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JOURNAL ABSTRACTS

September 2025

Sl.No	Article	Author	Source	Year
1	Performance Evaluation of Diffserv in Various Scenarios with Machine Learning Classification Effect	*Neji Kouka, Jawaher ben khalfa and Jalel eddine hajaloui*	Journal of Networking Technology Vol: 16 No: 3	2025

Abstract: DiffServ was introduced by the IETF as a standard model to offer QoS across core networks. DiffServ supports a QoS feature based on differentiated traffic. So far, little interest has been shown in machine learning features in QoS. In this paper, we evaluate the effectiveness of this model in QoS in various scenarios. We show that under a heavy network load, DiffServ with machine learning classification (MLC) has a limited effect on the QoS parameter.

Sl.No	Article	Author	Source	Year
2	Formal Analysis of DCCP Simultaneous-Open and Hole Punching Procedures Using Coloured Petri Nets	*Somsak Vanit-Anunchai*	Journal of Networking Technology Vol: 16 No: 3	2025

Abstract: This work focuses on the Datagram Congestion Control Protocol (DCCP) and its mechanisms for handling connection management, particularly in environments involving Network Address Translators (NATs). DCCP is a transport protocol designed for applications prioritizing timeliness over reliability. The study extends the Coloured Petri Net (CPN) model of DCCP's connection management procedures to incorporate the simultaneous open procedure defined in RFC 5596. This extension addresses scenarios where both communication endpoints attempt to establish a connection simultaneously, especially when servers are behind NATs. To facilitate peer-to-peer communication through NATs, the paper explores "hole punching" techniques, which involve exchanging public IP addresses and ports via a rendezvous server before mutual connection attempts. However, modelling NAT behaviour alongside DCCP procedures leads to state explosion issues. To mitigate this, the authors apply prioritized transitions and the sweep-line method to reduce computational complexity during state-space exploration. Experimental results demonstrate the effectiveness of these approaches in managing state space growth while analysing the correctness of DCCP's simultaneous-open mechanism. Dead markings—indicating terminal states—are classified into two types: Type I represents successful connections, while Type II indicates failed attempts. Contributions include extending CPN models for DCCP analysis, addressing state explosion challenges, and validating protocol behaviour under real-world constraints like NAT traversal. The work highlights formal verification's importance in ensuring reliable protocol design and offers insights into modelling complex multilayer protocols

Sl.No	Article	Author	Source	Year
3	An Improved Construction of Petri Net Unfoldings for Efficient Protocol Verification	*César Rodríguez and Stefan Schwoon*	Journal of Networking Technology Vol: 16 No: 3	2025

Abstract: This paper presented an optimized algorithm for computing the unfolding of Petri nets, a technique used in formal verification to combat the state-space explosion problem. The method builds upon McMillan's unfolding approach, which represents system behaviour using an acyclic structure called an event net. This structure captures causal relationships between events without explicitly enumerating all reachable states. The proposed algorithm improves efficiency by dynamically managing the set of potential extensions (events) during the unfolding process. It introduces a novel strategy for selecting and processing events, reducing redundant computations. The performance of the new algorithm is compared with existing tools like Punf and Mole. Experimental results indicate that the new approach achieves better time and memory efficiency while generating the same finite complete prefix, which is crucial for deadlock and reachability analysis. The paper emphasizes scalability in model checking and contributes to advancing efficient verification techniques for concurrent systems modelled as Petri nets. This work is particularly valuable for analysing complex protocols and systems where exhaustive state exploration is computationally expensive.

Sl.No	Article	Author	Source	Year
1	Complexity of Verification in Self-Assembly with Prebuilt Assemblies	*David Caballero, Timothy Gomez, Robert Schweller, Tim Wylie*	Progress in Signals and Telecommunication Engineering Vol: 14 No: 2	2025

Abstract: We analyse the complexity of two fundamental verification problems within a generalization of the two-handed tile self-assembly model (2HAM) where initial system assemblies are not restricted to be singleton tiles, but may be larger prebuilt assemblies. Within this model we consider the producibility problem, which asks if a given tile system builds, or produces, a given assembly, and the unique assembly verification (UAV) problem, which asks if a given system uniquely produces a given assembly. We show that producibility is NP-complete and

UAV is coNP -complete even when the initial assembly size and temperature threshold are both bounded by a constant. This is in stark contrast to results in the standard model with singleton input tiles where producibility is in P and UAV is coNP-complete with constant temperature. We further provide preliminary polynomial time results for producibility and UAV in the case of 1-dimensional linear assemblies with pre-built assemblies, as well as extend our results to the abstract Tile Assembly Model (aTAM) with constant-size attachable assemblies.

Sl.No	Article	Author	Source	Year
2	A Distributed Algorithm for Solving the Local Mutual Exclusion Problem in Dynamic Networks	*Joshua J. Daymude, Andréa W. Richa, Christian Scheideler*	Progress in Signals and Telecommunication Engineering Vol: 14 No: 2	2025

Abstract: Mutual exclusion is a classical problem in distributed computing that provides isolation among concurrent action executions that may require access to the same shared resources. Inspired by algorithmic research on distributed systems of weakly capable entities whose connections change over time, we address the local mutual exclusion problem that tasks each node with acquiring exclusive locks for itself and the maximal subset of its "persistent" neighbours that remain connected to it over the time interval of the lock request. Using the established time-varying graphs model to capture adversarial topological changes, we propose and rigorously analyse a local mutual exclusion algorithm for nodes that are anonymous and communicate via asynchronous message passing. The algorithm satisfies mutual exclusion (non-intersecting lock sets) and lockout freedom (eventual success with probability 1) under both semi-synchronous and asynchronous concurrency. It requires $O(\Delta)$ memory per node and messages of size $\Theta(1)$, where Δ is the maximum number of connections per node. We conclude by describing how our algorithm can implement the pairwise interactions assumed by population protocols and the concurrency control operations assumed by the canonical amoebot model, demonstrating its utility in both passively and actively dynamic distributed systems.

Sl.No	Article	Author	Source	Year
3	Efficient Search Strategies for Multi-Robot Systems in 3D Grid Environments	*Ryonosuke Yamada, Yukiko Yamauchi*	Progress in Signals and Telecommunication Engineering Vol: 14 No: 2	2025

Abstract: We consider search in a finite 3D cubic grid by a metamorphic robotic system (MRS), that consists of anonymous modules. A module can perform a sliding and rotation while the whole modules keep connectivity. As the number of modules increases, the variety of actions that the MRS can perform increases. The search problem requires the MRS to find a target in a given finite field. Doi et al. (SSS 2018) demonstrate a necessary and sufficient number of modules for search in a finite 2D square grid. We consider search in a finite 3D cubic grid and investigate the effect of common knowledge. We consider three different settings. First, we show that three modules are necessary and sufficient when all modules are equipped with a common compass, i.e., they agree on the direction and orientation of the x, y, and z axes. Second, we show that four modules are necessary and sufficient when all modules agree on the direction and orientation of the vertical axis. Finally, we show that five modules are necessary and sufficient when all modules are not equipped with a common compass. Our results show that the shapes of the MRS in the 3D cubic grid have richer structure than those in the 2D square grid.

Sl.No	Article	Author	Source	Year
1	Mapping Patterns between XML and Annotations for Software Configuration	*Milan Nosál, Jaroslav Porubän*	Journal of Information & Systems Management Vol: 15 No: 3	2025

Abstract: The article explores mapping patterns between XML and annotations, focusing on their roles as metadata formats in software system configurations. It discusses how XML represents external metadata while annotations are embedded within the source code. The authors identify scenarios where each format is advantageous: annotations offer simplicity and robustness, while XML provides flexibility for runtime changes and multiple configurations. They present several mapping patterns—Direct Mapping, Nested Annotations, Enumeration, Wrapper, Distribution, Target, Parent, and Mixing Point—to facilitate the translation between XML and annotations. These patterns enable developers to design configuration languages effectively, supporting interoperability between XML and annotation-based systems. The work provides

practical insights into leveraging both formats based on specific configuration needs, thereby enhancing maintainability and reducing complexity in framework design.

Sl.No	Article	Author	Source	Year
2	A Scaffolding Tool for Generating Java Program Skeletons and Buggy Programs	*Ricardo Queirós*	Journal of Information & Systems Management Vol: 15 No: 3	2025

Abstract: This work introduces CodeSkelGen, a scaffolding tool designed to generate Java program skeletons and buggy programs from annotated solution code provided by teachers. The tool utilizes Java annotations and an annotation processor to create variations of programming exercises, aiding novice students in focusing on problem-solving by reducing the cognitive load associated with writing complete programs from scratch. Skeleton programs provide structural guidance, while buggy programs encourage debugging and testing practices. CodeSkelGen is integrated into an educational framework called Ensemble, which organizes eLearning systems for computer programming education. The generated exercises are packaged using the IMS Common Cartridge standard for reuse across platforms. By automating the generation of exercise materials, including test cases and feedback, CodeSkelGen supports efficient teaching workflows and enhances student engagement through structured practice.

Sl.No	Article	Author	Source	Year
3	Role of Patterns in Automated Task-Driven Grammar Refactoring	*Ján Kollár and Ivan Halupka*	Journal of Information & Systems Management Vol: 15 No: 3	2025

Abstract: This paper examines the role of design patterns in automating task-driven grammar refactoring, with a focus on how patterns can guide systematic transformations of grammars in software engineering. It introduces a pattern specification schema that includes context, problem, and solution descriptions, enabling structured modifications to grammar. The authors propose an approach that uses evolutionary algorithms to generate random refactoring operators, which are then applied sequentially to evolve grammars toward a desired form. This

method supports semi-automatic grammar recovery and adaptation by leveraging predefined transformation patterns. The work emphasizes the importance of preserving semantics during transformations and demonstrates how patterns contribute to modular and maintainable grammar refactoring processes. By integrating these patterns into automated systems, the approach enhances the efficiency and reliability of support for semi-automatic grammar recovery and adaptation, particularly in complex scenarios such as removing left recursion or adapting legacy grammars.

Sl. No	Article	Author	Source	Year
1	Efficient Multi-Modal Route Planning with Result Diversity: A TNT Approach	*Hannah Bast, Mirko Brodesser and Sabine Storandt*	Journal of Data Processing Vol: 15 No: 3	2025

Abstract: The paper computed small yet representative sets of reasonable paths in a multi-modal transportation scenario involving cars, walking, and transit. Traditional route planning systems typically optimize for a single mode of transportation, but TNT aims to offer diverse and practical path combinations without preselecting a specific mode. Using Pareto sets with multiple optimization criteria like duration, transfer penalty, and car duration, the method captures diverse routes. However, not all Pareto-optimal paths are reasonable, so the authors define three types of reasonable paths based on relative durations: only car, mixed transit with limited car and walking, and much transit with walking. Thresholds filter unreasonable paths and extract concise results. Speed-up techniques include extending dominance by early results, rounding transfers to full minutes, and using implicit walking duration. Experimental results across cities like New York demonstrate that TNT effectively reduces query times to about one second on average while maintaining high result quality. The work emphasizes generating manageable, representative route options rather than strictly optimal ones, enhancing usability in real-world applications.

Sl.No	Article	Author	Source	Year
2	Efficient Algorithms for the 2 Synchronization Points Shortest Path Problem in Dynamic Carpooling Scenarios	*Arthur Bit-Monnot, Christian Artigues, Marie-José Huguet and Marc-Olivier Killijian*	Journal of Data Processing Vol: 15 No: 3	2025

Abstract: The paper "Carpooling: the 2 Synchronization Points Shortest Path Problem (2SPSPP)" presents a novel algorithm to efficiently solve a carpooling problem involving two users—a driver and a pedestrian—aiming to minimize their total travel time. The journey is divided into five sub paths, with two synchronization points: a pick-up point where the driver and passenger meet, and a drop-off point where they separate. The problem is modelled using an edge-labelled graph that incorporates multimodal transportation networks, including time independent and time-dependent travel modes such as car, walking, and public transit. The authors propose a method that combines four forward shortest path algorithms and one backwards algorithm to identify optimal pick-up and drop-off points, addressing time-dependent challenges without requiring re-evaluation processes. They introduce exact and heuristic dominance rules to efficiently manage label pruning, ensuring optimal or near-optimal solutions. An integrated approach dynamically executes all algorithms, selecting the next step based on the lowest-cost label across heaps, thereby significantly improving runtime performance. Experiments conducted on large regional transportation networks demonstrate that the method computes solutions in seconds, even for extensive graphs. The study also explores guided search strategies using heuristics based on landmarks, which further enhance efficiency, particularly when restricting feasible pick-up and drop-off areas. The proposed framework is flexible and can be extended to handle multi-objective optimization or support dynamic matching of drivers and passengers in real-time carpooling applications.

Sl.No	Article	Author	Source	Year
3	Computational Modelling of Subjectivity in First-Person Narratives for Identifying Diegetic and Extradiegetic Private States	*Kenji Sagae, Andrew S. Gordon, Morteza Dehghani , Mike Metke , Jackie S. Kim, Sarah I. Gimbel, Christine Tipper, Jonas Kaplan and Mary Helen Immordino-Yang*	Journal of Data Processing Vol: 15 No: 3	2025

Abstract: The paper explores the identification of subjective language in personal narratives, focusing on distinguishing between two narrative levels: diegetic (events within the story) and extradiegetic (the narrator's reflections). Subjective language, expressing emotions, opinions, and mental states, plays a crucial role in shaping the audience's interpretation. The study uses a dataset of 40 annotated personal weblog narratives, employing text classification techniques to automatically identify subjectivity at both levels. A multiclass classification model is trained using features like bag-of-words and part-of-speech tags. Results show a 58% accuracy for six-way classification, outperforming a baseline. Binary classifications for subjectivity and narrative level achieve 78% and 81% accuracy, respectively. Despite limitations due to a small dataset, the findings highlight the feasibility of computational modelling for analysing narrative subjectivity, with potential applications in sentiment analysis, information retrieval, and commonsense knowledge extraction.

Sl.No	Article	Author	Source	Year
1	VCDC: A Hardware-Centric Solution for Predictable and High- Performance I/O Virtualization in Many-Core Systems	*Zhe Jiang, Neil Audsley*	Signals and Telecommunication Journal Vol: 14 No: 2	2025

Abstract: The Virtualized Complicated Device Controller (VCDC) addresses critical performance and predictability challenges in I/O virtualization for real-time many-core systems. Traditional virtualization techniques often suffer from high software overhead, poor timing accuracy, and scalability issues, particularly in complex I/ O operations. VCDC proposes a hardware-centric solution by integrating I/O virtualization directly into the hardware layer, eliminating the reliance on software-based Virtual Machine Monitors (VMMs) and drivers. It provides predictable, low-latency, and timing-accurate I/O operations by virtualizing physical I/O devices into multiple virtual interfaces, supported by a timing-accurate I/O controller. Evaluations on a NoC-based architecture demonstrate that VCDC significantly improves I/O

throughput, reduces response time, and ensures high scalability across multiple cores. The system also achieves lower on-chip communication and software overheads, while trading off with increased hardware resource usage. Overall, VCDC enables efficient and predictable I/O virtualization tailored for real-time and embedded many-core platforms.

Sl.No	Article	Author	Source	Year
2	Real-Time Packet Scheduling and Static Routing for Reliable Communication in Software-Defined Networks	*Tao Qian, Frank Mueller, Yufeng Xin*	Signals and Telecommunication Journal Vol: 14 No: 2	2025

Abstract: This paper presents a Linux-based real-time packet scheduler designed to ensure reliable static routing in Software-Defined Networks (SDNs) for real-time distributed systems. Traditional passive resource-sharing mechanisms often fail to guarantee hard deadlines due to unpredictable background traffic and limited control over shared network resources. To address this, the authors propose an active scheduling approach that enforces deadline-based policies directly on Software-Defined Network (SDN) switches. A static routing algorithm determines end-to-end paths for real-time messages, ensuring that their cumulative delay does not exceed specified deadlines. The message scheduler adopts an EDF-based (Earliest Deadline First) algorithm and segregates real-time from background traffic to prioritize timely delivery. Implemented on Open vSwitch and evaluated in a local cluster, the system demonstrates zero deadline misses under network congestion while maintaining best-effort service for non-real-time traffic. This work significantly advances real-time communication in distributed systems, ensuring predictability and reliability through proactive network control. Future directions include extending support to physical switches and disjoint path routing.

Sl.No	Article	Author	Source	Year
3	Extensive Improvement of Smartphone Display for Signal Reception	*Jens Bauer, Sebastian Thelen, Achim Ebert*	Signals and Telecommunication Journal Vol: 14 No: 2	2025

Abstract: Large displays have become more and more common in the last few years. While interaction with these displays can be conducted using standard methods such as a computer mouse and keyboard, this approach causes issues in multi-user environments, where the various conditions for providing multiple keyboards and mice, together with the facilities to employ them, cannot be met. To address this problem, several authors have proposed using mobile phones for interaction. Previous solutions were specialized interaction metaphors only for specific applications. To gain more insight into general interaction patterns realizable with smartphones, we created a set of general test cases using a well-known taxonomy for interactions. These test cases were then evaluated in a user study, comparing smartphone usage against the traditional keyboard/mouse combination. Results (time and user satisfaction) show strengths and weaknesses when using the new interaction with the smartphone. With further evaluations, we conclude how to improve extensive display interaction using smartphones in general.

Sl.No	Article	Author	Source	Year
1	Analysis of Ultrasonic Pulse Generated by Piezoelectric Material (LiNbO3 Cut Y-X) Using SVM Classifier	*Hafdaoui Hichem, Benatia Djamel*	Journal of Electronic Systems Vol: 15 No: 3	2025

Abstract: In this paper, we propose a new numerical method for ultrasonic pulse detection of an acoustics microwaves signal during the propagation of acoustics microwaves generated by piezoelectric substrate LiNbO3 Cut Y-X in ultrasonic transducer. We have used the classifications by support vector machines (SVM), the originality of this method is it provides the accurate values and help us to identify undetectable waves that we cannot identify with the classical methods; in which we classify all the values of the real part and the imaginary part of the coefficient attenuation with the acoustic velocity in order to build a model from which we note the Ultrasonic Pulse or microwaves acoustics (bulk waves). By which we obtain accurate values for each of the coefficient attenuation and acoustic velocity. This study will be very interesting in modelling and realization of acoustics microwaves devices (ultrasound) based on the propagation of acoustics microwaves.

Sl.No	Article	Author	Source	Year
2	A UNIX-Inspired Domain-Specific Language for Modular ABC Music Notation Processing	*Bruno M. Azevedo and José João Almeida*	Journal of Electronic Systems Vol: 15 No: 3	2025

Abstract: This paper introduces abc: dt, a domain-specific language (DSL) embedded in Perl, designed for creating modular and composable tools to process music written in the abc notation. Leveraging the UNIX philosophy of simple, text-stream-based tools, the authors reuse the parser from abcm2ps to handle real-world abc files. The system comprises three stages: parsing input into an internal representation (IR), transforming it using rule-based actuators, and generating output, which may serve as input for other tools. abc: dt enables users to define specific transformations using concise rules, making tool creation more efficient. Several tools built with abc: dt—like All-but-one, abc_paste, and abc_cat—demonstrate its capability to manipulate polyphonic scores, concatenate tunes, or isolate voices for rehearsal. The sequential structure used simplifies integration with scripting languages, while the DSL's extensibility supports advanced transformations. Overall, abc::dt aims to establish a flexible "abc operating system" to fill the gap in general purpose abc music processing tools.

Sl.No	Article	Author	Source	Year
3	Applying Measurement-Based Probabilistic Timing Analysis to Buffer Resources	*Leonidas Kosmidis, Tullio Vardanega, Jaume Abella, Eduardo Quiñones and Francisco J. Cazorla*	Journal of Electronic Systems Vol: 15 No: 3	2025

Abstract: The paper explores the application of Measurement-Based Probabilistic Timing Analysis (MBPTA) to buffer resources in Critical Real-Time Embedded Systems (CRTES). It establishes that buffers, unlike jittery resources like caches, do not inherently create timing jitter; instead, they propagate existing jitter from other resources. Buffers manage contention by decoupling request sending and processing speeds, and their behaviour is shown to be deterministic once probabilistic events are accounted for. The study demonstrates that MBPTA can analyse buffers effectively as long as dependencies remain consistent between analysis and operation. Empirical verification confirms that execution times are independent and identically distributed, validating the suitability of MBPTA. Additionally, a classification of hardware resources based on jitter sources is provided, enhancing the understanding of MBPTA compliance in processor architectures.

Sl.No	Article	Author	Source	Year
1	Modelling and Analysis of Multi-Core Processor Determinism for Real-Time Systems: Challenges and Solutions	*Vladimir-Alexandru Paun, Bruno Monsuez and Philippe Baufreton*	Journal of Information Organization Vol: 15 No: 3	2025

Abstract: This paper discusses challenges in modelling and analysing timing behaviour in multi-core processors, particularly focusing on shared resources like caches and buses. It highlights how inter-thread interference and timing anomalies—such as cache misses on one core causing hits on another—complicate Worst-Case Execution Time (WCET) estimation. The document explores methods to address these issues, including code transformations and compile-time techniques to mitigate timing unpredictability. It also emphasizes the importance of accurate processor modelling for real-time systems and addresses limitations in existing documentation regarding verification purposes. Additionally, the paper touches upon timing anomalies in superscalar processors and proposes solutions involving binary modification and instruction injection to achieve deterministic execution behaviour. Overall, it stresses the complexity of ensuring timing predictability in multicore architectures for real-time applications.

Sl.No	Article	Author	Source	Year
2	Framework for Reliability Analysis of Context-Aware Systems Using Markov Decision Processes and Model Checking	*Yan Liu*	Journal of Information Organization Vol: 15 No: 3	2025

Abstract: The attached file presents a framework for analysing and predicting the reliability of context-aware systems, particularly focusing on elder care applications. It integrates model checking and testing techniques to evaluate system correctness and reliability under various scenarios. The approach involves constructing a Markov Decision Process (MDP) model, performing reachability analysis, and conducting sensitivity analysis to identify critical components affecting system reliability. Experimental results demonstrate the effectiveness of the framework in detecting bugs and analysing reliability distribution across components like sensors and networks. The study also highlights practical applications in real-world settings, such as monitoring activities and delivering timely reminders to users. Overall, the work provides a comprehensive method for improving the dependability of context-aware systems through formal verification and quantitative evaluation.

Sl.No	Article	Author	Source	Year
3	Efficient Implementation and Evaluation of the Penalty Method for Alternative Route Generation in Road Networks	*Moritz Kobitzsch, Marcel Radermacher and Dennis Schieferdecker*	Journal of Information Organization Vol: 15 No: 3	2025

Abstract: The paper examines the penalty method for generating alternative routes in road networks, which has historically been limited by its slow implementation. Leveraging modern techniques like Customizable Route Planning (CRP), the authors achieve efficient real-time processing through parallelism and vectorization. The penalty method iteratively computes shortest paths, applying penalties to arcs on each path to encourage diverse alternatives. Enhancements include dynamic level selection in CRP to balance query and update costs and modified penalization schemes for faster convergence. Experimental results demonstrate significant speed improvements over classical methods, achieving performance that is up to multiple orders of magnitude faster. The quality of alternative routes is evaluated using metrics like limited sharing, uniformly bounded stretch, and local optimality. The study confirms the viability of the penalty method for interactive applications, offering structurally diverse routes compared to via-node approaches. Despite progress, challenges remain in optimizing runtime and establishing generalized criteria for high-quality alternative routes.

Sl.No	Article	Author	Source	Year
1	Context-Aware and Resilient System Architecture for Autonomous Vehicles	*Tobias Kain, Philipp Mundhenk, Julian-Steffen Müller, Hans Tompits, Maximilian Wesche, Hendrik Decke*	Progress in Computing Applications Vol: 14 No: 2	2025

Abstract: This paper presents a novel, three-layered system architecture designed to enhance the reliability and safety of autonomous vehicles by dynamically adapting to contextual changes. The architecture consists of the context layer, reconfiguration layer, and architecture layer. The context layer extracts environmental and operational data, such as weather, traffic, and user preferences, and derives requirements from these inputs. The reconfiguration layer uses these requirements to plan adaptive actions, such as selecting software applications, assigning redundancy levels, and optimizing hardware deployment. The architecture layer then implements these changes on the vehicle's computing infrastructure, ensuring operational safety through monitoring and validation. Two illustrative use cases demonstrate how distinct driving scenarios—like premium highway rides or budget urban rides—influence application needs and redundancy levels. The application placement problem, which involves mapping applications to computing nodes while optimizing for constraints like CPU demand and safety, is tackled

using techniques such as linear programming and reinforcement learning. System self-awareness is maintained through continuous monitoring, enabling swift reconfiguration in the event of failures. The proposed approach is unique in its application of full-stack context awareness to autonomous systems, drawing inspiration from strategies in aerospace fault management. Future work includes implementing a simulator to validate the architecture's real-world feasibility.

Sl.No	Article	Author	Source	Year
2	A Modular and Secure Software Fusion Platform for Autonomous Driving Systems	*Philipp Mundhenk, München. Germany* *Enrique Parodi, Roland Schabenberger*	Progress in Computing Applications Vol: 14 No: 2	2025

Abstract: This paper introduces Fusion, a next-generation software platform designed to meet the complex safety, performance, and architectural demands of autonomous driving systems. Fusion uses a microkernel approach and blends service-oriented with component-based designs to ensure modularity, scalability, and robustness. It features an Object Specification Language (OSL) to define object behaviours and interactions, which are instantiated and configured through manifests, enabling clear and flexible system modelling. The architecture supports concurrency via execution contexts and offers transparent communication across distributed systems using a pluggable transport mechanism. Key challenges addressed include managing system complexity, achieving high performance with low latency, ensuring safety and fault tolerance in Level 4 autonomy, and securing sensitive data and communication. Design-time verification, enabled by Fusion's modelling capabilities, aids in early error detection and system optimization. Fusion also incorporates built-in services for health monitoring, logging, and scheduling, supporting a wide range of deployment environments from vehicles to simulation and cloud platforms. Currently used by Autonomous Intelligent Driving GmbH (AID), Fusion lays a foundational framework for developing safe, efficient, and adaptable autonomous driving applications. Future work aims to enhance the platform's predictability, real-time capabilities, and resilience to support continued evolution in autonomous vehicle technology.

Sl.No	Article	Author	Source	Year
3	Agent-Based Simulation Platform for Resilient Automotive Systems	*Philipp Weiss, Sebastian Nagel, Andreas Weichslgartner, Sebastian Steinhorst*	Progress in Computing Applications Vol: 14 No: 2	2025

Abstract: This paper introduces an adaptable demonstrator platform designed to simulate distributed agent-based automotive systems, addressing the rising complexity of software-defined vehicles. As automotive electronic control units (ECUs) consolidate, there is a shift toward modular software design with run-time adaptability, especially to meet fail-operational and safety requirements in autonomous driving. The proposed platform leverages a distributed, real-time simulation using the SimPy framework, enabling simulation of task execution and network communication among ECUs via the SOME/IP middleware. A key feature of the platform is its agent-based graceful degradation approach, which reallocates resources from non-critical to safety-critical applications during failures. The demonstrator setup, implemented on Raspberry Pi devices interconnected via Ethernet, effectively models real-world failover scenarios. The middleware supports decentralized service discovery and publishes/subscribe communication, enabling dynamic task reallocation and reconfiguration. Experimental results show strong alignment between simulated and actual network traffic, validating the platform's realism. It's hardware-agnostic, scalable architecture allows simulation on various configurations and network topologies. While real-time constraints may limit scalability on low-power hardware, the platform provides a valuable tool for evaluating emerging distributed automotive strategies in both academic and industrial contexts. The study concludes that this flexible simulation environment facilitates rapid development and testing of robust, fail-operational automotive systems.

Sl.No	Article	Author	Source	Year
4	Agile Requirement Engineering for Scalable Cloud Systems in Automated Vehicle Ecosystems	*Armin Mokhtarian, Alexandru Kampmann, Bassam Alrifaee, Stefan Kowalewski, Bastian Lampe, Lutz Eckstein.*	Progress in Computing Applications Vol: 14 No: 2	2025

Abstract: The UNICARagil project aims to develop a cloud-based infrastructure supporting four types of fully automated vehicles—auto ELF, auto TAXI, auto CARGO, and auto SHUTTLE—each with distinct functional requirements. Given the project's scale, involving over 100 developers from 15 academic chairs and 6 industrial partners, agile requirement engineering becomes crucial. This paper introduces a structured

methodology combining agile and classical requirement engineering to accommodate evolving requirements across varied use cases. A template-based survey was designed to gather 47 use cases, which were transformed into 42 system requirements using a pattern-based approach that emphasizes completeness, clarity, and traceability. These were then translated into system design components and cloud services, resulting in over 70 API endpoints. The design leveraged Open API for endpoint specification, enabling automated code generation using tools like the Open API Generator and boot print to produce Flask server stubs and documentation. A GitLab CI pipeline ensures continuous integration by generating code and documentation upon each update. This iterative, modular, and scalable process allows rapid prototyping and adaptability, aligning well with the project's dynamic development environment. The proposed methodology proves effective in managing complexity and supporting the agile development of a cloud system for highly automated and networked vehicles.

Sl.No	Article	Author	Source	Year
1	Multi-Venue Basketball Match Scheduling Based on Simulated Annealing Algorithm	*Haiping Chen*	Journal of Digital Information Management Vol: 23 No: 1	2025

Abstract: This work studies the multi-venue basketball event scheduling plan based on a simulated annealing algorithm, aiming to improve the stability and fairness of event scheduling. By reviewing the application advantages and disadvantages of traditional intelligent algorithms in basketball event scheduling, this paper introduces the principle of simulated annealing algorithm and its application in basketball event scheduling. A basketball tournament scheduling plan based on a simulated annealing algorithm was designed and implemented for multiple competition venues, and its effectiveness was verified through experiments. The experimental results show that compared with traditional intelligent algorithms, the plan exhibits better performance in terms of stability and fairness.

Sl.No	Article	Author	Source	Year
2	An Android Malware Detection Method Based on MLSTM	*Yi Liu, Md Gapar Md Johar, Jacquline Tham*	Journal of Digital Information Management Vol: 23 No: 1	2025

Abstract: With the popularity of smartphones and mobile applications, the threat of Android malware is increasingly serious. The analysis and behaviour modelling of Android malware features is studied to realize the efficient and accurate detection of Android malware, and an Android malware detection method combining mean aggregator and long-term and short-term memory is proposed. The results show that the improved system detection time is relatively stable regardless of the number of samples. The average detection time of the improved and unimproved systems is 0.274 s and 0.336 s, respectively, and the improved detection efficiency of the improved system is more prominent. The highest improvement rate of the enhanced system reached 18.2%. Compared with other models, the average absolute error and root mean square error were the smallest, with 3.84 and 6.26, respectively, indicating that the detection performance of the improved model is the best. With permission features and third-party library features, the accuracy of the enhanced model was 98.89% and 92.65%, and the recall rate was 99.24% and 99.09%, respectively. The improved model detection performance is good, and the robustness and stability are enhanced. Applied to actual Android devices, it can improve the security and privacy protection level of user data. This method ensures enhanced efficiency and stability and provides a certain reference direction for Android malware detection.

Sl.No	Article	Author	Source	Year
3	Performance Evaluation of Software in Large Data Environments Utilizing Time-Managed Computation Tree Logic	*Yuan Sun, Md Gapar Md Johar, Jacquline Tham*	Journal of Digital Information Management Vol: 23 No: 1	2025

Abstract: The research aims to solve the problems of unstable performance parameters and insufficient coverage in software testing and proposes a big data platform software performance testing system based on the clock-controlled computation tree logic method. The particle swarm algorithm finds the optimal solution through the movement and cooperation of particles in the search space. The genetic algorithm evolves the population through selection, crossover, and mutation operations, ultimately finding the optimal solution. Secondly, long short-term memory networks and linear autoregressive models also have advantages in software testing, which can improve the effectiveness and

efficiency of software testing through reasonable selection and combined use. The research uses the algorithmic logic of the particle swarm and genetic algorithms to confirm the software testing system's moment parameters and other information. At the same time, an algorithmic model researches the joint coverage and the use of the system's value, and finally, the big data platform is used to analyse the research system. The innovative combination of the CCTL method and optimization algorithm in the research has improved the accuracy and stability of software testing. The research results show that using the system to test software can achieve a coverage rate of 100% for its component use cases, while the functional coverage rates of the genetic algorithm and particle swarm algorithm reach 90.36% and 91.32%, respectively. The accuracy of software testing for researching usage methods is 5% and 6% higher than testing methods. When the moment range of the particle parameter position information of the model is [150 Ms, 250Ms], the maximum value of the target parameter velocity is 80 m/s, and the minimum value is 0 m/s. The maximum value of the target azimuth velocity is 20 rad/s, and the minimum is 0 rad/s. The system can determine the various parameters of the software, and at the same time, if the software test results on the test results are typical, fault analysis can be completed typically; the performance of the use of algorithms is also better than other algorithms, and the study of the use of algorithms with a higher degree of stability. The system and methods used in this research are better than traditional methods, and the test results in software testing have improved, providing a research direction for software testing after the research.

Sl.No	Article	Author	Source	Year
4	Regional Carbon Emission Prediction and Low-carbon Path Analysis Based on BP Neural Network Model	*Xuanke Zhang, Lijun Wu, Jun Yang, Runbin Xue, Yong Tong, Yali Lei, Wenya Fang, Ronghua He*	Journal of Digital Information Management Vol: 23 No: 1	2025

Abstract: To attain carbon emission control and sustainable economic development, tailored low-carbon policies must be adapted to distinct regional contexts. Given disparities in key industries, economic growth, and resource availability, variations in carbon emissions across China's eastern, central, and western regions necessitate divergent low-carbon strategies. To comprehensively grasp regional carbon emissions and provide precise recommendations, a Lasso regression method identified five influential factors from seven, including population, per capita GDP, total energy consumption, energy mix, industrial makeup, urbanization rate, and forest coverage. Analysing the link between carbon emissions and total output, a predictive model employed a GAoptimized BP neural network to forecast emissions. Findings indicate higher carbon emissions in the developed eastern region due to rapid economic growth, industrial production, and energy use. While the east region maintains emission leadership, emission growth rates converge, reflecting nationwide progress in reduction efforts. Future strategies should

focus on regional development, exploring low-carbon paths through energy restructuring, urban optimization, and synergy of energy strengths, thereby achieving shared low carbon objectives.

Sl.No	Article	Author	Source	Year
1	Agricultural Information Needs of Small Holder Farmers of Karnataka: A Pilot Study at Ramanagara District	*K S Parvathamma, B N Hemavathi*	International Journal of Information Studies Vol: 17 No: 2	2025

Abstract: This study was conducted to track the agricultural information needs and resources available to farmers in their crop management. Along with this study, efforts were made to address the challenges farmers face when using technology in agriculture. A survey was conducted among farmers of the Ramanagara District of the Karnataka State in India in 2022-23. The survey findings showed that farmers mainly needed information on seed selection and treatment, price, fertilisers, marketing information, crop disease, and pesticides. They preferred traditional methods of receiving and using farm information, perhaps due to the non-accessibility of other newer modes. Most farmers indicated that they had found it challenging to apply technology when using it in their agricultural activities.

Sl. No	Article	Author	Source	Year
2	Turning Pages: Understanding User Engagement in Information Needs Expression and Preferences	*Pallabi Sarkar, Subhash Reddy B.*	International Journal of Information Studies Vol: 17 No: 2	2025

Abstract: This paper highlights the effectiveness of the services and facilities provided by the PES University Libraries. The university has six libraries spread across the campus, each offering information. All libraries are automated with KOHA library management software, and the Central Library utilises Bibliotheca RFID technology. The library team has enhanced the utilisation of web-based e-resources, e-books, print books, and print journals. This study aims to analyse how users benefit from library services and facilities.

Sl. No	Article	Author	Source	Year
3	Artificial Intelligence Ethics and Best Practices in Libraries: A Narrative Review	*Oladimeji Eyitayo Yemi-Peters, Bolaji David, Victoria Ifeoluwa Yemi-Peters*	International Journal of Information Studies Vol: 17 No: 2	2025

Abstract: This study explores integrating artificial intelligence (AI) technologies in libraries, focusing on the ethical considerations, challenges, and best practices that shape their implementation and impact. Ethical principles such as privacy, fairness, transparency, and accountability are critical guiding frameworks for AI integration in libraries. Challenges, including cost constraints, technical complexity, and data privacy concerns, are examined, underscoring the need for vigilant attention to ethical considerations and responsible practices. Best practices in AI implementation, such as user-centric design, data privacy and security measures, and continuous monitoring and evaluation, are elucidated as strategies to promote ethical, effective, and equitable use of AI technologies in libraries. Moreover, staff training and capacity building on ethical considerations are essential for navigating ethical dilemmas and ensuring ethical decision-making in AI deployment. The paper concludes with a call to action for libraries to prioritize ethical considerations and adopt responsible AI practices in alignment with the core values of librarianship.

Sl. No	Article	Author	Source	Year
1	Secured hash Techniques for the Analysis of Physical Health Based on Third Party and Apriori Algorithm	*Nan Zhang*	Journal of Information Security Research Vol: 16 No: 1	2025

Abstract: This article aims to conduct empirical testing on 6043 students from 7 high schools to explore the data background and potential risks that third-party physical health measurements can reveal. Through Apriori Analysis of algorithms, we have concluded that there is a certain degree of similarity between the results and reference values of most indicators when measured by a third party. Therefore, this paper can effectively reveal the potential risks to effectively control and reduce the possible risks when preventing and treating diseases. Through the Apriori algorithm, we found that six rules with more than 10% support showed relatively small interaction between the Standing long jump and other sports. Therefore, we concluded that the athletes from seven middle schools had relatively good physical conditions, muscle elasticity, strength, and durability. In addition, data from third parties can more accurately reflect athletes' exercise status.

Sl. No	Article	Author	Source	Year
2	Data Mining-based Calculation and Comparative Analysis of Common Cause Failure Score for System Security	*Yonghui Ma*	Journal of Information Security Research Vol: 16 No: 1	2025

Abstract: In this study, we employed a novel technique, data mining, to accurately evaluate the failure rate of secure computers, providing valuable data information for our decision-making layer. This technique is beneficial not only for our decision-making but also for the long-term operation of our systems. Through in-depth analysis, we discovered inherent connections among various failure events and their mutual impacts. These findings contribute to a deeper understanding of common cause failures in secure computer systems and prepare for enhancing their security. Establishing a robust information system is essential to meet the increasing demands, especially in the complex internet environment where secure digital computer systems face ever-growing challenges.

Sl. No	Article	Author	Source	Year
3	Application of Swarm Intelligence Algorithms in Higher Vocational Teaching	*Qin Li*	Journal of Information Security Research Vol: 16 No: 1	2025

Abstract: College Chinese," as a core course in literary majors, faces challenges in achieving its intended goals due to the limitations of traditional teacher-centred teaching methods and students' lack of enthusiasm. This study adopts genetic algorithms, particle swarm algorithms, hybrid frog-leaping methods, and swarm intelligence optimization algorithms to improve this situation. Through practical application, it is found that these methods outperform traditional manual and composite methods. However, in-depth research reveals that swarm intelligence algorithms have lower solving efficiency. To better meet practical application needs, a series of convergence and precision adjustments are applied to the results obtained by the swarm intelligence algorithms. Furthermore, improvements are made to the hybrid frog-leaping algorithm to cater to various engineering improvement requirements. Using artificial intelligence algorithms to guide classroom activities expands students' thinking and inspires their minds to better cope with multiple complex engineering challenges.

Sl. No	Article	Author	Source	Year
4	Design and Research of Students' Secured Education System Based on Personalized Recommendation	*Hao Qin*	Journal of Information Security Research Vol: 16 No: 1	2025

Abstract: This study aims to develop a secure education solution that meets the individual needs of different college students, helping them grasp knowledge better, enhance their learning enthusiasm, and stimulate their motivation. The research adopts experimental design and analysis methods, setting up experimental and control groups, collecting experimental data, and conducting data analysis. The matrix factorization algorithm is used to obtain a suitable system, and the experimental results show that personalized recommendation systems can recommend secure education resources that meet the users' needs based on their personal characteristics and interests, thereby increasing their attention and interest in learning and enhancing learning effectiveness. The college students' secure education system based on personalized recommendation has potential and room for development, and its performance and user experience can be improved through continuous optimization of recommendation strategies and algorithms. This research provides valuable references for the design and study of personalized recommendation systems in college students' secure education.

Sl. No	Article	Author	Source	Year
1	Improved K-means Algorithm and its Application in University Public Physical Education	*Li Huang*	Journal of Information Security Research Vol: 16 No: 2	2025

Abstract: In the current context, where national sports have established new goals and requirements for university sports, the limitations and one-sidedness of traditional teaching methods have become evident. For the current university public physical education, there is a need for more scientific and effective strategies, which would result in improved teaching efficiency and more engaging teaching content. By introducing the particle swarm algorithm, we can better utilize K-means technology to extract data features and relationships in physical education courses and verify the effectiveness of clustering through information theory. We can also apply this algorithm to university public physical education to improve teaching quality. The application of the improved K-means algorithm can significantly enhance the quality of physical education, provide valuable data support and effectively improving the efficiency of course management, thus better meeting the needs of students.

Sl. No	Article	Author	Source	Year
2	Identification of Software Security Topics using Similarity of Embedding Vectors of Keywords	*Phong Minh Vu1 and Tung Thanh Nguyen*	Journal of Information Security Research Vol: 16 No: 2	2025

Abstract: Software security incidents occur every day and thousands of software security reports are announced each month. Thus, it is difficult for software security researchers, engineers, and other stakeholders to follow software security topics of their interests in real-time. In this paper, we propose, SOSK, a novel tool for this problem. SOSK allows a user to import a collection of software security reports. It pre-processes and extracts the most important keywords from the textual description of the reports. Based on the similarity of embedding vectors of keywords, SOSK can expand and/or refine a keyword set from a much smaller set of users provided keywords. Thus, SOSK allows users to define any topic of their interests and retrieve security reports relevant to that topic effectively. Our preliminary evaluation shows that SOSK can expand keywords and retrieve reports relevant to user requests.

Sl. No	Article	Author	Source	Year
3	From Threat to Response: Cybersecurity Evolution in Albania	*Klorenta Pashaj, Vilma Tomço, Eralda Gjika*	Journal of Information Security Research Vol: 16 No: 2	2025

Abstract: As Albania's digital landscape expands, its vulnerability to sophisticated cyber threats increases correspondingly. This study explores the evolution of Albania's cybersecurity strategies, tracing the shift from reactive measures to a proactive defence approach. It critically examines significant cyber incidents that have shaped the national cybersecurity landscape, assessing how they have influenced Albania's current cyber defence strategies. The focus is on how Albania has tailored its strategic responses to enhance digital resilience and national security. In the second part, the paper provides an in-depth review of the threat models prevalent in the Western Balkans and Albania, highlighting key areas where Albania's cyber management requires further development. One key recommendation is the forecasting of cyberattacks, which could benefit from the application of timeseries and machine learning techniques to enhance predictive capabilities. This approach emphasizes adapting to emerging threats and fostering international cooperation to bolster Albania's cybersecurity infrastructure.

Sl. No	Article	Author	Source	Year
1	Design of Smart City Government Integrated Service System Based on Hybrid Cloud Computing	*Weiyu Fu1*	International Journal of Web Applications Vol: 17 No: 1	2025

Abstract: Information and communication technology (ICT) makes cities "smart," enabling more efficient and advanced municipal services for citizens. However, more research must be done on reference models and application examples specifically for municipal service platforms based on cloud-edge collaboration. Therefore, this paper first develops a reference model (e-government self-service system) that includes resource collaboration, application collaboration, service collaboration, and security collaboration and discusses the main content and challenges of each part. Then, a dynamic resource allocation model based on game theory is introduced to address the issue of resource allocation in cloud-edge collaboration. Finally, a cloud-edge collaborative e-government self-service system is designed and implemented.

Sl. No	Article	Author	Source	Year
2	Analysis of Sports Teaching Mode Based on Online Teaching Platform	*Bowen Xiao, Wei Xiao.*	International Journal of Web Applications Vol: 17 No: 1	2025

Abstract: With the widespread application of neural networks and advanced network technology, smart phones with perfect functions have been recognized as necessities in daily life, learning, work, and leisure. However, in teaching for people's daily exercise, the old traditional teaching mode is still used, which cannot achieve good teaching results. This article proposes a new intelligent learning model that utilizes artificial neural networks to process information. We also apply this model to build an actual training ground and calculate some effective training strategies here. Our research found that students' skills, professionalism, and learning enthusiasm have significantly improved in the training ground using artificial intelligence. The effect of this model in training far exceeds the expectations of artificial intelligence.

Sl. No	Article	Author	Source	Year
3	Internet Technology and Interaction Design in Intelligent Toy Products with the Internet of Things Architecture	*Ying Zhang*	International Journal of Web Applications Vol: 17 No: 1	2025

Abstract: Smart toys are a specific application of modern intelligent technology. Using modern Internet technology to realize the educational function of toys is an important research direction of modern intelligent toys. To combine smart toys with Chinese cultural education and apply virtual experience and interaction design to the teaching process, the virtual experience and interaction design of cultural education in intelligent toy products is studied under the Internet of Things (IoT) architecture. Two interactive genetic algorithm application models are established based on composite fitness allocation strategy (HFAS) and hierarchical fitness allocation strategy. The parameter settings of the composite fitness allocation strategy are analysed, and the optimal allocation strategy for hybrid fitness is selected. The scheme and the design of intelligent toy products explore the intelligent vehicle design artificial intelligence case applied by the interactive genetic algorithm in the cultural education of intelligent toy products. It can be seen from the algorithm test in the text that for the designer of the smart bowl fern. Through the evolutionary iteration of the feature line, each generation of offspring population can produce five individuals while having less impact on the next generation, can make better individuals, and the design results can better meet customer needs.

Sl. No	Article	Author	Source	Year
4	Exploration and Practice of Courses under Gaussian Mixture Model Mode	*Zhang Peng, Jingjing Yao, Kai Luo*	International Journal of Web Applications Vol: 17 No: 1	2025

Abstract: Education in universities often takes on the responsibility of moral education, which is crucial for college students' ideals, beliefs, spiritual pursuits, and political literacy. This paper analyzes the learning motivation of different student groups based on the Gaussian Mixture Model (GMM). It compares the participation characteristics of different learning motivation clusters, the differences in the performance of courses among students with different learning motivations, and the potential connections between learning motivation and learners' educational levels. In conclusion, applying the Gaussian Mixture Model in courses can help teachers better understand students' learning situations and needs, grasp the characteristics and patterns of the curriculum, assess teaching effects and issues, and thereby improve the quality and learning outcomes.

Sl. No	Article	Author	Source	Year
1	Web-based Solutions for Psychological Health of Students under Various Stress Management Interventions	*Shao Guohua*	International Journal of Web Applications Vol: 17 No: 2	2025

Abstract: In recent years, with the continuous changes in social environment and educational models, college students are facing increasing pressure and mental health problems are gradually becoming prominent. To effectively address these issues, research on the mental health of college students based on multiple stress management intervention plans has become a topic of great concern. This article will introduce and evaluate the study. This study explores the effectiveness of numerous web-based stress management intervention programs on the mental health of college students. By comparing the experimental group and the control group, the study found that multiple stress management interventions can improve the mental health level of college students, reduce negative emotions such as anxiety and depression, and improve self-efficacy. Specific intervention measures include cognitive reconstruction, emotional regulation, coping skills training, life planning, and other aspects. The research results are of great significance for improving the mental health level of college students and promoting their comprehensive development.

Sl. No	Article	Author	Source	Year
2	Comparative Analysis of Changes in the Web-based Clinical Biomedical Viral Therapy Based on Liver Function	*Li-jun Yu, Zi-ping Chen*	International Journal of Web Applications Vol: 17 No: 2	2025

Abstract: Liver disease is a common digestive system disease that seriously affects patients' quality of life and prognosis. As an emerging treatment method, viral therapy has shown certain potential in treating liver diseases. However, many viral treatment strategies are currently available in the market, and patients and doctors need help in choosing treatment methods. Therefore, this article aims to provide more comprehensive treatment recommendations for patients and doctors by comparing and analysing clinical biomedical viral therapies based on liver function. This article provides a systematic review and analysis of relevant literature on clinical biomedical online viral therapy based on liver function in recent years. The literature covers various viral treatment strategies, including viral vectors, genetically engineered viruses, and oncolytic viruses. The research results show efficacy, safety, and durability differences among different virus treatment strategies. Some viral

treatment strategies have shown high treatment efficiency and good tolerance in clinical trials, while others have specific toxic side effects or treatment limitations.

Sl. No	Article	Author	Source	Year
3	Analysis of Volleyball Athlete Training Trajectory Data Capture Based on Mean Shift Algorithm	*Junjie Liu*	International Journal of Web Applications Vol: 17 No: 2	2025

Abstract: With the improvement of sports competition level, the requirements for sports training are constantly increasing. To overcome the difficulties of trajectory acquisition brought about by complex backgrounds and fast target motion, this paper proposes a sports training trajectory data capture technique based on the mean shift algorithm. The human body model is regarded as a skeletal model with 51 degrees of freedom and 16 joints, enabling the digitization of training trajectories. Dimension reduction is applied to the trajectory data to reduce computational load. To reduce the dependence of the mean shift algorithm on environmental parameters, the probability density function in the gradient iteration estimation algorithm is selected, utilizing the colour information of the target as a feature to capture trajectory data. Experiments demonstrate that the method can accurately capture the movement of each joint in the athlete and complete the capture of training trajectory data without relying on related parameters.

Sl. No	Article	Author	Source	Year
1	Enhancing Coalition Formation in Multi-Agent Systems through Emotion-Informed Decision Making	*Martyn Lloyd-Kelly and Luke Riley*	Journal of E-Technology Vol: 16 No: 3	2025

Abstract: This paper explores a hybrid approach to coalition formation in Multi-Agent Systems (MAS) by integrating emotional modelling into rational decision-making processes. In traditional MAS, autonomous agents form coalitions to achieve individual or collective goals, usually by optimizing for payoffs. However, such processes can be computationally expensive due to the exponential number of potential coalition combinations. Recognizing that human coalition formation involves emotional elements like trust, gratitude, and anger, the authors propose

an emotion- based model to guide agents in coalition decisions. The model uses the OCC (Ortony, Clore, and Collins) framework to quantify emotional dispositions—specifically anger and gratitude—between agents, which influences their trust in one another. These emotional indicators reduce the state space that each agent must search when forming coalitions, thereby decreasing computational overhead. The hybrid model begins with rational processes when agents are emotionally neutral, but switches to emotional reasoning once emotional thresholds are met. Emotional states are updated based on coalition success or failure, dynamically influencing future coalition decisions. The paper demonstrates through examples how this model can streamline coalition formation by eliminating unlikely or unfavourable partnerships early. While the method does not guarantee optimal coalition structures, it prioritizes efficiency in complex or time sensitive scenarios. Future work includes implementing the model in simulations to test performance, exploring other emotional factors, and varying emotional sensitivity to simulate different agent personalities. This approach aims to bring coalition formation in MAS closer to human-like behaviour while enhancing computational efficiency

Sl. No	Article	Author	Source	Year
2	Engaging Students in E-Learning System Design: A Pilot Study Using a Unique Model	*Lei Shi, Dana Al Qudah and Alexandra I. Cristea*	Journal of E-Technology Vol: 16 No: 3	2025

Abstract: This paper presents a pilot study that explores the unique model, a student-cantered participatory design framework used to develop e-learning systems. The methodology emphasizes involving undergraduate\ students, particularly those in computer science, in the design process to capture real user needs and enhance the relevance of educational technologies.

Sl. No	Article	Author	Source	Year
1	The Enhanced Firefly Algorithm Based on Modified Exploitation and Exploration Mechanism	*Moath Sababha , Mohamed Zohdy and Maged Kafafy*	International Journal of Fluid Mechanics Vol: 17 No: 1	2025

Abstract: As a nature-inspired search algorithm, the Firefly algorithm (being a naturally outstanding search algorithm with few control parameters) may have a considerable influential performance. In this paper, we present a new firefly algorithm to address the parameter

selection and adaptation strategy in the standard firefly algorithm. The proposed firefly algorithm introduces a modified exploration and exploitation mechanism, with adaptive randomness and absorption coefficients. The proposed method employs the adaptation of the randomness and absorption coefficients to be a function of time/iterations. Moreover, Gray relational analysis advancing fireflies is used to allocate different information from appealing ones effectively. Standard benchmark functions are applied to verify the effects of these improvements, and it is illustrated that, in most situations, the performance of the proposed firefly algorithm is superior to (or at least highly competitive with) the standard firefly algorithm, and state-of-the-art approaches in terms of performance.

Sl. No	Article	Author	Source	Year
2	Design and Implementation of a Sensor-Cloud Platform for Physical Sensor Management on CoT Environments	*lei hang, wenquan jin, hyeonsik yoon, youg geun hong and do hyeun kim*	International Journal of Fluid Mechanics Vol: 17 No: 1	2025

Abstract: The development of the Internet of Things (IoT) has increased the ubiquity of the Internet by integrating all objects for interaction via embedded systems, leading to a highly distributed network of devices communicating with human beings as well as other devices. In recent years, cloud computing has attracted a lot of attention from specialists and experts around the world. With the increasing number of distributed sensor nodes in wireless sensor networks, new models for interacting with wireless sensors using the cloud are intended to overcome restricted resources and efficiency. In this paper, we propose a novel sensor-cloud based platform which can virtualize physical sensors as virtual sensors in the CoT (Cloud of Things) environment. Virtual sensors, which are the essentials of this sensor-cloud architecture, simplify the process of generating a multiuser environment over resource-constrained physical wireless sensors and can help in implementing applications across different domains. Virtual sensors are dynamically provided in a group which advantages capability of the management the designed platform. An auto-detection approach based on virtual sensors is additionally proposed to identify the accessible physical sensors nodes even if the status of these sensors is offline. To assess the usability of the designed platform, a smart-space-based IoT case study was implemented, and a series of experiments were carried out to evaluate the proposed system performance. Furthermore, a comparison analysis was made, and the results indicate that the proposed platform outperforms the existing platforms in numerous respects.

Sl. No	Article	Author	Source	Year
3	An Effective Switching Algorithm for Single Phase Matrix Converter in Induction Heating Applications	*anand kumar, pradip kumar sadhu, dusmanta kumar mohanta and maddikara jaya bharata reddy*	International Journal of Fluid Mechanics Vol: 17 No: 1	2025

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

Sl. No	Article	Author	Source	Year
4	A “Smart” Trap Device for Detection of Crawling Insects and Other Arthropods in Urban Environments	*Panagiotis Eliopoulos, Nikolaos-Alexandros Tatlas, Iraklis Rigakis, Ilyas Potamitis*	International Journal of Fluid Mechanics Vol: 17 No: 1	2025

Abstract: We introduce a device for the automatic detecting and reporting of crawling insects in urban environments. It is a monitoring device for urban pests that complies with the context of smart homes and smart cities and is compatible with the emerging discipline of the Internet of Things (IoT). We believe it can find its place in every room of a hotel, hospital, military camp, and residence. This box-shaped device attracts targeted insect pests, senses the entering insect, and takes automatically a picture of the internal space of the box. The e-trap includes strong attractants (pheromone and/or food) to increase capture efficiency and traps the insect on its sticky floor. The device carries the necessary optoelectronic sensors to monitor all entrances of the trap. As the insect enters it interrupts the infrared light source. This triggers a detection event; a picture is taken, and a timestamp is set before delivering the picture through the Wi-Fi to an authorized person/stakeholder. The device can be integrated seamlessly in urban environments and operates unobtrusively to human activities. We report results on various insect pests and depending on the insect species, can reach a detection accuracy ranging from 96 to 99%.

Sl. No	Article	Author	Source	Year
5	Multichannel and Multistate All-Optical Switch Using Quantum-Dot and Sample-Grating Semiconductor Optical Amplifier	*omar qsasimeh*	International Journal of Fluid Mechanics Vol: 17 No: 1	2025

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

Sl. No	Article	Author	Source	Year
1	Construction of a Vocational Education Teaching Quality Governance System based on Genetic Algorithm	*Aibing Wang, Yapeng Liu, Lu Chen3, Huaxin Zhang*	Journal of E-Technology Vol: 16 No: 1	2025

Abstract: This paper addresses issues in the governance of vocational education teaching quality and proposes a construction method for a governance system based on a genetic algorithm. Both domestically and internationally, research progress has shown some important advancements in the governance of vocational education teaching quality, including the design of evaluation indicator systems and governance strategies. By analysing the current challenges and demands in vocational education teaching quality and the advantages of genetic algorithms in optimization problems, this study constructs a governance system with the genetic algorithm as its core. This system aims to optimize vocational education teaching quality, enhance educational effectiveness, and achieve these goals by establishing a rational evaluation indicator system, formulating effective governance strategies, and implementing mechanisms

Sl. No	Article	Author	Source	Year
2	Enhancing the Competence of College Counsellors in Student Education through Big Data Algorithms	*Yuqi Zhang, Nan Hou2, Shuyang Zhang.*	Journal of E-Technology Vol: 16 No: 1	2025

Abstract: This paper aims to explore the path of enhancing the competence of college counsellors in student education through big data algorithms. A review of relevant research progress both domestically and internationally found that big data algorithms have great potential for application in student education in colleges and universities. Addressing the challenges faced by college counsellors in improving their competence, a set of paths based on big data algorithms is proposed, including technological, methodological, mechanistic, and algorithmic innovations. Finally, a series of experiments are designed, and the results are analysed to validate the effectiveness of the proposed path. The research results indicate that the path of enhancing the competence of college counsellors based on big data algorithms can effectively improve their student education capabilities and provide strong support for enhancing higher education quality.

Sl. No	Article	Author	Source	Year
3	Effectiveness Evaluation of Online Interactive Mode for College English: A Perspective Based on Big Data Analysis	*Zhe Zhang*	Journal of E-Technology Vol: 16 No: 1	2025

Abstract: Online interactive teaching mode is one of the important ways for modern universities to achieve effective teaching. To enhance the reliability of the effectiveness evaluation of online interactive teaching mode, this paper constructs a college English online interactive mode effectiveness evaluation model based on big data mining algorithms. The model achieves effective data preprocessing and results in the ranking of evaluation data based on the teaching effectiveness evaluation system. The experimental results show that the proposed English online interactive mode effectiveness evaluation model has lower evaluation result error, better reliability, authenticity, and flexibility, and better fits the actual evaluation results of the English online interactive mode

Sl. No	Article	Author	Source	Year
4	Optimization Design of Green Architecture Landscape Space Environment in Traditional Villages based on Niche Genetic Algorithm	*Qing Zeng*	Journal of E-Technology Vol: 16 No: 1	2025

Abstract: This paper focuses on the optimization design of the green architecture landscape space environment in traditional villages using the niche genetic algorithm. The purpose is to explore how to improve traditional villages' green architecture landscape space environment through optimization design methods. By analysing the cultural characteristics and environmental issues of traditional villages and combining domestic and foreign research progress, a niche genetic algorithm-based optimization design method is proposed. Experimental results demonstrate that this method effectively enhances traditional villages' green architecture landscape space environment, thereby improving the residents' quality of life and environmental adaptability. This research provides a new approach and method for the sustainable development of traditional villages

Sl. No	Article	Author	Source	Year
1	Connecting the Dots: Challenges in Integration of IoT in Information and Learning Resource Centers (ILRCs)	*Beeresh N Gundur, B T Sampath Kumar.*	Journal of E-Technology Vol: 16 No: 2	2025

Abstract: The Internet of Things (IoT) presents a chance to shift from traditional operations to intelligent operations, encompassing a wide range of tasks for ILRCs. By incorporating IoT technologies into ILRCs, there can be a significant enhancement in conventional information services, leading to improved user experiences and operational effectiveness. This article delves into the definition of IoT and its various applications within ILRCs, intending to understand its advantages and impacts comprehensively. Through an in-depth examination of existing literature, this study outlines its influence on ILRC services and suggests the paths for integrating IoT to better meet user needs. With the applications of IoT, ILRCs have the potential to transform into vibrant centres of innovation and interaction, addressing the varied requirements of modern users.

Sl. No	Article	Author	Source	Year
2	Research on the Application of Intelligent Algorithms in the Study of Theory Courses	*Geling Zhou*	Journal of E-Technology Vol: 16 No: 2	2025

Abstract: This paper investigates how intelligent algorithms can improve the probability of learning acceptance in theory courses. The application of smart algorithms in education is becoming increasingly widespread. This research covers the principles and applications of intelligent algorithms and measurement methods for learning acceptance probability. Through experiments and data analysis, we conclude that intelligent algorithms positively impact the likelihood of learning acceptance, enhancing student engagement and effectiveness. Furthermore, we also identify trends and patterns in the changes of learning acceptance probability, which provides important insights for future teaching. As we advance, we suggest further research and optimization of intelligent algorithms to meet the needs of teaching better and give the students more personalized and efficient learning experiences.

Sl. No	Article	Author	Source	Year
3	Design of a Deep Learning-Based Psychological Counselling System for College Students' Mental Health	*Ling Pan, Haili Ma,Yongqiang Li*	Journal of E-Technology Vol: 16 No: 2	2025

Abstract: In response to the necessity of psychological counselling for college students' mental health, this paper proposes a psychological counselling and assessment system based on PG Caps Net. The system aims to achieve both college students' psychological health assessment and real-time online counselling, while improving the accuracy of predicting their mental health status. An experienced psychological counsellor is crucial for college students' mental health and crisis management. The simulation results demonstrate that compared to other models, using the PG Caps Net model can effectively improve the levels of precision, recall, F1-measure, and accuracy of the college student psychological counselling system, achieving 70%, 75%, 72%, and 74%, respectively. This validates the feasibility and superiority of this design. This paper discusses a novel algorithm that combines capsule networks and convolutional neural networks, incorporating dynamic routing algorithms and deep learning capabilities

Sl. No	Article	Author	Source	Year
4	Application Research on Improved Particle Swarm Computational Intelligence Algorithm for Multi-objective Optimization in Education	*Lingxiu Sun1, Mao Rui*	Journal of E-Technology Vol: 16 No: 2	2025

Abstract: In today's world, optimization problems are becoming increasingly prominent, and the progress in optimization technologies can not only bring considerable economic benefits but also highlight their outstanding social value, making significant contributions to the sustainable development of the ecological environment. Due to their educational positioning and disciplinary development needs, local application-oriented universities tend to overlook the optimization and development of theory courses in their growth, leading to lagging reforms in education and suboptimal teaching outcomes. To enhance the teaching effects of courses in local application-oriented universities, it is essential to scientifically design class contents, actively carry out practical teaching, adapt to the needs of the times, build an "Internet + Courses" online teaching platform, and continuously innovate teaching modes of courses.

Sl. No	Article	Author	Source	Year
1	Adaptation emotion cognition ability of learner for learner centric Tutoring Incorporative pedagogy recommendation	*Neelu Jyothi, Ninni Singh and Amitkumar*	International Journal of Artificial Intelligence and Computational Research Vol: 17 No: 1	2025

Abstract: An initial tutoring strategy characterized by a learner profile and learning style is assigned to a learner, in response to an assessment conducted in the pre-tutoring phase. As tutoring commences, the learner activity is recorded, as image of the learner at periodic intervals. The performance parameters and captured image elucidating the facial expression is used to interpret the emotion, classified to determine the learner's degree of engagement and comfort level with the tutoring session, Comparison with preset threshold values triggers the decision to change the tutoring strategy for the learner. The aim is to make learning most effective by tutoring in a manner most suitable to the learning performance of the learner. A tutoring system developed with its detailed architecture and working of the emotion recognition module of the tutoring engine, the test results obtained by testing on 20 participants have been presented in this paper.

Sl. No	Article	Author	Source	Year
2	Determination of Indole-3-Acidie Acid (AUXIN) levels in plant species utilizing phylogenetic investigation	*Kanchana V*	International Journal of Artificial Intelligence and Computational Research Vol: 17 No: 1	2025

Abstract: Plant hormones are chemical messengers that are made in one spot in the body and convey their message in an entirely unexpected place in the body. Auxin is a plant hormone that is responsible for many aspects of plant growth. studies in experimental biology and biochemical and molecular biological findings relive that the AMII gene family encoding indole-3-acetamide hydrolase is common in the plant kingdom. Phylogenetic analysis is used to analyse the auxin level in any plant provided any nucleotide sequence. An iterative method is used to analyse whether AMII or any gene is present in the given sequences or not, multiple sequence alignment algorithms are used for the comparison of the plant sequence. Gene sequence and nucleotide sequences which are used for the work is retrieved from NCBI or any gene bank database. In order to construct the phylogenetic tree phylogeny .for online tool is used for analysing the protein sequences.

Sl. No	Article	Author	Source	Year
3	Biogas electricity generation from biomass using IC engine	*Krishna Kumar M, Sreejith Kailas T. Ilango K, and Manjula G Nair*	International Journal of Artificial Intelligence and Computational Research Vol: 17 No: 1	2025

Abstract: Biogas is a fuel which has promising characteristic of replacing conventional fossil fuels. Because of this more ways of effectively utilizing biogas should be implemented. This paper proposes the simulation study of a biogas fed internal combustion engine that can produce electricity by running a permanent magnet synchronous generator. The engine is being controlled to a set speed by a speed controller. For providing continuous supply of biogas a storage tank at the outlet of an anaerobic digester is proposed. The proposed storage tank will have monitoring mechanism so that whenever the tank is being depleted the IC engine is shut off and when there is sufficient concentration of biogas it will provide an availability indication. Together with this a supervisory controller will monitor the system and control of the PMSG generation into a dc bus through power electronic interface.

Sl. No	Article	Author	Source	Year
4	Natural and formal languages at the higher level	*Amelec Viloria, Marisabel Luna, Elsa Lucas*	International Journal of Artificial Intelligence and Computational Research Vol: 17 No: 1	2025

Abstract: The present work aims to highlight the unification in human thinking of natural languages and formal languages, with their conceptual differences. Technological, economic and political contextuality oblige us to revise curricular programs in order to include the scientific and philosophical advances that have given way to technologies and methodologies, and consequently, to new languages that do not seek to achieve, nor could achieve, the vastness of the linguistic and diagnostic uses, but which dimension their action in smaller and more specific universes. Approaching these two "languages" would lead to a rethinking of "teaching of language" in its content and teaching strategies.

Sl. No	Article	Author	Source	Year
5	Adaptation of the general maturity model of knowledge management	*Luis Montanez -Carrillo, Jenny -Paola Lis Gutierrez*	International Journal of Artificial Intelligence and Computational Research Vol: 17 No: 1	2025

Abstract: The aim of this paper is to propose an adaptation to maturity model knowledge management called "General Knowledge Management Maturity Model" (G-KMMM) of Wimberly [1], adding a key area (strategy). For this, the model in its original version is presented, then an adjustment to the instrument KM assessment tool (KMAT) is performed, and finally we show the results of the application to validate the adjusted model. It was established that the adjusted model provides a more robust measure of the maturity of knowledge management in an organization, and this does not alter the benefits of the initial mode.

Sl. No	Article	Author	Source	Year
6	Automatic speech recognition system for Stuttering disabled persons	*Arya A Surya and Surekha Mariam Varghese*	International Journal of Artificial Intelligence and Computational Research Vol: 17 No: 1	2025

Abstract: About 1% of population suffers from stuttering. Stuttering or stammering is a speech disorder. It affects the fluency of speech. Stuttered speech contains the disfluencies, characterized by prolonged sounds, repetitions, incomplete phrases so on. In present world Automatic Speech Recognition (ASR) find its relevance in many applications. But Automatic Speech Recognition systems developed are not efficient in recognizing stammered speech. This paper proposes three methods i.e., using trained model, by removing prolongations/repetitions and by converting to text for recognizing stuttered speech.

Sl. No	Article	Author	Source	Year
7	Grading diagrams in Answer Scripts using support vector machine	*Pachami K S, Surekha Mariam, Varghese and Aby Ababai T*	International Journal of Artificial Intelligence and Computational Research Vol: 17 No: 1	2025

Abstract: Answer Script evaluation and grading is a tedious and time-consuming process for many of teachers, due to nonavailability of expert teachers and volume of answer scripts to be dealt with complicates descriptive university student evaluation system. Automated answer script evaluation is remedy to this problem. This type of evaluation results in a faster, more accurate and unbiased way of valuation. Most of the descriptive type answers include figures that contributes certain percentage of marks to the answers. Due to the advances in Natural Language Processing, currently there exists many automated text evaluation systems. These systems analyse a piece of text based on its semantics, context and spelling. Unfortunately, there are very fewer number developments as of now in the field of diagram evaluation. The proposed system aims to be a stepping stone in this field

Sl. No	Article	Author	Source	Year
1	Web recommendation system for end-users	*Chichili Vinathi and Shaik Naseera*	International Journal of Computer Science and Information Technology Vol: 18 No: 1	2025

Abstract: In this era where the availability of digital information is growing exponentially, Recommendation systems are utilized to suggest items of interests for end users. Suggestions are done here by using statistical and clustering techniques that assist in predicting the interests of user. This paper proposes a Web Recommendation System for End Users by proposing algorithms Modified K-Means Clustering and Vector Space Model algorithm. Vector Space Model algorithm is exploited for enhancing the data classification and making it uniform followed by modified K-Means clustering on input data that is retrieved from using Vector Space Model algorithm. Recommendations are done by utilizing text categorization from Search Keyword.

Sl. No	Article	Author	Source	Year
2	Performance comparison of SVM and C4.5 Algorithms for Heart disease in diabetics	*Viswanathan K, Mayilvahanan K and Christy pushpaleela*	International Journal of Computer Science and Information Technology Vol: 18 No: 1	2025

Abstract: The purpose of this research paper is to study and discuss the various classification algorithms applied on different kinds of medical data sets and compares its performance. Among various classification algorithms, the performance analysis was done by considering in algorithm with maximum ac curacies on various kinds of medical data sets. Also this paper discusses the comparison of SVM and C4.5 algorithms on high dimensional patient data sets, In this paper we will predict whether the diabetic patients will be suffered from heart disease or not.

Sl. No	Article	Author	Source	Year
3	Web Image Based auto clustering of Cartoons using Contour filter and refine technique	*C. Menaka and N. Nagadeepa*	International Journal of Computer Science and Information Technology Vol: 18 No: 1	2025

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

Sl. No	Article	Author	Source	Year
4	Modular data logger sub-system design with real time constraints for weather ballon satellite	*Bhushan C. Patil, Amit Patwardhan and Rabinder Henry*	International Journal of Computer Science and Information Technology Vol: 18 No: 1	2025

Abstract: The main goal of the work presented here is to design a Modular Data logger system for low altitude weather balloon satellite that records temperature, humidity, particulate matters and infrequent anomalies for long durations. The data are obtained from sensors with respect to time and location. Multitasking embedded software with real time constraints have been developed to operate a data logging system based on an ARM based controller. The embedded software is implemented with combination of state machines and co-operative multitasking software. The results are obtained through Analog to Digital Converter and eight digital channels. These data are logged on to data storage

system. Combination of State machine and Co-operative multitasking results in flexible multitasking system in which any number of channels can be added easily without affecting real time performance.

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

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

Sl. No	Article	Author	Source	Year
6	School policy of Kazakhstan in conditions of Globalization	*Z. Yelbayeva and A. Mynbayeva*	International Journal of Computer Science and Information Technology Vol: 18 No: 1	2025

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

Sl. No	Article	Author	Source	Year
7	Grid deployment with clustering in wireless sensor networks	*Veena Anand and Sudhakar Pandey*	International Journal of Computer Science and Information Technology Vol: 18 No: 1	2025

Abstract: Wireless sensor networks (WSN)has not only become an important technology in current scenario but also established as a core for many applications such as internet of things (IOT). The Disadvantage of limited and non-rechargeable energy resource in WSN create a challenge for designing an energy efficient routing algorithm has become the research focus. Node deployment is regarded as a potential solution towards this problem as it significantly reduces energy consumption of the sensor nodes and thus enhances network lifetime. The paper proses an approach for improving network lifetime by using grid-based node deployment and PSO based clustering. so in this paper a grid-based node deployment is used and next, global optimal cluster head and are selected using particle swarm optimization-based clustering is designed finally the proposed algorithm is presented

Sl. No	Article	Author	Source	Year
1	The relationship between Board composition with real earnings management	*Aboutorab Ghasemi and Mohammad dreza Shoorvarzy*	International Journal of Marketing Theory Vol: 15 No: 1	2025

Abstract: Board composition is a control tool in company and determines the power of board. Thus, board composition is an important factor in explanation of the capability of members to perform duties. Under different situations, there are different economic motivations like receiving reward for managers dealing with earnings management as the value of company and wealth of managers and owners are relevant to the reported earnings. The present study evaluates this issue whether earnings management based on real activities can be affected by board composition or not. The main purpose of this study is evaluation of the board composition and earnings management based on real activities of companies listed on Tehran Stock Exchange (TSE). To evaluate this purpose, the financial data of 162 companies listed on TSE during 2009-2014 are evaluated. The required data is extracted from Rahavard Novin 3 software and is summarized, classified and computed using Excel

software. Also, the data is analysed using EViews 9 software. Based on statistical methods at confidence interval 0.95, the hypotheses are tested. In the present study, the relationship between board composition and real earnings management is evaluated via manipulation of real activities. Manipulation of real activities is manipulation of cash flow, production and discretionary expense. In this study, cash flow manipulation, production and discretionary expense are defined as abnormal cash flow, abnormal production and abnormal scretionary expense. The results of hypotheses test show that there was an inverse relationship between board composition and abnormal production and direct relationship with abnormal discretionary expense. There is no significant relationship between board composition and abnormal cash flow and real earnings management (comprehensive criterion).

Sl. No	Article	Author	Source	Year
2	Methodological framework for economic valuation of business enterprises	*Natalia A. Zavalko, Igor stepnov, Tataiana V, Butova and Veronica Kozhina*	International Journal of Marketing Theory Vol: 15 No: 1	2025

Abstract: In the economy, any actions subject to evaluation. Market-based management principles require the valuation of various objects of property (enterprise, business, intellectual property and other objects of property and non-property rights). The results of the valuation of various objects of ownership are one of the foundations for decision-making in the private and public sector. Valuation gives you a realistic idea of how the company will operate in the future. This is valuable for everyone: owners, managers, customers, suppliers, bankers, employees of insurance and tax services, investors. Valuation has become an integral tool in the Arsenal of the modern Russian businessman, financier, or Manager. Without the knowledge of the evaluation activities, it is difficult to do in conditions of market economy and the entrepreneur and government official, and politics and the ordinary citizen. Valuation allows both buyer and seller to conclude a transaction based on the reasonable cost of goods, because the market value considers not only individual costs and expectations, how the market situation in General, market expectations, the current economic development, market reaction to the object of the transaction.

Sl. No	Article	Author	Source	Year
3	Kolkata-The post Globalised Urban Heterotopia: Differential right to the city with reference to hierarchy of Marginalised spaces	*Apala Saha*	International Journal of Marketing Theory Vol: 15 No: 1	2025

Abstract: The city that Kolkata images today appear to be a manifestation of spatial and temporal heterotopias born to complicate the social construction of spaces and the spatial construction of social identities, more so pertaining to the post-liberal and post-global urban processes. The creation of first world spaces within third world cities altered the urban dynamics and the subsequent rights to the city. The segment of city space used, participated into and belonged to seem to have shaped the senses of accessibilities and denials, acceptances and rejections, freedoms and un-freedoms of the city dwellers across time stretches through every day(s), multiplying manifold in cities of the developing world constantly gaping to become world class cities. The claims to the city and their justifications thereafter get conditioned by an individual's imaginations, perceptions and expectations from the same city built through multiple spatial and temporal processes of accommodation and otherness up to a point in time when the othering has attained such common sense.

Sl. No	Article	Author	Source	Year
4	Internationalism: The determined strength in Himmat Shah's Art	*Arjun Kumar Singh*	International Journal of Marketing Theory Vol: 15 No: 1	2025

Abstract: During the 19th century, Indian art acquired a dilemma in developing its identity which ended with the rise of nationalism. During that time Indian artists started an expedition towards finding true Indigenous art. This development was not inspired from a superficial imitation of the past but from an understanding of the basic design principles and methodology underlying in all genuine visual creations. Artist Himmat Shah is one of them who explores his artistic journey with the help of art and design to reflect the idea of Internationalism. Through it, he has opened an aesthetical uniqueness and distinct personal approach. He handles the sculptural vocabulary following the modernist European contemporaries' and infuses his art in an international arena. This paper exposes Himmat Shah's abilities to juxtaposed Indian and Non-Indian aesthetics and tradition to build an expressive body of art. In the way of searching appropriate methodology, Himmat Shah has utilized clay as a major medium to express his artistic prowess. He has picked clay as a material from the earth, as a source for sacred and healing powers. The researcher has used the Self-Observational Method to open-up the issue in Himmat Shah's Art.

Sl. No	Article	Author	Source	Year
5	A study on impact of Organizational justice perception on job satisfaction -Indian software employee's perspective	*Kirti Chetty and B. Neeraja*	International Journal of Marketing Theory Vol: 15 No: 1	2025

Abstract: Satisfaction is one the most important aspect of an employee's work life. Satisfied employees are an asset to the organization; this satisfaction is reflected on other work-related positive behaviour outcomes like organizational commitment, Organizational citizenship behaviour, and managerial effectiveness among others. There is many research supporting the fact that organizational justice (distributive justice, procedural justice and interaction justice) is an important predictor of Job Satisfaction (Work itself, co-worker, pay, promotion and supervisor). This study was conducted among 464 software employees by administering questionnaires. The findings suggest that Procedural justice is the most important dimension of justice valued by software employees. In the sub factors of job satisfaction attitude to supervisors were rated the most important. Asserting the previous research findings that there is significant relationship between organizational justice and job satisfaction, the current study also found highly significant relationship between various components of organizational justice and job satisfaction. The implication for the IT industry is to abide by justice dimension while framing and executing policies and strategies so that the employees derive maximum job satisfaction.

Sl. No	Article	Author	Source	Year
6	A consumer perception towards online shopping	*R. Nalini, R. Amudha, R Almelu*	International Journal of Marketing Theory Vol: 15 No: 1	2025

Abstract: `In an energetic business environment, companies identify the power and significance of internet to fascinate customers' attention. An effective communication tool is used as the internet for generating value for customers and companies. The foremost objective of the study is to know about the consumer perception towards online shopping. The primary data were collected by administering the questionnaire by following cluster random sampling. The data were collected from 150 respondents residing in Trichy in Tamil Nadu. The collected data were analyzed with the help of SPSS package by using Percentage Analysis and ANOVA single factor. The study revealed that the respondents mostly

prefer to buy once in every 3-6 months in online and mostly urban people prefer online shopping. Many respondents prefer the e-tailor who provides a positive virtual atmosphere with more products in large varieties and the ease of finding a product with discounts.

Sl. No	Article	Author	Source	Year
7	Effect of value congruence on employee loyalty: A Research paper	*Anoop Singh, Pradeep Bawa, Deepak Pandey and Rajesh Poonia*	International Journal of Marketing Theory Vol: 15 No: 1	2025

Abstract: When employees find that their employers expect a role for behaviours that they consider as improper for their self-images, they develop a feeling of insignificance that may well result in depleted productivity sometimes. And opposite is true as well. If there is such contradiction, translation of employee commitment to customer focus becomes almost impractical. So, it is essential to have a sync between values of employees and that of organization which is termed as value congruence. The aim of this descriptive study was to find the type of effect the value congruence has on employee loyalty though the job satisfaction and commitment. It has been found that congruence in the values improve the job satisfaction, which in turn leads to improvement in the commitment and ultimately result in enhanced employee loyalty. The result of the study can help organizations and employees find best options for themselves that would result in improved productivity more often than not.

Sl. No	Article	Author	Source	Year
8	Consumer buying manners with special reference to washing Machaines in Kumbakonam-A study	*M. Ganesan and R. Renuka*	International Journal of Marketing Theory Vol: 15 No: 1	2025

Abstract: There is a growing demand amongst the people from a better quality of life. The achievements of science and technology help man to lead a comfortable life. Such social and economic changes pose major challenges to business in general and to marketing in particular. Electronic industry as today involved almost sector of the economy. But the most significant share has been taken over by consumer Electronics Industry which includes Television, Mobile Phones, Washing machine, Refrigerators, Air-Conditioners, Computers, etc. These products, which

were once considered as luxuries, has now become part and parcel of our basic necessaries. The maxim "Yesterdays luxuries are the necessaries of today" is apt here. Washing machine is consumer durable goods that is very important for washing clothes. Washing machine once considered as a luxury has now become a necessary and everyone feels the need of owning a washing machine. The market is flooded with many brands of washing machine, each trying to become the market leader. At present VIDEOCON is in the first place. The consumer is the centre of attraction for which marketing is carried out. Marketing manager, who deals with consumer, should have an idea about the diverse, complex personality, likes and dislikes and style of living of the consumers. Therefore, it is necessary to dissect consumer behaviour into separate compartments, isolate them and make them to purchase and satisfying them. To conclude, washing machines with good quality and effective after sales service, will survive in the market, which widely open and growing now.

Sl. No	Article	Author	Source	Year
1	Enhancing education through blended learning	*Mahesh N*	Progress In Machines and Systems Vol: 14 No: 1	2025

Abstract: This paper explores the evolution, benefits, challenges and implementation strategies of blended learning in modern education, focusing on initiatives and the research in India. Blended learning, combining traditional face to face instruction with online educational resources, has gained prominence for enhancing flexibility, personalizing learning experiences, and improving academic outcomes globally. The concept originated in the 1990s by integrating digital technologies into education, evolving through defined models such as flipped classrooms and adaptive learning approaches. Despite its advantages, blended learning faces challenges, including technology all infrastructure disparities, pedagogical integration complexities, and issues related to teacher training, student engagement, and assessment fairness. To address these challenges, strategies such as infrastructure investment, professional development for educators, curriculum alignment, and robust policy frameworks are crucial. Initiatives like SWAYAM, the national digital library of India (NDLI), e-PG pathshala, and then the national education policy (NEP) 2020 exemplify India's efforts to leverage technology for inclusive and quality education research supports these initiatives, highlighting their impact on enhancing access, liquidity, and educational quality. By implementing evidence-based strategies and fostering A supportive educational ecosystem, India can effectively navigate the complexities of blended learning, ensuring equitable access and improved learning outcomes for all learners.

Sl. No	Article	Author	Source	Year
2	MOOC platform in higher education: An Indian Context	*Nethravathi K*	Progress In Machines and Systems Vol: 14 No: 1	2025

Abstract: massive open online courses (MOOCs) are especially recent and vital in higher education (HE). MOOCs Are growing increasingly popular, with large enrolments. India's MOOC initiatives include NPTEL, IITBombayX, NROER, ePG pathshala and SWAYAM. Various online platforms offer accessibility to online courses designed to promote continual learning. MOOCs Are challenging to implement in India for several reasons. In this work, we will define MOOCs and the organizations and the universities that deliver them and present a fundamental analogy of various MOOC platforms. This study examined MOOC sites and other popular MOOC platforms in India. It also mentioned some of the advantages and disadvantages of MOOC platforms. The outcome is to ascertain the most effective MOOC platform in Indian context.

Sl. No	Article	Author	Source	Year
3	Evaluation method of urban tourism carrying capacity based on analytic hierarchy process	*Jia Wang*	Progress In Machines and Systems Vol: 14 No: 1	2025

Abstract: The development of the urban tourism scale has promoted the economic development of tourism destinations, but it has also posed challenges to various resources and the environment in these destinations. Tourism carrying capacity is an important indicator that reflects the environmental status of a tourist city. Therefore, this paper constructs an evaluation index system and method for urban tourism carrying capacity based on the analytic hierarchy process. Experimental results show that this evolution method can effectively evaluate the tourism carrying capacity of different periods. The selected indicators can reflect the correlation between influencing factors and carrying capacity and accurately reflect the actual status of urban tourism carrying capacity. This method provides practical and scientific data and information to support the long-term harmonious development of tourism destinations.

Sl. No	Article	Author	Source	Year
4	Education in programming languages with learning experience	*Will Crichton*	Progress In Machines and Systems Vol: 14 No: 1	2025

Abstract: This paper introduced a novel method for instructing a graduate level course on programming languages that emphasizes using systems programming concepts and languages such as web assembly and Rust to enhance the understanding of programming language theory. By leveraging students' previous exposure to low level programming languages, the course illustrates how type systems and the programming language can be employed to prevent common real-world mistakes that students face in practice. We share insights from the course design and experiences gained over two years of teaching at Stanford, demonstrating that incorporating systems programming concepts can offer students a more practical and enjoyable learning experience in programming languages. The course materials are open sources, including curriculum, lecture notes and assignments.

Sl. No	Article	Author	Source	Year
1	Research data management repositories: A Case study	*Harish Y S, Nalinakshi. R, Manjunath*	Progress In Machines and Systems Vol: 14 No:2	2025

Abstract: The digital revolution left a profound impact on the modern age. We, the conveyers of information and knowledge, are greatly attached to its pros and cons. We need a more concise and convenient method to provide needful details and to go through valuable resources. It offers various kinds of users to satiate their different purposes. Academic institutions, particularly universities, have increasingly acknowledged that an organizational digital archive is a necessary infrastructure for scholarly publication in this digital publishing age. study data management offers numerous advantages for scientific study, including streamlining research and verification processes, fostering scientific communication and comprehension, and enabling long-term data preservation. The shift of the scientific data paradigm and the growth of the open access movement are key factors driving the development of research data management. As a result, universities have emerged as the primary institutions for providing data management services. This project work is sponsored by the Ministry of Statistics and Program Implementation, Government of India. This study employs the systematic approach of the questionnaire method, which was adopted to collect the data, and work has started.

Sl. No	Article	Author	Source	Year
2	Implementation of the SWAMYAM Course among the PG Students and faculty: A critical study.	*Anupama S Singade*	Progress In Machines and Systems Vol: 14 No:2	2025

Abstract: Swayam Study Webs of Active-Learning for Young Aspiring Minds initiative by the Government of India. It is an online platform that offers free courses from various institutions and universities in India. Swayam aims to achieve the three cardinal principles of education policy: access, equity, and quality. The courses offered on Swayam cover various subjects, including engineering, humanities, management, science, mathematics, and more. Learners can enrol in these courses, study at their own pace, and earn certificates upon completing assessments.

Sl. No	Article	Author	Source	Year
3	The sustainable library of the future: Embracing the new age through digital transformation	*Ghouse Modin N. Mamdapur, Vinayak Arali, Ali K.S.*	Progress In Machines and Systems Vol: 14 No:2	2025

Abstract: The sustainable library of the future lies at the crossroads of environmental consciousness and digital transformation. In this research paper, we portray a reimagined library in a rapidly changing world through the three defining dimensions: environmental responsibility, community engagement, and inclusive knowledge access. It starts with a vision being shared for a sustainable library, one that is far beyond the traditional conception of repositories but that more actively interfaces with the challenges in the concerns of sustainability, green partnerships and collaboration with resilience, environmental challenges, ethical information stewardship, and the ongoing march of technological evolution. A sustainable library should be an active player in the challenges the globe faces in environmental preservation, information ethics, and technological evolution. It feels like a challenging way to navigate through digital collection curation, community engagement towards sustainability, green partnerships, and collaboration with resilience in environmental challenges toward integrating high-technology solutions. The same will be the importance of libraries in the future toward responsible data management, data preservation, and adherence to ethical handling practices. A sustainable library is not a concept but an organic entity that will change with the conditions it works within and become a lighthouse of knowledge, inclusiveness, and sustainability within a community. The resulting work is a source of new

insights and perspectives that contribute to the burgeoning discourse on sustainable libraries, enabling the foundation for transforming libraries into vibrant, environmentally conscious, and community-centred institutions well poised to meet the demands of the digital age.

Sl. No	Article	Author	Source	Year
4	Implementation of ICT Intiatives of ministry of education, govt of India by the university libraries of Karnataka state: A study	*Narayanaswamy B V, Gururaj F D*	Progress In Machines and Systems Vol: 14 No:2	2025

Abstract: Integrating Information and Communication Technology (ICT) initiatives by the Ministry of Education, Government of India, marks a significant transformation in educational paradigms nationwide. This study investigates the implementation of ICT initiatives of the Ministry of Education Government of India within the university libraries of Karnataka State, exploring their adoption, challenges encountered, and impact on library services and user experiences. Through a comprehensive review of literature, interviews with library administrators, and analysis of institutional data, this research provides insights into the strategies employed by university libraries to leverage ICT tools in enhancing information access, digital literacy, and academic support. The findings highlight both the successes achieved and the persistent barriers that hinder full ICT integration, offering recommendations for policymakers, library administrators, and stakeholders to optimize future ICT implementation efforts in educational settings.

Sl. No	Article	Author	Source	Year
1	Challenges faced in transforming the data in fast-changing world towards meaningful higher education	*B.K. Arun, Uma Warrier, Suman Pathak*	Journal Of Information & Systems Management Vol: 15 No: 1	2025

Abstract: The present-day world is characterised by an increasing population and increasing interdependencies among nations. These increasing interdependencies have resulted in the need for improving bilateral and multilateral transactions, which have generated vast amounts of data. Further, the increasing interactions among people through multiple communication channels worldwide have resulted in an explosion of data. Since data is the raw material for getting meaningful and actionable information and recognising the differences in emerging

patterns, constant association and sharing of the past, emerging and future data is essential to arrive at the hidden patterns of changing trends. Tracking the changing trends is very much crucial for making higher education meaningful in terms of character-building and developing relevant skills. The present work was taken up in this context and attempts in this direction by addressing the research question of 'what the challenges in are linking the phenomenon of flooding of data and transforming the same into meaningful information necessary for making our higher education system purposeful'. The research adopts the approach of multiple research methods, viz., collating experts' opinions through Delphi technique iterations, interviews with associated professionals, and a purposeful literature review. Based on the research, it was concluded that more interdisciplinary and trans-disciplinary interactions with open mind are necessary to make the Indian higher education system more skill-oriented and 3 sustainable. Based on the study, suggestions and recommendations were listed.

Sl. No	Article	Author	Source	Year
2	Impact of E-learning resources on higher education	*Y.M Lokesh, H.N. Manjunath*	Journal Of Information & Systems Management Vol: 15 No: 1	2025

Abstract: The paper focuses on the understanding of e-learning, its advantages, the driving force behind e-learning, various forms of e-learning, essential characteristics of e-learning, how it is implemented and organised, the recent developments in technology, new methods in e-learning, quality assurance, and emerging policy issues. etc., are discussed in this section. Numerous other research artefacts are also discussed in this section of the presented thesis. In summary, the key objective of this chapter is to provide optimal knowledge transfer related to the research and allied variables. It can help readers or audiences to understand research requirements and allied information effectively.

Sl. No	Article	Author	Source	Year
3	Education in the era of artificial intelligence (AI): student's attitude towards using ChatGPT as a learning tool.	*G. Veena, G.C. Varadeaiah*	Journal Of Information & Systems Management Vol: 15 No: 1	2025

Abstract: The primary aim of this research study is to examine university students' opinions on using ChatGPT inlearning. This study used a survey method for which a well-structured online questionnaire was designed to gather data from postgraduate students at Mangalore University. The findings showed that the primary purpose of 336 (87.5%) students using ChatGPT was to prepare for examinations, and 318 (82.8%) of them used ChatGPT to organise notes. About 322(83.9%) users 'Strongly agree' and 33(8.6%) 'Agree' with the statement 'I believe that using ChatGPT has increased the convenience of completing my academic tasks', followed by 302 (78.7%) of the students 'Agree' and 67(17.4%) 'Strongly agree' with the statement 'I believe that answers/responses from ChatGPT are reliable and accurate'. Data analysis discovered that students usually had positive feelings about using ChatGPT for learning.

Sl. No	Article	Author	Source	Year
4	Design of course analysis and management system based on decision Tree algorithm	*Yang Liu, Hang LV*	Journal Of Information & Systems Management Vol: 15 No: 1	2025

Abstract: With the development of technology, significant progress has been made in the informatization of higher education, and the management of games has greatly benefited from this progress. To better use this information, we propose a decision tree algorithm that can effectively analyse and manage games to improve the quality of physical education teaching. First, we delve into our data mining method - the C4.5 decision tree algorithm- and propose a complete course analysis, management system framework, and the corresponding database design. Then, we use ASP.NET as the development language, and with the support of SQL Server 2008 and Visual Studio 2010, we implement the system's functionalities. After testing, we find that the proposed games analysis and management system performs excellently in terms of runtime and accuracy, providing strong support for improving the efficiency and quality of game management.

Sl. No	Article	Author	Source	Year
1	Sustainability practices in libraries and educational institutions: Building a resilient future	*Jairaj Shanker*	Journal Of Information & Systems Management Vol: 15 No: 2	2025

Abstract: In today's dynamic world, sustainability has become paramount across many sectors, including libraries and educational institutions. These entities, as hubs of knowledge dissemination and learning, play a crucial role in promoting and practicing sustainability. By implementing sustainable measures, libraries and educational institutions not only reduce their conservational footprint but also educate and inspire future generations on responsible environmental stewardship. This article explores the significance of sustainability in these contexts, highlighting environmental responsibility, educational impact, and economic benefits. Specific sustainable practices, such as energy efficiency, waste reduction, green building standards, and sustainable collection management, are explored, with illustrative examples from institutions like Harvard University and the University of British Columbia. Furthermore, the article addresses challenges such as funding constraints and cultural shifts, proposing strategies to bolster institutional commitment and effectiveness in sustainability initiatives. By integrating sustainability in to operations and curricula, libraries and educational institutions can lead by example, fostering a sustainable future for all.

Sl. No	Article	Author	Source	Year
2	Empowering rural Karnataka India: The Integral role of public libraries in community development	*Gururaj F Duragannavar, Meeramsani N, Arunkumar HS*	Journal Of Information & Systems Management Vol: 15 No: 2	2025

Abstract: Public libraries play a pivotal role in fostering development and empowering rural communities in the state of Karnataka, India. This paper explores the multifaceted contributions of public libraries to rural development in Karnataka, elucidating their significance in education, information dissemination, cultural preservation, and socio-economic empowerment. Drawing on case studies, literature reviews, and empirical data, this study highlights how public libraries address the unique needs and challenges of rural communities in Karnataka. Additionally, the paper examines the challenges faced by public libraries in rural areas and proposes strategies for enhancing their effectiveness and reach. By recognizing the importance of public libraries and advocating for their support and expansion, this study aims to contribute to the advancement of rural development efforts in the state of Karnataka. Public libraries play an integral role in empowering rural communities in Karnataka. By fostering access to information, promoting lifelong learning, and serving as community hubs, libraries can be powerful catalysts for social,

economic, and cultural development. By addressing the existing challenges and harnessing the potential of these institutions, we can empower rural communities and pave the way for a brighter future for Karnataka, India.

Sl. No	Article	Author	Source	Year
3	APT utilization of library resources in lifelong learning	*Basappa Y. Bangari, Dhananjaya Naika*	Journal Of Information & Systems Management Vol: 15 No: 2	2025

Abstract: This research paper explores the potential for effectively utilizing library resources to promote lifelong learning. Historically, in India, lifelong learning has been an integral part of education, especially during the Buddhist period, with ancient centres like Vikram Shila, Takshashila, and Nalanda attracting learners around the world. However, the British education system adopted in India has shifted the focus towards earning degrees and certificates primarily for job qualification. True learning, especially of any subjects and languages including astronomy, astrology, logic and philosophy is a continuous process driven by a thirst for knowledge. Modern libraries are equipped to support lifelong learning, providing access to a vast array of resources including books, dictionaries, encyclopaedias, manuscripts, journals, and digital resources like eBooks, online journals, research papers, and unpublished materials. In addition to the platforms such as Inflibnet, Shodhganga, Shodhagangothri, Shodh Prabha, and IGNOU e-content, the role of librarians and assistant librarians is crucial. These professionals should maintain wide and strong networks with intellectuals globally, including those in universities, research centres and individual experts. They assist knowledge seekers by understanding their needs and providing apt resources, including online support. This study employs descriptive and exploratory methods utilising secondary sources to analyse how library resources can be optimally used for lifelong learning. The research findings suggest that libraries play a vital role in facilitating continuous education, lifelong learning and intellectual growth worldwide.

Sl. No	Article	Author	Source	Year
4	Scholarly publishing through open access: Challenges and role of universities	*Chaithra G, Rekha D. Pai*	Journal Of Information & Systems Management Vol: 15 No: 2	2025

Abstract: The Open Access (OA) publishing movement has changed the face of scholarly communication by supporting unrestricted access to research products. This study examines the concepts, types, benefits, problems, and future directions of OA publishing. Open access democratizes knowledge, boosts research visibility and impact accelerates scientific discovery, and also addresses financial, quality, and sustainability concerns. How universities can support Open Access publishing is also explained.