonance. Through qualitative methodology, secondary data analysis, and case studies of McDonald's, Coca-Cola, Nike, and Starbucks, the study demonstrates that cultural authenticity significantly strengthens consumer trust, emotional engagement, and brand loyalty. Findings reveal that successful glocalization requires maintaining universal brand values while adapting products, messaging, and customer experiences to align with cultural beliefs, traditions, and socio-emotional expectations. The study also analyzes branding failures such as Dolce & Gabbana and Pepsi to highlight risks of cultural insensitivity. As digital transformation accelerates hyper-local targeting and consumer co-creation, glocalization emerges as a strategic necessity for competitive advantage. The research concludes that brands that develop cultural intelligence, empower local insight, and adopt flexible global frameworks can achieve sustainable global-local equilibrium.

Keywords: Glocalization, Cultural Authenticity, Global Branding, Localization Strategy, Consumer Perception, Brand Identity, Cultural Intelligence, Digital Hyper-Localization, Cross-Cultural Marketing, Global-Local Balance, Brand Loyalty, Case Studies.

Read Full Paper · Download PDF · Back to index

19

Smart Basket

Paper ID V11I6-1271 · Pages 131-132 · Iot And Ai

Rajwardhan Ashok Pawar, Student, Adarsh Institute of Technology and Research Centre, Maharashtra
Rupesh Natha Pawar, Student, Adarsh Institute of Technology and Research Centre, Maharashtra
Paresh Rajendra Jagtap, Student, Adarsh Institute of Technology and Research Centre, Maharashtra
Shahid Nazim Mulani, Student, Adarsh Institute of Technology and Research Centre, Maharashtra
S. P. Suryawanshi, Assistant Professor, Adarsh Institute of Technology and Research Centre, Maharashtra

The Smart Basket is an automated, RFID-enabled shopping system designed to enhance the retail shopping experience by eliminating manual billing and reducing customer waiting time at checkout counters. The proposed system integrates an RFID reader, RFID tags, a microcontroller, and an LCD display into a shopping trolley, enabling automatic identification and pricing of products as they are placed inside or removed from the cart. Each product is equipped with a passive RFID tag, which is detected instantly by the RFID reader, and the corresponding information—such as product name, price, and updated total bill—is displayed to the user in real time. The system also incorporates an RFID card-based authentication mechanism to ensure secure access and user identity verification during purchase. The Smart Basket minimizes human intervention in billing, reduces errors associated with manual scanning, and increases overall operational efficiency in shopping malls and supermarkets. By providing a transparent, user-friendly, and time-saving shopping environment, the system contributes to improved customer satisfaction and smoother store management. This project demonstrates that RFID technology can serve as a cost-effective, scalable, and reliable solution for modern retail automation and lays the foundation for future integration of IoT, mobile payments, and AI-based analytics.

Keywords: Smart Shopping Basket, Internet of Things (IoT), Automatic Billing System, RFID Technology, Load Cell Sensor, Embedded Systems.

Read Full Paper · Download PDF · Back to index

© 2025, IJARIIT.COM All Rights Reserved

20 Data-Driven Crop Recommendation for Rajasthan Using Linear and Ensemble Models

Paper ID V11I6-1263 · Pages 133-142 · Data Science

Aryaveer Jain, Student, Hill Spring International School, Maharashtra

The agricultural sector is a vital part of the Indian economy, comprising 18.2% of India's GDP and representing approximately 44% of the total labour force. However, one of the biggest problems faced is the loss of crop yield, especially among farms using traditional methods of farming that lack the technological means to predict and maximise their potential yield. The problem is further compounded by farmers often being unaware of which crops are suitable, given conditions that are specific to individual farmers or parcels of land. This research paper focuses on maximising crop yield by helping farmers choose a suitable crop in Rajasthan, one of the largest Indian states by land mass and population, where over 54% of citizens depend on agriculture as a primary source of income. The data used throughout this paper are publicly accessible and are taken from multiple official Indian government sources. Using these data, the paper incorporates exploratory data analysis to identify key variables such as soil nutrient levels, rainfall, and temperature that influence crop performance. Furthermore, the paper aims to lay out the groundwork for building a crop yield prediction and, primarily, a crop recommendation model that is easily accessible and simple to understand. This is implemented using a transparent linear regression baseline and a decision-tree-based ensemble approach, specifically Random Forest.

Keywords: Crop Yield Modelling, Random Forest, Multiple Linear Regression, Soil Nutrients, Rainfall Variability, Agricultural Decision Support, Rajasthan Agriculture.

Read Full Paper · Download PDF · Back to index

---

21 A Study of Clustering Analysis in Identification of Butterfly Species

Paper ID V11I6-1279 · Pages 143-147 · Machine Learning

Ajaykumar R, Assistant Professor, Christ College Mysore, Karnataka

This study investigates the use of clustering analysis techniques for identifying butterfly species based on their morphological characteristics. Butterflies exhibit substantial variation in wing patterns, colors and body size which makes traditional taxonomic identification both time-consuming and error-prone. Clustering analysis provides a data-driven strategy to group individuals into putative species based on similarities in measurable features. By applying multiple clustering algorithms together with appropriate validation methods, this work evaluates the effectiveness of clustering analysis for butterfly species identification and highlights its potential applications in biodiversity research and conservation. Accurate identification of butterfly species is fundamental to biodiversity conservation, ecological monitoring, and environmental impact assessment. This study examines the efficacy of clustering methods for species identification using butterfly image data. Several algorithms, including K-means, hierarchical clustering, spectral clustering, Gaussian mixture models, and DBSCAN, are employed to partition images into species clusters. To represent discriminative visual information, feature extraction techniques such as Histogram of Oriented Gradients (HOG), Gray Level Co-Occurrence Matrix (GLCM), and Local Binary Patterns (LBP) are used to encode wing textures and shape characteristics. The quality of the resulting clusters is assessed by comparing them with known species labels, enabling a

© 2025, IJARIIT.COM All Rights Reserved

systematic evaluation of each method. The results indicate that clustering analysis offers a scalable and promising approach for automated butterfly species identification and biodiversity monitoring, while also clarifying the strengths and limitations of different clustering techniques for image-based species classification.

Keywords: Butterfly, Identification, Species.

Read Full Paper · Download PDF · Back to index

---

22 Ergonomic Mechanical Tools for Reducing Repetitive Strain Injuries among Workers in Small-Scale Manufacturing Units

Paper ID V11I6-1277 · Pages 148-151 · Mechanical Engineering

Nevaan Aggarwal, Student, Shiv Nadar School, Haryana

Repetitive strain injuries (RSIs) have emerged as a major challenge within small-scale manufacturing environments, damaging worker health and productivity. Ergonomically designed mechanical tools are increasingly recognized as a pivotal solution to this chronic problem. This paper undertakes a thorough examination of RSI etiology, analyzes ergonomic design methodologies relevant for mechanical tools, and synthesizes practical recommendations for designing interventions targeted at small enterprises. Emphasizing both technical and organizational dimensions, the discussion highlights evidence-based strategies and implementation barriers, providing a comprehensive roadmap for sustained ergonomic improvement.

Keywords: Ergonomic Tool Design, Repetitive Strain Injuries, Small-Scale Manufacturing, Anthropometric Data, Vibration Reduction, Grip Force Optimization, Participatory Ergonomics, Occupational Health.

Read Full Paper · Download PDF · Back to index

---

23 AI Bias in Data Training

Paper ID V11I6-1287 · Pages 152-156 · Artificial Intelligence

Sarjas Gauhar Singh, Student, Heritage Xperiential Learning School, Haryana

This research paper talks about AI bias in data training and how it creates age, gender and cultural discrimination. This paper also talks about how spreading awareness about AI bias can help mitigate the issue. It examines how biased training data distorts decision-making in various fields like hiring, healthcare and law enforcement. This paper shows us the need for transparency, accountability and awareness in AI systems and how mitigating data bias is essential for creating an AI system that is fair, responsible, and that can be held accountable in case of any biased decisions and output.

Keywords: AI Bias, Biased Training Data, Algorithmic Discrimination, Awareness and Bias Mitigation, Transparency and Accountability.

Read Full Paper · Download PDF · Back to index

© 2025, IJARIIT.COM All Rights Reserved

24 Parkinson’s Disease – History, detection, and cure

Paper ID V11I6-1272 · Pages 157-160 · Neurodegenerative Disorder

Prisha Teotia, Student, Suncity World School, Haryana

This paper talks about the neurodegenerative disease commonly known as Parkinson's disease, about the history of this disease and its causes, various subtypes, as well as how the diagnosis of this disease takes place. It has mainly 3 causes those being environment, genetics, or interactions. It usually happens to people above the age of 60, but there are younger cases as well. This disease causes loss of dopaminergic neurons in the brain; these neurons help in motor activities of the body, thus their loss causes loss of motor activities of the body. The dopamine-producing neurons Substantia Nigra are directly affected. The neurons degenerate due to the accumulation of Alpha’s nuclein in the brain. The paper discusses how motor, non-motor and psychological aspects should be taken into account during the identification of this disease.

Keywords: Parkinson's Disease, Neurodegenerative Disease, Brain Disorder, Carbidopa-Levodopa, Dopaminergic Neurons, Disease Treatment.

Read Full Paper · Download PDF · Back to index

---

25 AI-Driven Smart Air Quality Monitoring and Predictive Pollution Control System Using IoT and Edge Computing

Paper ID V11I6-1280 · Pages 161-169 · Environmental Engineering

Daksh Jain, Student, Jayshree Periwal International School, Rajasthan

Air pollution has become a major environmental threat, yet traditional monitoring systems rely on expensive fixed stations with limited coverage and delayed reporting. This project introduces an AI-driven Smart Air Quality Monitoring and Predictive Pollution Control System that integrates IoT sensors, edge computing, machine learning, and cloud analytics for real-time, scalable monitoring. A network of low-cost sensors measures pollutants such as PM2.5, PM10, CO_2, CO, and NO_2, sending data to an edge device (ESP32/Raspberry Pi) for cleaning, filtering, and anomaly detection. Edge processing minimizes latency, saves bandwidth, and enables rapid local decision-making. Cleaned data is then uploaded to the cloud, where models like Random Forest, XGBoost, and LSTM generate short- and long-term pollution forecasts. An interactive dashboard visualizes real-time AQI, spatial patterns, and predictive insights to support timely interventions. Overall, this cost-effective system demonstrates key CS engineering skills and offers a practical framework for smarter, healthier, and more resilient cities.

Keywords: IoT, Air Quality Monitoring, Predictive Analytics, Machine Learning, AQI Forecasting, Edge Computing, Smart Environmental System, Pollution Control, Real-time Sensors, LSTM.

Read Full Paper · Download PDF · Back to index

© 2025, IJARIIT.COM All Rights Reserved

26 Greenscan: An AI-Powered, Cross-Platform System for Instant Plant Identification and Care Guidance

Paper ID V11I6-1296 · Pages 170-173 · Computer Science And Engineering

Vaishnavi Duratkar, Student, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Twinkal Sapate, Student, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Snehal Ninawe, Student, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Sanket Barapatre, Student, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Ashwary Dhakate, Student, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Sharwari Mohadikar, Student, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Prajakta Singham, Professor, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Mamta Balbudhe, Assistant Professor, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra

This paper presents GreenScan, an intelligent and interactive web platform developed to enable fast, accurate, and user-friendly plant species recognition through uploaded images. Addressing the persistent challenges of manual plant identification, such as inefficiency, limited accessibility, and a lack of centralized information, GreenScan leverages the power of Artificial Intelligence (AI) and Deep Learning to deliver real-time classification of more than 100 distinct plant species. The system employs a Convolutional Neural Network (CNN) model trained on a large and diverse dataset of plant images to ensure high recognition accuracy, even under varying lighting and background conditions. The platform integrates a responsive and intuitive web interface, allowing users to seamlessly upload images, view classification results, and explore detailed plant profiles. Each identified species is linked to a comprehensive backend database containing essential details such as taxonomy, physical characteristics, ideal growing conditions, and care guidelines. Furthermore, GreenScan provides external purchase links and educational resources, making it an invaluable tool for students, researchers, horticulturists, and nature enthusiasts. A key feature of GreenScan is its feedback-driven learning mechanism, which enables continuous model retraining based on user input to progressively enhance prediction precision over time. The platform's implementation achieved high confidence scores, including a 91% accuracy rate for identifying species such as the Snake Plant. Beyond its technical merits, GreenScan contributes significantly to promoting environmental education, sustainable living, and ecological awareness by bridging the gap between modern technology and biodiversity knowledge. This work demonstrates the potential of AI-powered solutions to transform traditional plant identification into a more engaging, efficient, and educational digital experience.

Keywords: GreenScan, Plant Recognition, Artificial Intelligence, Image Classification, Web Application.

Read Full Paper · Download PDF · Back to index

© 2025, IJARIIT.COM All Rights Reserved

27 Geospatial Threat Assessment: Safety Analytics using RNN, XGBoost and Isolation Forest

Paper ID V11I6-1228 · Pages 174-185 · Deep Learning

Mukul Malviya, Student, Oriental Institute of Science and Technology, Madhya Pradesh
Mohak Pandagre, Student, Oriental Institute of Science and Technology, Madhya Pradesh
Kushagra Singh Chouhan, Student, Oriental Institute of Science and Technology, Madhya Pradesh
Mayank Dhakar, Student, Oriental Institute of Science and Technology, Madhya Pradesh

Personal safety applications today mostly respond after an incident occurs, which limits their ability to prevent harm. In this work, we develop a proactive safety-risk prediction system that estimates how dangerous a location may become in the near future. The system combines sequential deep-learning models with boosted decision-tree techniques to understand how local crime risk evolves over time and space. Historical crime records, temporal patterns, nearby points of interest, and environmental context are merged into structured spatio-temporal data grids. The proposed approach uses an LSTM network to learn short-term temporal changes in risk at the grid-cell level, while an XGBoost model evaluates spatial and contextual factors to produce interpretable risk scores. An Isolation Forest module is used alongside these models to detect sudden, unusual conditions that may indicate unsafe situations. The outputs of all three models are merged into a unified risk score that updates continuously and highlights emerging danger zones. When the score crosses certain thresholds, the system can issue early warnings, suggest safer travel routes, or escalate alerts if needed. The system is evaluated on real crime datasets using spatio-temporal cross-validation, and performance is measured using metrics suited for imbalanced data such as AUC, Precision@K, and F1-score. Results demonstrate that the system can provide meaningful early-risk signals while maintaining transparency and privacy-aware processing.

Keywords: Spatio-Temporal Modeling, Behavioural Modeling, Anomaly Detection, Deep Learning, LSTM, RNN, XGBoost, Crime Prediction, Safety Analytics, Hyperparameter Optimization, Multimodal Data Integration, Data Preprocessing Automation, Predictive Analytics.

Read Full Paper · Download PDF · Back to index

---

28 Hydrogen Yield Efficiency Based on Current Density in AWE

Paper ID V11I6-1278 · Pages 186-192 · Electrochemical Engineering

Harmaya Thukral, Student, Oberoi International School, Maharashtra

Hydrogen production through alkaline water electrolysis (AWE) remains one of the most reliable and economically feasible pathways for generating clean hydrogen. However, the efficiency of AWE is strongly influenced by the operating current density, particularly at higher loads, where bubble accumulation, increased overpotential, and mass-transport limitations reduce the practical hydrogen yield. This study examines the effect of varying current density on hydrogen yield efficiency by comparing the experimentally collected hydrogen volume with theoretical values derived from Faraday's law. Electrolysis was performed using stainless steel electrodes in a 0.50 M NaOH electrolyte over current inputs ranging from 0.10 A to 0.50 A. For each current setting, the corresponding hydrogen volume was measured via the water displacement method, converted to moles using the ideal gas law, and evaluated against the predicted stoichiometric output. The

© 2025, IJARIIT.COM All Rights Reserved

results show a near-linear increase in hydrogen production at lower current densities but a noticeable deviation from ideal Faradaic behaviour at higher currents. Faradaic efficiency decreased from approximately 94% at 0.10 A to around 85% at 0.50 A, confirming that bubble blockage, resistive heating, and kinetic limitations become more pronounced as current density increases. The study provides a clear, empirical relationship between current density and hydrogen yield efficiency in a simple AWE system, offering useful insights for small-scale electrolysis applications and highlighting the practical limitations encountered when transitioning to higher operational loads. Beyond quantifying efficiency trends, this study also demonstrates the importance of understanding electrochemical behaviour when scaling up hydrogen production systems. Since many educational and laboratory AWE setups operate without advanced engineering features—such as forced electrolyte circulation, porous electrodes, or catalytic coatings—the findings provide a realistic baseline for performance expectations in simple electrolyzers. The observations reinforce that while increasing current density boosts hydrogen output, it simultaneously introduces non-idealities that lower conversion efficiency. These insights can support future optimisations in electrode design, electrolyte composition, and cell configuration for improved hydrogen yield in low-cost AWE systems. Overall, the study highlights the value of Faradaic efficiency as a diagnostic tool for evaluating real-world electrolyzer performance. By directly comparing theoretical and experimental hydrogen yields, the method used here provides a simple yet powerful way to identify operational losses without requiring advanced instrumentation. This approach can be applied in future work to assess the influence of factors such as electrode spacing, electrode surface treatment, electrolyte concentration, and temperature on hydrogen output. The findings, therefore, not only document the behaviour of AWE under varying current densities but also establish a practical framework for improving system efficiency in academic, laboratory, and introductory research settings.

Keywords: Hydrogen Production, Alkaline Electrolysis, Current Density, Faradaic Efficiency, Electrochemical Performance.

Read Full Paper · Download PDF · Back to index

---

29 Expenzo – The Smart Finance Tracker

Paper ID V11I6-1305 · Pages 193-196 · Financial Technology

Sahil C. Madankar, Student, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Sankalp S. Pawar, Student, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Tanushree S. Patle, Student, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Vidhi P. Harode, Student, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Shivang R. Nagpure, Student, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Sakshi S. Zade, Student, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Shrawani H. Bijwar, Student, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Prof. P. A. Kuchewar, Professor, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra
Prof. M. R. Balbudhe, Assistant Professor, Karmaveer Dadasaheb Kannamwar Engineering College, Maharashtra

The rapid growth of digital transactions and cashless payment systems has increased the complexity of personal financial management. Individuals often lack effective tools to systematically record expenses, analyze spending behavior, and maintain financial discipline. EXPENZO – The Smart Finance Tracker is a secure, web-based financial management system developed to address these challenges by providing an automated and structured approach to tracking income and expenses. The system allows users to log financial

© 2025, IJARIIT.COM All Rights Reserved

transactions in real time, classify them into predefined categories, and generate analytical summaries that reflect spending trends and saving patterns. Advanced dashboard visualizations and monthly financial reports support data-driven budgeting decisions and promote improved financial awareness. The application integrates essential security mechanisms such as user authentication and controlled data access to ensure the confidentiality and accuracy of sensitive financial information. EXPENZO is implemented using Python with the Flask framework to manage backend operations and application logic. SQLite is employed as a lightweight relational database for efficient data storage and retrieval, while HTML, CSS, and Bootstrap are used to develop a responsive and user-centric interface. The modular architecture of the system ensures scalability, maintainability, and cross-device accessibility. The proposed solution demonstrates the effectiveness of a lightweight web-based platform in simplifying personal finance management. By combining automation, visualization, and secure data handling, EXPENZO enhances users' ability to monitor financial activities, optimize budgeting strategies, and plan for long-term financial stability. Overall, EXPENZO serves as a practical digital tool for tracking finances, improving saving habits, and developing financial discipline. The application demonstrates how a simple and user-friendly solution can help individuals gain better control over their personal finances and plan more effectively for future financial needs.

Keywords: Expense Tracking System, Personal Finance Management, Web-Based Application, Budget Monitoring, Financial Analytics, Secure Data Management.

Read Full Paper · Download PDF · Back to index

---

30 HPTLC-Based Qualitative Identification of Gallic Acid in Rauvolfia serpentina Roots Collected from Diverse Agro-Climatic Zones of India

Paper ID V11I6-1306 · Pages 197-200 · Botany

Poornima Shrivastava, Research Scholar, Rajeev Gandhi College, Madhya Pradesh
Aparna Alia, Associate Professor, Rajeev Gandhi College, Madhya Pradesh
Bharty Kumar, Professor, Govt. MVM College, Madhya Pradesh

Gallic acid is a bioactive phenolic compound widely recognized for its antioxidant and pharmacological properties. The present study qualitatively investigates the presence of gallic acid in root samples of Rauvolfia serpentina (Sarpagandha) collected from four distinct agro-climatic zones of India using High Performance Thin Layer Chromatography (HPTLC). Methanolic extracts of root samples were analyzed alongside a gallic acid standard employing a standardized solvent system. The chromatographic profiles of all samples exhibited peaks corresponding to the retention factor (Rf) range of the reference standard, confirming the presence of gallic acid across all evaluated samples. This study supports the phytochemical consistency of Rauvolfia serpentina roots and contributes to quality control and standardization efforts of this important medicinal plant.

Keywords: Rauvolfia serpentina, Gallic acid, HPTLC, Qualitative Analysis, Medicinal Plant Standardization.

Read Full Paper · Download PDF · Back to index

© 2025, IJARIIT.COM All Rights Reserved

31 Artificial Intelligence : JobBot

Paper ID V11I6-1300 · Pages 201-203 · Artificial Intelligence

Sushil Kumar B, Visvesvaraya Technological University, Karnataka
Shiv Shobhith M, Visvesvaraya Technological University, Karnataka

The rapid advancement of artificial intelligence has paved the way for innovative solutions in the recruitment process. This abstract introduces the AI JobBot, a cutting-edge system designed to enhance the interview experience for candidates through personalized and domain-specific interactions. Upon candidate selection of their domain, the JobBot employs natural language processing to engage in a human-like conversation, tailoring questions to the specific requirements of the chosen field. The dynamic interview process adapts to candidate responses, ensuring a comprehensive evaluation of their skills and knowledge. The AI JobBot leverages machine learning algorithms to continually refine its questioning techniques, mimicking the adaptability of human interviewers. This not only provides candidates with a realistic and engaging interview experience but also ensures that the evaluation is aligned with industry standards. Furthermore, the JobBot goes beyond the conventional interview experience by offering constructive feedback to candidates. Through real-time analysis of their responses, the AI system provides personalized insights into strengths and areas for improvement. This feedback is invaluable for candidates seeking to enhance their interview skills and refine their expertise.

Keywords: Speech Recognition, Semantic Analysis, Facial Expression Analysis, Machine Learning, Natural Language Processing, Artificial Intelligence in Recruitment, AI-Driven Interview Systems, Conversational AI, Intelligent Job Interview Bot, Natural Language Processing (NLP), Machine Learning Algorithms, Speech Recognition Systems, Semantic Analysis, Adaptive Questioning Techniques, Facial Expression Analysis, Candidate Skill Assessment, Automated Feedback and Evaluation.

Read Full Paper · Download PDF · Back to index

---

32 India’s Evolving Foreign Policy: Leadership and Diplomacy in the Global South (2000–2025)

Paper ID V11I6-1303 · Pages 204-211 · Foreign Policy

Kabir Bhasin, Student, Scottish High International School, Haryana

This paper examines the evolution of India’s foreign policy between 2000 and 2025 and evaluates how the country has positioned itself as a leading voice of the Global South. Building on its postcolonial legacy of non-alignment and South–South cooperation, India has adopted a multi-dimensional strategy that integrates multilateral diplomacy, development finance, vaccine and health diplomacy, digital public infrastructure sharing, and strategic partnerships. Through platforms such as the G20, BRICS, and the United Nations, India has increasingly shaped global governance debates, advocating for equity, climate justice, institutional reform, and inclusive development. Initiatives like Vaccine Maitri, concessional Lines of Credit, and digital cooperation demonstrate a shift from symbolic leadership to tangible implementation. However, India’s leadership remains constrained by capacity limits, domestic pressures, and geopolitical competition. The paper concludes that India’s emerging leadership model blends normative advocacy with pragmatic partnership, offering an alternative, non-coercive framework for Global South cooperation.

Keywords: India’s Foreign Policy, Global South Leadership, Multilateral Diplomacy, South–South Cooperation, Vaccine

© 2025, IJARIIT.COM All Rights Reserved

Diplomacy, Development Finance, Digital Public Infrastructure, Strategic Autonomy.

Read Full Paper · Download PDF · Back to index

33 How Does Perceived Control in a Managerial Role Influence Physiological Stress Responses During Financial Fraud Situations?

Paper ID V11I6-1304 · Pages 212-217 · Business Administration

Yana Pranati Sharma, Student, O.P. Jindal Global University, Haryana

Financial fraud events place intense psychological and physiological pressure on managerial decision-makers. Perceived control—defined as an individual's belief in their ability to influence outcomes—plays a key role in modulating stress responses. This experimental study examined whether managers with high perceived control demonstrate lower physiological stress responses compared to those with low perceived control during a simulated financial fraud scenario. Using a laboratory-based mixed-design experiment (N = 60), participants were assigned to high-control or low-control managerial roles and exposed to both a neutral scenario and a fraud-crisis scenario. Stress responses were measured using galvanic skin response (GSR) and pulse-derived heart rate changes from baseline. Synthetic data modelled after real psychophysiological patterns were analysed using repeated-measures ANOVA and delta-based t-tests. Results showed significantly greater increases in GSR and heart rate during the fraud scenario for the low-control group compared with the high-control group. Within-group analyses confirmed that both groups exhibited elevated physiological arousal during fraud relative to neutral tasks, but the magnitude of change was consistently higher in low-control participants. These findings suggest that perceived control acts as a protective factor, attenuating physiological stress during high-stakes financial decision-making. Implications for leadership selection, crisis management protocols, and stress-mitigation training are discussed. Beyond immediate stress reactivity, the study also highlights the potential cognitive implications of autonomic arousal during fraud-related decision-making. Elevated GSR and heart rate responses in low-control managers may reflect heightened emotional load, reduced cognitive flexibility, and impaired working memory—factors known to compromise decision quality under uncertainty. Conversely, individuals in high-control positions appeared to maintain more stable physiological profiles, suggesting the presence of regulatory mechanisms that may support clearer judgment, faster threat appraisal, and more adaptive responses during organizational crises. The methodological contribution of this study lies in the integration of GSR and pulse-based heart rate monitoring within a realistic financial fraud simulation, demonstrating the feasibility of combining psychophysiological tools with organizational-behaviour paradigms. Although the dataset employed was synthetic and modelled after established physiological patterns, the experimental framework provides a robust foundation for future empirical studies involving real participants. This approach offers valuable insights into how perceived managerial control can influence biological stress pathways, ultimately shaping crisis-management performance in high-risk financial environments.

Keywords: Perceived Control, Managerial Stress, Financial Fraud, Galvanic Skin Response (Gsr), Heart Rate, Physiological Arousal, Crisis Decision-Making, Autonomic Nervous System, Stress Monitoring, Experimental Psychology, Organizational Behaviour, Leadership Under Pressure.

Read Full Paper · Download PDF · Back to index

© 2025, IJARIIT.COM All Rights Reserved

34 Comparative Physicochemical Profiling of Finger Millet (Eleusine coracana) and Pearl Millet (Pennisetum glaucum) Cultivars

Paper ID V11I6-1307 · Pages 218-219 · Biotechnology

Anubha Pandey, Research Scholar, RKDF University, Madhya Pradesh
CBS Dangi, Professor, RKDF University, Madhya Pradesh

Millets have re-emerged as functional grains due to their rich nutrient composition and diverse bioactive constituents. This study presents a comparative physicochemical evaluation of selected cultivars of finger millet (Eleusine coracana) and pearl millet (Pennisetum glaucum) to determine their nutritional and nutraceutical significance. Standard analytical parameters, including loss on drying (LOD), total ash, acid-insoluble ash, water-soluble ash, pH, and water-soluble extractive values were assessed following WHO and pharmacopoeial guidelines. Finger millet cultivars RAU-8 and Indaf-9 exhibited higher mineral content and extractive values, indicating superior nutraceutical potential. Pearl millet cultivars Pioneer 86M86 and ICMH-356 displayed the highest total ash and aqueous extractive yields, suggesting greater concentrations of polar phytochemicals. Comparative analysis revealed that finger millet excels in mineral richness, whereas pearl millet demonstrates higher extractive potential.

Keywords: Finger Millet, Pearl Millet, Physicochemical Analysis, Extractive Values, Nutraceutical Potential.

Read Full Paper · Download PDF · Back to index

---

35 Clinical Evaluation Report on Aswini Hiran Strong Pain Oil

Paper ID V11I6-1302 · Pages 220-226 · Ayurvedic Topical Preparation

Dr Gandhimathi, GR Ayurvedic Research Centre, Tamil Nadu
Mr.Anil Kumar, Aswini Homeo and Ayurvedic Product Pvt. Ltd., Telangana

Aswini Hiran Strong Pain Oil is a topical Ayurvedic pain-relieving preparation used for knee pain, joint pain, muscular pain, shoulder pain, and backache. The product claims a rapid onset of relief within minutes of application and significant improvement within 14 days of regular use. A prospective, open-label, Phase 4 clinical study was conducted on adult subjects (n = 30) experiencing musculoskeletal pain. Pain severity was measured using a Visual Analogue Scale (VAS: 0–4) at baseline (Day 0) and after 14 days of regular application (Day 14). The study demonstrated significant improvement across all pain categories, with $p < 0.001$ for every parameter evaluated through a two-tailed paired t-test analysis. Mean pain reduction at Day 14 was 81.25% for knee pain, 78.13% for back pain, 89.29% for shoulder pain, and 78.57% for calf/muscle pain. Onset-of-relief assessments showed 80% of participants experienced noticeable relief within 10 minutes, with 10% reporting relief as early as 3 minutes. No adverse reactions or tolerability issues were reported. These findings substantiate the claims of Aswini Hiran Strong Pain Oil and confirm its effectiveness as a topical remedy for musculoskeletal pain.

Keywords: Aswini Hiran Strong Pain Oil, Knee Pain, Back Pain, Shoulder Pain, Muscle Pain, Stiffness, Pain Reduction, VAS.

Read Full Paper · Download PDF · Back to index

© 2025, IJARIIT.COM All Rights Reserved

36 Effectiveness of Structured Teaching Programme on Knowledge Regarding Telemedicine among Nursing Students in Selected Nursing Colleges of District Mandi, H.P.

Paper ID V11I6-1308 · Pages 227-234 · Nursing Research

Nikita Sharma, Student, Abhilashi College of Nursing, Himachal Pradesh
Sunita Devi, Assistant Professor, Abhilashi College of Nursing, Himachal Pradesh
Priyanka Sharma, Assistant Professor, Abhilashi College of Nursing, Himachal Pradesh

Good health is central to human happiness and well-being that contributes significantly to prosperity and wealth and even economic progress, as healthy populations are more productive, save more and live longer. Telemedicine is the exchange of medical information from one location to another using electronic communication, which improves patient health status. This study aimed to assess the effectiveness of structured teaching programme in improving the knowledge regarding telemedicine among nursing students. Objectives: To assess the level of knowledge regarding telemedicine among nursing students. To evaluate the effectiveness of structured teaching program on knowledge regarding telemedicine among nursing students. To find out the association between level of knowledge score regarding telemedicine among nursing students and their selected socio-demographic variables. Material and Method: Investigator adopted a quantitative research approach with the Quasi-experimental research design (non-randomized control trial design). The subject were 100 nursing students and the non-probability purposive sampling method was used for selection criteria. Data was collected using socio-demographic data profile and self-structured knowledge questionnaire regarding telemedicine. A structured teaching programme regarding telemedicine was implemented in the experimental group after the pre-test, followed by the post-test after seven days. Data were analyzed using descriptive and inferential statistics. Result: In experimental group the mean knowledge score increased significantly from 20.26 (SD= 4.818) to 25.90 (SD = 1.446). this shows that the result was highly significant ($t = 8.067$, $p < 0.001$), indicating the intervention was effective. Whereas in control group there was no significant change in the knowledge score (Pre: 19.660, Post: 19.70, $t = 0.096$, $p = 0.924$), showing no impact without intervention. Conclusion: In the present study majority of the nursing students had Average level of knowledge regarding telemedicine in pretest. After implementing structured teaching program majority of the nursing students had good level of knowledge. Which indicates that the structured teaching programme was effective in enhancing the knowledge of nursing students regarding telemedicine.

Keywords: Assess, Structured Teaching Programme, Telemedicine, Knowledge.

Read Full Paper · Download PDF · Back to index

---

37 How Might Behavioural Economic Principles Be Applied to Encourage Sustainable Consumer Behaviour in Product Design?

Paper ID V11I6-1314 · Pages 235-241 · Behavioral Economics

Amaira Singh Chhabra, Student, The Shri Ram School, Haryana

Sustainable consumer behaviour has become a priority worldwide as unsustainable consumption patterns continue to accelerate environmental degradation. While traditional economic models often assume rational decision-making, evidence shows us that consumers tend to rely on cognitive shortcuts, their emotions, as well

© 2025, IJARIIT.COM All Rights Reserved

as social influences. These factors help shape their everyday choices in ways that are not purely reasoned. Scholars in behavioural economics highlight how defaults (Thaler and Sunstein), emotions and social norms (Cialdini, Opower studies), and simplified design approaches (eco-labelling, minimalist packaging) can significantly influence behaviour without restricting the freedom of choice, which consumers usually consider a strong determining factor of consumption. However, these insights are rarely connected systematically to product design, which is where the problem arises. Building on this foundation, this paper explores how behavioural economic principles can be applied to encourage sustainable consumer behaviour through design. This research paper is limited to secondary data collection, peer-reviewed literature, and behavioural theories rather than primary data, which could include biases in such a sensitive topic. It also includes case studies such as Alibaba's "no cutlery" default, energy-saving appliance settings, and the EU energy label. These real-world examples help me demonstrate how defaults, emotional and social reinforcement, and simplicity can guide consumers toward sustainability by embedding these behaviours into everyday interaction with products. Therefore, I argue that by strategically integrating behavioural economic principles into product design, firms can make sustainable behaviour the most effortless, emotionally rewarding, and socially reinforced choice, thereby generating lasting environmental and economic value.

Keywords: Behavioural Economics, Sustainable Consumer Behaviour, Product Design, Choice Architecture, Defaults and Nudges, Social Norms, Emotional Design, Eco-Labelling.

Read Full Paper · Download PDF · Back to index

38

Women at Work: The Economics of Gender Inequality

Paper ID V11I6-1315 · Pages 242-253 · Gender Equality

Myra Khurana, Student, GD Goenka Public School Model Town, Delhi

In the last two decades, there has been a significant change in the social and economic horizon of India, with the Female Labor Force participation rate reaching 41.7% in 2023-2024. While the growing FLFPR indicates increased economic participation of women, it does not always mean that women are getting quality employment opportunities or becoming empowered. In fact, this boost in FLFPR is because most women, especially rural women, are compelled to work because of unfavorable circumstances and not because there are doors opening for them. As FLFPR is an inadequate economic metric, this study also explores other economic indicators like the global gender gap index, female entrepreneurship rate, access to financial services, women's asset management, female unemployment rate, etc. While the participation of women is increasing exponentially across all professions, they still have to face an uphill battle to move forward in their careers and gain respect. To collect empirical evidence on workplace barriers, this study has circulated a survey filled out by 121 anonymous women belonging to all age groups from both the formal and informal sectors. The FLFPR of India has also been compared with that of emerging economies to evaluate India's current scenario in light of global standards. Secondary data has been collected from sources such as the World Bank, the World Economic Forum, and Indian National newspapers. Thematic patterns of gender pay gap, pre-conceived notions, hostile work environment, negative and prejudiced attitude towards women, lack of mentorship programmes, and inadequate provision of childcare and maternity benefits have emerged. These become obstructions not just for women but also for organizations, India, its economy, and the Gross Domestic Product of this country. If half of the populace remains dormant in the workforce, the Indian economy will never

© 2025, IJARIIT.COM All Rights Reserved

be able to reach its maximum potential.

Keywords: Women, Economic, Gender, Workforce, Employment.

Read Full Paper · Download PDF · Back to index

---

39 Evaluating the Proliferative and Inhibitory Effects of Selected Indian Spices and Herbs on Vigna Radiata Cell Growth

Paper ID V11I6-1309 · Pages 254-289 · Food And Technology

Seema Bajpai, Assistant Professor, Utpal Shanghvi Global School, Maharashtra
Aarav Chetan Jain, Student, Utpal Shanghvi Global School, Maharashtra
Dhairya Milin Shah, Student, Utpal Shanghvi Global School, Maharashtra
Nishka Sachin Koneri, Student, Utpal Shanghvi Global School, Maharashtra
Pahal Kayur Shah, Student, Utpal Shanghvi Global School, Maharashtra
Ms. Ranjana Yadav, Assistant Professor, Utpal Shanghvi Global School, Maharashtra

Scientists have always been on the hunt for a therapeutic chemical with the potential to treat deadly diseases. There is a growing interest in using natural compounds derived from plants as a natural cancer cell treatment. Herbs and spices such as turmeric, garlic, cinnamon, clove, and tulsi are rich in bioactive compounds and have long been studied for their medicinal value in humans. However, their potential role in modulating cancer cell proliferation is underutilized. By exploring the proliferative and inhibitory effects of these traditional Indian herbs on Vigna radiata, this study contributes new knowledge to medical science and phytochemistry. It also opens new avenues for applying culturally significant, easily accessible, sustainable and inexpensive natural resources in modern cancer treatments. This study focuses on finding the specific herb extracts which are potent inhibitors of cell proliferation, in turn reducing the cancerous cell growth, leading to an invaluable impact on cancer treatment worldwide. Furthermore, this research aligns with global goals for sustainable development, particularly those related to accessible, low-cost and sustainable healthcare.

Keywords: Vigna radiata, Cell Proliferation, Spices, Extracts, Eugenol, Inhibitory Effects, Seed Germination, Radicle and Plumule Growth, Qualitative Tests.

Read Full Paper · Download PDF · Back to index

---

40 AI-Driven Portfolio Optimisation Strategies in High-Inflation Macroeconomic Conditions

Paper ID V11I6-1310 · Pages 290-296 · Economics

Adya Goyal, Student, Amity University, Uttar Pradesh

High inflation significantly affects asset prices, risk premiums, and investor behaviour, making traditional portfolio optimisation models less effective. This study explores the application of artificial intelligence (AI) techniques—specifically machine learning (ML) models and heuristic optimisation algorithms—to enhance portfolio performance during periods of high inflation. Using historical macroeconomic and financial market data, the project trains models to identify inflation-sensitive assets, predict returns, and construct optimal asset allocations. Methods such as Random Forest regression, LSTM neural networks, and Genetic Algorithms are

© 2025, IJARIIT.COM All Rights Reserved

compared with classical approaches like Modern Portfolio Theory (MPT). Performance is evaluated using metrics including Sharpe ratio, risk-adjusted returns, and inflation-adjusted returns. The findings aim to determine whether AI-driven strategies can outperform traditional models when inflation is elevated. This project contributes to the growing domain of AI-based financial modelling and offers practical insights for investors seeking resilience against inflationary volatility. In addition to evaluating performance during inflationary spikes, the study examines how AI models respond to shifting macroeconomic signals such as interest rate hikes, currency fluctuations, and commodity price volatility. By incorporating these variables into the learning framework, the models aim to provide more stable predictions and adaptive asset allocation decisions. This helps assess whether AI can truly capture inflation-driven market distortions better than conventional statistical models, which often assume linear relationships and stable correlations. Furthermore, the project highlights the practical implications of AI-driven optimisation for investors, financial planners, and policymakers operating in inflation-sensitive economies. By demonstrating how machine learning outputs can be integrated into investment decision-making, the study contributes to the growing domain of predictive financial analytics. The broader goal is to understand whether AI can create more resilient and inflation-hedged portfolios in real-world scenarios. The findings are expected to offer valuable insights into designing future-ready investment strategies that remain robust even during prolonged periods of macroeconomic uncertainty.

Keywords: AI, Machine Learning, Portfolio Optimisation, High Inflation, Asset Allocation, Genetic Algorithm, Financial Modelling, Inflation Risk.

Read Full Paper · Download PDF · Back to index

---

41 Autonomous Drone Navigation Using Computer Vision: Challenges and Future Directions

Paper ID V11I6-1282 · Pages 297-304 · Drones

Muhammad Jamil Sani, Research Scholar, Qassim University, Saudi Arabia
Jamal Nasser Alotaibi, Assistant Professor, Qassim University, Saudi Arabia

Unmanned Aerial Vehicles (UAVs), commonly known as drones, have emerged as versatile platforms revolutionizing diverse fields such as precision agriculture, environmental monitoring, infrastructure inspection, and disaster management. Their growing impact is driven by advances in autonomy that enable efficient, scalable, and intelligent operations. Among the enabling technologies, computer vision plays a pivotal role by allowing drones to perceive, interpret, and interact with their environment through visual sensing. This capability has significantly improved tasks such as obstacle detection, localization, mapping, and scene understanding, even in GPS-denied or visually degraded conditions. Despite these advances, achieving full autonomy remains a major challenge. Vision-based navigation is often hindered by adverse weather, illumination changes, dynamic obstacles, and computational limitations, alongside issues of domain shift and long-tail edge cases that compromise reliability and safety. This review paper presents a comprehensive analysis of recent progress in vision-based autonomous drone navigation, spanning classical computer vision, deep learning, and emerging paradigms such as Vision Transformers, reinforcement learning, and self-supervised learning. It further highlights open challenges and outlines future research directions, including multi-sensor fusion, domain adaptation, collaborative perception, neuromorphic computing, and explainable AI—aiming to guide the development of resilient and robust UAV systems capable of dependable real-world

© 2025, IJARIIT.COM All Rights Reserved

autonomy.

Keywords: Autonomous Drones, Computer Vision, Deep Learning, Visual Slam, Multi-Sensor Fusion, Domain Adaptation, Explainable AI, Robust Perception.

Read Full Paper · Download PDF · Back to index

---

42 Transforming Library Management, Leveraging Data Analytics through A Strategic Approach

Paper ID V11I6-1299 · Pages 305-310 · Data Analytics

Mr. Kishore Ramdas Ingale, Research Scholar, Tata Consultancy Services, Maharashtra
Dr. Anil P Sarode, Professor, M J College, Maharashtra
Ms. Shubhada Sachin Apte, Research Scholar, Tata Consultancy Services, Maharashtra

In the era of digital transformation, analytics has emerged as a critical enabler across industries, including library management. Libraries, now evolving into knowledge management centres, face dynamic user needs and operational challenges. This paper explores the role of data analytics in enhancing library services, improving decision-making, and addressing contemporary challenges. It outlines the types of analytics applicable to libraries, the analytical environment, and strategies for overcoming operational constraints. Practical examples and case studies illustrate how analytics can be effectively integrated into library operations to optimise resources and strengthen user engagement.

Keywords: Analytics, Business Insights, Library Analytics, Library Queries, Analytical Environment.

Read Full Paper · Download PDF · Back to index

---

43 Determinants of School Orientation in Urban and Rural Areas of Analamanga Antananarivo, Madagascar

Paper ID V11I6-1318 · Pages 311-318 · Educational Sciences

Radanielina Tsaranto Evatiana Rahaliva, Research Scholar, University of Antananarivo, Madagascar
Andrianarimanana Jean Claude Omer, Professor, University of Antananarivo, Madagascar
Rakotoson Olivia, Professor, University of Antananarivo, Madagascar
Andrianjary Myriam, University of Antsirabe, Madagascar

School orientation constitutes a decisive stage in students' educational trajectories, influencing their motivation, academic achievement, and future professional prospects. Although this choice should ideally be guided by each student's personal aspirations, abilities, and interests, it is often shaped by a range of external factors, notably familial, economic, cultural, and geographical influences. In many contexts, orientation decisions do not result from a free and informed process but rather from sometimes constraining influences exerted by parents, teachers, or the social environment. This study examines the dynamics of school orientation in two contrasting contexts: urban and rural settings. It aims to highlight the impact of variables such as family income, parents' level of education, their educational attitudes and expectations, as well as students' perceptions of their own abilities and career prospects. Through a comparative analysis, the study seeks to understand how these factors, depending on the context, contribute to either enhancing or

© 2025, IJARIIT.COM All Rights Reserved

constraining students' freedom of choice in their educational pathways.

Keywords: School Orientation, Educational Trajectories, Motivation, Family Influence, Socioeconomic Status, Career Prospects.

Read Full Paper · Download PDF · Back to index

---

44 The River Imperative: Innovative Strategic Management for India's Water Prosperity

Paper ID V11I6-1285 · Pages 319-322 · Civil Engineering Water Management

H. M. Vishwanatha Sastry, Independent Researcher, Kelsatek Solutions Pvt Ltd, Karnataka
B. K. Viswanath, X Mec Bgl Water Supply, Karnataka

Water is an essential requirement for the survival of all living beings on Earth. It is not only vital for drinking and basic sustenance but also indispensable for daily human needs, agriculture, animal life, aquatic ecosystems, vegetation and many such connected. Water supports industries, urban development, and environmental balance in every aspect of life. Ultimately, the management and preservation of water resources contribute significantly to the prosperity of the nation, as rivers and water systems sustain life from their source to the sea.

Keywords: Water, Essential, Survival, Living Beings, Drinking, Human Needs, Agriculture, Aquatic Ecosystem, Environmental Balance, Industries, Sources, Preservation, Prosperity, River Connectivity, Regional Coordination, Safety, Quality Management.

Read Full Paper · Download PDF · Back to index

---

45 Haunted Milk, Hollow Markets, Maternal Spectrality, Patriarchal Trade, and Feminist IR Readings of AGOA through Toni Morrison's Beloved

Paper ID V11I6-1322 · Pages 323-328 · English Literature

Phalak Singh Khatkar, Student, Panjab University, India

This thesis examines Toni Morrison's Beloved as a critical feminist International Relations (IR) text that exposes the structural continuities between slavery-era reproductive violence and contemporary global political economy. Anchored in Morrison's concept of rememory, the study argues that the novel's spectral maternal motifs—particularly stolen milk, infanticidal protection, and communal rebirth—function as analytic tools for understanding how patriarchal systems of extraction persist beyond formal emancipation. By situating Beloved within feminist IR, this research reframes literary trauma not as historical memory alone, but as an ongoing political condition embedded in international economic structures. Through a close reading of Beloved, the thesis theorises the theft of Sethe's breast milk as an act of commodification of reproductive labour, wherein Black motherhood is rendered extractable, punishable, and economically exploitable. This logic, the study contends, reappears in contemporary trade regimes—most notably the African Growth and Opportunity Act (AGOA)—where African women's labour sustains global apparel supply chains while remaining systematically undervalued. Feminist IR concepts of everyday violence and patriarchal privilege reveal how global trade policies, though framed as development instruments, reproduce gendered harm through low wages, labour precarity, environmental toxicity, and sexual coercion in export-oriented industries. Integrating political

© 2025, IJARIIT.COM All Rights Reserved

economy with feminist economics, the thesis draws on motherhood penalty theory, particularly the work of Claudia Goldin, to demonstrate how global markets disproportionately penalise women for reproductive and caregiving labour. In AGOA-export economies, women's concentration in apparel work is not incidental but structural: motherhood reduces bargaining power, increases vulnerability, and makes women ideal subjects for exploitation under neoliberal trade. This analysis positions maternal labour as central—rather than peripheral—to international economic policy, challenging the presumed gender neutrality of trade agreements. Finally, the thesis addresses a critical gap across literary studies, feminist IR, and trade scholarship by employing Beloved as a methodological framework rather than a symbolic reference. While extensive research exists on trauma and motherhood in Morrison's work and on AGOA's economic outcomes, no study to date integrates maternal literary motifs into feminist trade analysis. By doing so, this research proposes narrative-driven, gender-just trade reforms, arguing that women's embodied experiences must be recognised as legitimate sources of international political knowledge. Until trade regimes confront their reliance on gendered extraction, the thesis concludes, the spectral presence of Beloved will continue to haunt global markets.

Keywords: Toni Morrison, Beloved, Feminist International Relations, Motherhood, Reproductive Labour, Economic Violence, African Growth and Opportunity Act (AGOA), Global Political Economy, Motherhood Penalty, Gender and Trade, Postcolonial Feminism, Rememory.

Read Full Paper · Download PDF · Back to index

---

46 The Impact of Various Music Genres on the Emotional and Psychological State of Different Age Groups

Paper ID V11I6-1286 · Pages 329-333 · Music Psychology

Sujay Aitha, Student, India International School in Japan, Tokyo, Japan

Music functions as an extensive emotional and cognitive tool that varies in meaning across the lifespan. Drawing on decades of music-psychology research, this study examines how five genres—classical, pop, jazz, grunge rock, and ambient (designer) music—serve distinct psychological functions for adolescents, young adults, middle-aged adults, and older listeners. Classical music is linked to cognitive enhancement, calm, and nostalgia; pop music facilitates mood regulation, identity formation, and social bonding; jazz offers intellectual engagement and emotional complexity that deepens with age; grunge rock provides cathartic expression and identity reinforcement during adolescence and early adulthood, later shifting to nostalgic remembrance; ambient music supplies low-arousal support for focus, relaxation, and therapeutic applications, especially in later life. The paper integrates traditional survey and experimental findings with large-scale streaming-data analytics, demonstrating that genre-specific listening patterns can be quantified through skip rates, replay frequency, and personalized recommendation algorithms. Results highlight the age-dependent psychological roles of each genre and illustrate how data-driven methods can validate and extend theoretical models of music-induced emotion regulation, identity development, and cognitive support across the human lifespan.

Keywords: Music Psychology, Music Genres, Music Therapy, Mood And Music, Music Induced Emotions, Therapeutic Musical Interventions.

Read Full Paper · Download PDF · Back to index

© 2025, IJARIIT.COM All Rights Reserved

47 A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge regarding Good Touch & Bad Touch among Children in Selected Schools of Distt. Mandi (H.P.).

Paper ID V11I6-1218 · Pages 334-342 · Child Health Nursing

Neha Kumari, Student, Abhilashi Nursing College, Himachal Pradesh
Pallavi Mehra, Associate Professor, Abhilashi Nursing College, Himachal Pradesh
Isha Thakur, Associate Professor, Abhilashi Nursing College, Himachal Pradesh

The first sensory input in life comes from the sense of touch experienced by a baby while he is in the mother's womb and feels protective touch experienced by all of us through childhood, adulthood and into older age. Parents, siblings, elders and friends play an important role in child development, and teachers also play an important role. Objectives: To assess the knowledge regarding good touch & bad touch among children. Material and Method: A quasi-experimental approach and pre-test and post-test control group design was adopted. Non-probability, a convenient sampling technique, was used to select 60 students. i.e. 30 in each experimental and control group. Data collection was done using a self-knowledge questionnaire. The collected data were analysed by calculating frequency, percentages, mean, standard deviation, chi-square, and t-test. Findings: The findings of the experimental group, a majority 93.3% (28children) of participants scored in the good category, and the remaining 6.7% (2children) were in the average range. None scored in the category below, indicating a strong positive impact of the intervention. In control group had only 0% in the good, category, while most 60% (18children) remained average, and 40% (12 children) still scored Below average, showing minimal improvement without intervention. Conclusion: It was concluded that the structured teaching programme on Good Touch and Bad Touch was an effective programme in improving the knowledge of the children, as depicted in the results, which showed a marked increase in post-test level of knowledge.

Keywords: Knowledge, Structure Teaching Programme, Good Touch, Bad Touch.

Read Full Paper · Download PDF · Back to index

---

48 Blockchain Based Document Verification System

Paper ID V11I6-1233 · Pages 343-348 · Blockchain

Nistha, Student, Bangalore Institute of Technology, Karnataka
Dr. Manjunatha P B, Assistant Professor, Bangalore Institute of Technology, Karnataka
Aneesh B, Student, Bangalore Institute of Technology, Karnataka
Likitha B C, Student, Bangalore Institute of Technology, Karnataka
Vaishnavi B Shetty, Student, Bangalore Institute of Technology, Karnataka

Documents serve as the primary mechanism for establishing identity and authorization for individuals and organizations, yet their integrity is constantly threatened by sophisticated forgery. The conventional methods for verifying these documents are fundamentally flawed; they are frequently slow, labor-intensive, and depend on centralized intermediaries, which act as single points of failure that can be compromised or become unavailable. The core challenge is the lack of a universal and reliable source of truth, making third-party validation a cumbersome process built on fragile trust. This paper introduces a decentralized verification system that directly addresses these vulnerabilities by leveraging blockchain technology as its foundational

© 2025, IJARIIT.COM All Rights Reserved

layer. The importance of the blockchain lies in its inherent immutability and decentralization; it creates a tamper-proof and perpetually accessible public notary that does not rely on any single institution. By using a distributed ledger, our system removes the central authority and instead provides a shared, cryptographic source of truth. The platform's workflow is governed by smart contracts, which manage the permissions of authorized Issuers and streamline the process for Verifiers. In our model, the Issuer registers a cryptographic proof of a document onto the blockchain after storing the file in the InterPlanetary File System (IPFS). This process creates an immutable link between the document and its certification, allowing any Verifier to instantly confirm its authenticity and integrity without needing to contact the original issuer, thereby establishing a secure, efficient, and transparent ecosystem for digital trust.

Keywords: Blockchain, Document Verification, Credential Management, Authentication, Distributed Ledger Technology (DLT).

Read Full Paper · Download PDF · Back to index

© 2025, IJARIIT.COM All Rights Reserved

Thank You!

www.IJARIIT.COM

Encouraging Research

Important Links	
Submit Paper Online	Author Guidelines
Track Your Paper	Call For Papers
Publication Fee	Current Issue

Contact Us

Volume 12, Issue 6 (November-December, 2026) is open for submissions. Last date: 31st December, 2026.

© 2025, IJARIIT.COM All Rights Reserved