IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 10, June 2026
Impact Factor: 8.2

AI Driven IoT based Decision Making in 7G Communication Network

Sushma Rammohanrao Hanchate[1] and Sanjay Manohar Tipe[2]
[1,2]Lecturer, Electronics and Telecommunication Engineering Department
Solapur Education Society's Polytechnic, Solapur, Maharashtra, India

Abstract: *As we stand on the precipice of the 7G era, the convergence of Artificial Intelligence of Things (AIIoT) and hyper-fast, low-latency communication networks is no longer a vision—it is the foundational architecture of the future. While 5G and 6G introduced the concepts of massive machine-type communications, 7G shifts the paradigm toward "pervasive intelligence," where the network itself acts as a sentient cognitive layer. However, the path to autonomous, sub-millisecond decision-making is obstructed by the phenomenon of occlusion. In this context, occlusion refers to both physical signal blockage in high-frequency spectral bands and, more critically, "informational occlusion"—the data blind spots that occur when network-edge models lack the contextual visibility to interpret erratic environmental variables. This paper explores the symbiotic relationship between predictive AI agents and 7G network topology, proposing a framework to transcend occlusion through distributed federated sensing and cross-layer cognitive switching.*

Keywords: AI Driven IoT, AIIoT, 7G Communication Network, Latency, Energy management, KSK Approach.

I. INTRODUCTION

If 5G was the bridge to a hyper-connected world, 7G will be the transformation of that world into a living, breathing organism. By the time 7G networks emerge, the distinction between "digital" and "physical" will have dissolved. At the heart of this evolution lies a symbiotic combination: **AI-driven decision-making within an IoT-dense environment.**
In a 7G landscape, we are not merely talking about billions of devices; we are talking about a trillion-sensor economy. In such a dense, high-frequency environment, human-led management is physically impossible. Here is how AI will act as the "brain," managing the "senses" of the 7G IoT ecosystem[1-55].

1. From "Connected" to "Cognitive"

In current networks, IoT devices are often "dumb"—they send data to a cloud, and the cloud reacts. In 7G, the network will be **cognitive.** AI will be embedded at the "edge" of the device itself (TinyML).
Imagine a smart city where traffic sensors do not wait for a central server to decide on light patterns. Instead, clusters of sensors use localized AI to reach a **consensus decision** in milliseconds. They negotiate bandwidth, share energy loads, and predict traffic anomalies before they occur. The network ceases to be a pipe for data and becomes a continuous, self-optimizing decision engine[56-90].

2. The Deterministic Millisecond: Sub-Millisecond AI

7G promises latency so low (in the microsecond range) that it mirrors human neurological responses. In scenarios like remote telesurgery, autonomous swarm robotics, or high-frequency industrial automation, the AI must make "life-or-death" decisions instantaneously.
In a 7G network, AI will use **Proactive Resource Orchestration.** Instead of waiting for a demand spike to allocate bandwidth, the AI will predict the movement of every robot or drone in a facility, pre-allocating the required spectrum slices *before* the device even moves. It is the difference between a reactive response and a choreographed ballet[91-130].

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 10, June 2026
Impact Factor: 8.2

3. Energy Parasitism and Self-Healing

One of the greatest challenges of a trillion-device IoT network is power consumption. 7G will utilize **AI-driven Energy Harvesting.** The network will be able to transmit power through radio waves (Wireless Power Transfer).

AI will act as the "energy broker," constantly monitoring the battery levels of every IoT sensor in a city. It will decide which sensors should sleep, which should harvest energy from the network, and which should transmit data. If a node fails, the AI doesn't just report the error; it reconfigures the network topology via software-defined radios to route around the "dead" zone, effectively giving the network a self-healing immune system.

4. The Challenge: The "Black Box" Problem

As we hand over decision-making to AI in a 7G environment, we face a fundamental philosophical and technical hurdle: **Explainability.**

If an AI-controlled swarm of drones in a 7G network decides to shut down a power grid to prevent a surge, the human operators must understand *why*. This gives rise to **Explainable AI (XAI).** Future 7G architectures will require the network to provide a "chain of logic" for every decision made, ensuring that as networks become more autonomous, they remain within the bounds of human safety and ethics.

We are moving toward an era of **Distributed Intelligence.** 7G will provide the vast, high-speed, and low-latency "nervous system," while AI will provide the "consciousness." In this new reality, a bridge will know it is under stress before a crack appears; a factory will reconfigure its production line based on global supply chain shifts in real-time; and the world around us will become an intuition-based space that anticipates our needs before we have even articulated them. The 7G network is not just a faster way to communicate—it is the infrastructure for a planet that is finally capable of thinking for itself[131-160].

In the sprawling, interconnected landscape of a 7G network, decision-making is not a centralized process; it is a distributed dance involving billions of edge devices. These devices rely on TeraHertz (THz) frequency bands, which provide the bandwidth necessary for real-time digital twinning. Yet, these signals are notoriously fragile. A sudden physical shift—a moving vehicle, a changing weather pattern, or even the proliferation of high-density smart structures—introduces physical occlusion, effectively "blinding" the AI to real-world inputs.

However, the more insidious challenge is informational occlusion. As AI systems become more autonomous, they build internal models of their environment. When these models fail to account for the "unknown unknowns"—data points that are temporarily hidden due to latency fluctuations or sensor noise—they fall into a recursive loop of uncertainty. The AI essentially becomes trapped in a "cognitive shadow," where it makes decisions based on incomplete sensory input, leading to system jitters or, worse, catastrophic failure in mission-critical applications like telesurgery or autonomous urban management[161-185].

To move beyond these occlusions, 7G networks must evolve from reactive pipelines into anticipatory fabrics. This vision relies on three key mechanisms:

Multi-Modal Transduction: Instead of relying on a single data stream (e.g., visual or thermal input), 7G AIIoT devices will utilize ambient sensing. If an object occludes a camera, the device switches to radio-frequency (RF) sensing, effectively "seeing through" walls or obstructions by analyzing channel state information (CSI) as a sensory map.

Edge-to-Edge Shadow-Model Synchronization: By utilizing the near-zero latency of 7G, devices will maintain "shadow models" of their surroundings. When one sensor is occluded, the network intelligence instantly pulls high-fidelity data from a neighboring node that has a "line of sight" to the event, filling the void in the local model before the decision-making process is hindered.

Predictive Occlusion Mitigation: Using deep reinforcement learning, the network will learn the patterns of occlusion. If a periodic obstruction is identified (e.g., a train passing through a sensor's field of view), the AI will preemptively adjust its decision-making logic, increasing the confidence interval of its predictions just before the obstruction occurs.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 10, June 2026 Impact Factor: 8.2

AI-driven IoT (AIIoT) in 7G communication networks replaces rigid, reactive network management with "network-as-cognition." It leverages edge intelligence, Terahertz (THz) spectrums, and quantum computing to enable IoT devices to make decentralized, real-time decisions, slashing response times to near-zero and optimizing bandwidth across multi-dimensional, interplanetary networks.

The integration of AI, IoT, and 7G operates on three main interlocking paradigms to ensure highly autonomous decision-making:

Cognitive Radio-Mesh Intelligence: Uses Deep Reinforcement Learning (DRL) to allow IoT nodes to autonomously negotiate beamforming, spectrum allocation, and topology reconfiguration across heterogeneous bands (sub-6GHz, mmWave, THz, and non-terrestrial) without centralized command.

Semantic-Level Communication: Moves beyond raw data transmission. Generative AI at the network edge summarizes and reconstructs intent-rich content, drastically reducing bandwidth consumption while preserving the contextual meaning of sensor data

Self-Healing Autonomous Management: Employs continual online adaptation to diagnose, isolate, and remediate faults or anomalies instantly, ensuring ultra-high reliability for mission-critical applications

To facilitate hyper-dynamic IoT decision-making, 7G relies on several advanced technologies:

Edge AI & Federated Learning: Devices process telemetry and run predictive models locally. This eliminates the need for constant cloud round-trips, ensuring privacy and microsecond-level responsiveness.

Quantum-Enhanced Inference: Quantum processors tackle complex multi-path transmission and optimization problems in real-time, while Quantum Cryptography protects sensitive edge data.

Integrated Sensing and Communication (ISAC): IoT sensors not only transmit data but actively map environments (e.g., smart city digital twins, autonomous transit), with AI adapting network resources to the physical dynamics.

Zero-Energy AI Networks: AI dynamically scales down the power usage of IoT nodes by utilizing spiking neural networks and energy-harvesting technologies to ensure long-term environmental sustainability.

Real-World Applications are as follows:

Mission-Critical Healthcare: Bio-nano communication and wearable sensor networks use Edge AI to detect anomalies (like heart failures or seizures) instantly, triggering preemptive 7G medical interventions.

Smart Cities & Digital Twins: Urban IoT swarms (autonomous drones, traffic sensors) dynamically offload computational tasks to edge/cloud networks, achieving accident avoidance and traffic flow optimizations.

Interplanetary Operations & Deep Space IoT: Seamless integration of terrestrial and space-based (satellite) networks managed by AI guarantees reliable communication and autonomous routing for global or extraterrestrial missions.

II. FRAMEWORK KSK APPROACH IN 7G COMMUNICATION

The **KSK (Kutubuddin S Kazi) Approach** refers to a Knowledge-driven, Self-organizing, and Knowledge-centric decision-making paradigm used to manage complex, AI-driven environments in next-generation networks. It integrates real-time machine learning with edge and core computing, replacing rigid allocation with highly adaptive, decentralized resource management.

1. The Core Layers

The KSK (Kutubuddin S Kazi) approach decomposes network management into three distinct but deeply interconnected phases as shown in Figure 1:

Knowledge Layer: Collects and processes massive amounts of data from the network environment, including user mobility, traffic spikes, channel states, and spatial contexts.

Self-Organizing Layer: Enables the network to dynamically adapt, allocate spectrums, optimize beamforming, and manage resources autonomously without constant human intervention.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 10, June 2026
Impact Factor: 8.2

Knowledge-centric Layer: Employs advanced artificial intelligence, such as Deep Reinforcement Learning (DRL) and Federated Learning, to learn from past decisions, reducing decision latency and anticipating network needs.

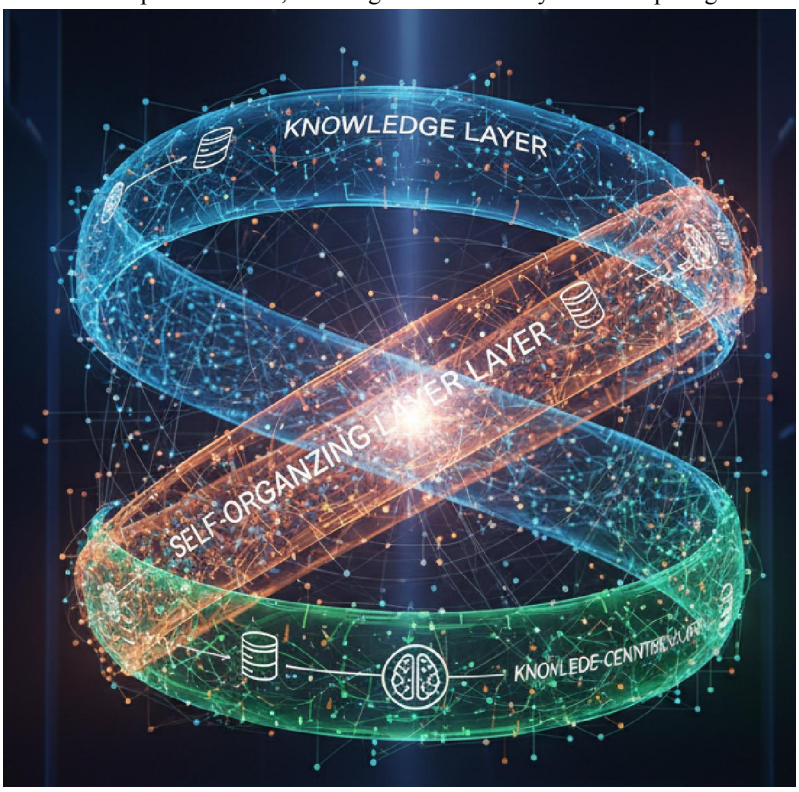

Figure 1: KSK Approach

2. How KSK Works in 7G Networks

In a 7G ecosystem, environments are hyper-dynamic and multi-band—utilizing Terahertz (THz) spectrums, millimeter waves, visible light (VLC), and non-terrestrial (NTN) space roaming.

Proactive Allocation: Instead of simply reacting to congestion, the KSK approach acts proactively to anticipate changes in the environment and user demands.

Convergence: It converges communication, computing, and sensing into a single fabric, using intelligence to determine whether a calculation should be processed on the edge or in the core.

Cognitive Management: It manages complex, heterogeneous multi-band environments seamlessly, ensuring near-zero latency (microseconds) and Tbps data rates are consistently met.

3. Benefits of the KSK Approach

Energy Efficiency: Optimizes power consumption across an incredibly dense array of antennas, intelligent reflecting surfaces, and user devices.

Reduced Latency: By utilizing experience-aided learning, the network significantly decreases decision-making time for mission-critical applications (such as holographic communications and autonomous systems). [

Seamless Resiliency: Provides self-optimizing and self-healing fabrics for pervasive AI-driven Internet of Everything (IoE) connections.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 10, June 2026
Impact Factor: 8.2

III. STRUCTURE FOR 7G COMMUNICATION:

An AI-driven, IoT-centric 7G communication network relies on a three-tier cognitive architecture to achieve near-zero latency, ubiquitous connectivity across terrestrial and spatial networks, and intelligent resource allocation. This structure processes data locally at the endpoints and escalates heavier computational tasks to edge and quantum cores to optimize decision-making

The architectural framework is distributed into distinct layers that facilitate autonomous, real-time decision-making as shown in Figure 2:

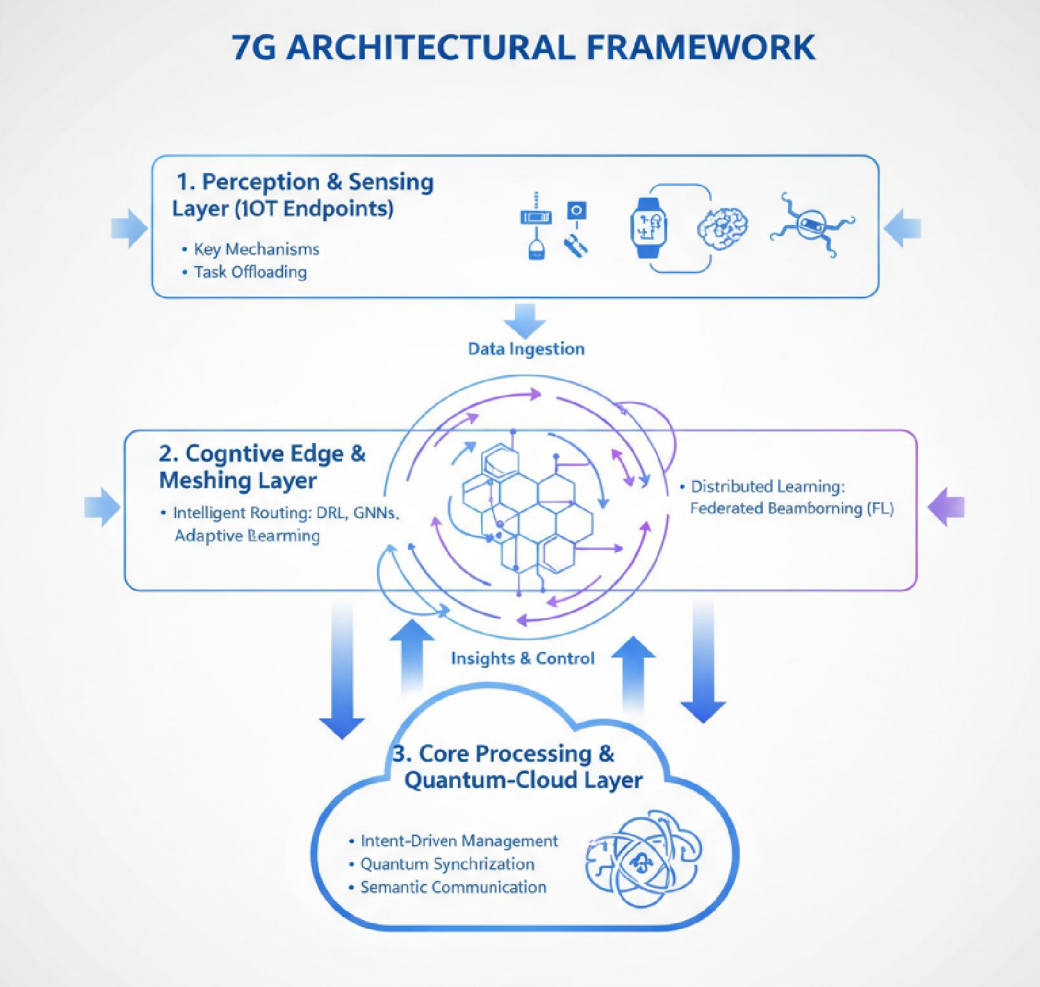

Figure 2: Structure of Decision Making

1. Perception & Sensing Layer (IoT Endpoints)

This layer consists of micro-sensors, wearables, and nanodevices embedded in everyday environments, from smart cities to biomedical systems.

Key Mechanisms: Lightweight, neuromorphic chips process local data to filter out noise at the device level.

Task Offloading: Decisions regarding immediate actions (e.g., stopping an autonomous drone) are processed locally, bypassing network latency.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 10, June 2026
Impact Factor: 8.2

2. Cognitive Edge & Meshing Layer

Because 7G utilizes highly directional, high-frequency Terahertz (THz) spectrums and non-terrestrial networks (NTN), signals have limited physical range. This layer acts as the bridge.

Intelligent Routing: Deep Reinforcement Learning (DRL) and Graph Neural Networks (GNNs) negotiate mesh configurations and adaptive beamforming to bypass environmental obstacles.

Distributed Learning: Federated Learning (FL) allows IoT devices and edge nodes to train AI models collaboratively without exposing raw, private user data to the cloud.

3. Core Processing & Quantum-Cloud Layer

The centralized brain of the 7G architecture merges advanced software-defined networking with hyper-scale processing.

Intent-Driven Management: AI engines predict network congestion and user mobility patterns, optimizing spectral efficiency and anticipating traffic before it impacts throughput.

Quantum Synchronization: Utilizes quantum networks to ensure ultra-secure, near-instantaneous global and interplanetary communication.

Semantic Communication: Advanced models compress intent-rich content, transmitting context and "meaning" instead of raw data payloads, drastically saving bandwidth.

IV. RESULTS AND DISCUSSION

In a 7G network, integrating AI-driven IoT decision-making yields near-zero latency and unprecedented bandwidth. Expected performance parameters include sub-millisecond latency (under 0.1 ms), Terabit-per-second throughput, 99.9999% threat detection accuracy, and self-sustaining energy models where IoT devices achieve near-zero energy usage. The theoretical and experimental performance targets for AI-driven IoT in 7G network communication include as shown in Figure 3:

Latency & Time Sensitivity

End-to-End Decision Latency: < 0.01 to 0.1 milliseconds.

Intelligent Routing Convergence: Millisecond and microsecond scale convergence times through advanced Edge AI for IoT and Multi-path transmission.

Predictive AI Scheduling: Anticipatory resource allocation ensures mission-critical URLLC targets are met flawlessly.

Throughput & Capacity

Peak Data Rates: Expected to achieve between 1.5 Tbps and 10 Tbps.

Connection Density: Support for 10^7 to 10^8 devices per square kilometer, enabling the true Internet of Everything (IoE).

Spectral Efficiency: Enhanced massively through intelligent ultra-massive MIMO and AI-steered beamforming.

Energy Efficiency

Device Power Consumption: Near-zero energy consumption per bit driven by AI-powered wake-up mechanisms and integrated ambient energy harvesting.

Network Infrastructure: Up to 30% reduction in cell-tower energy expenditure through AI-driven sleep schedules and federated learning.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 10, June 2026
Impact Factor: 8.2

Security & Reliability

Anomaly Detection Accuracy: > 99% threat detection accuracy using Spiking Neural Networks and AI-Driven Network Optimization. For security we suggests the KK (Kutubuddin Kazi) Approach or KVS (Kutubuddin Vahida Sultana) Approach.

Security Frameworks: Utilization of Quantum Cryptography and blockchain integration.

Self-Healing Capabilities: AI autonomous systems enable zero-touch provisioning and instantaneous traffic rerouting upon node or link failure.

Ubiquitous Global Coverage

Spatial Reach: Seamless integration of terrestrial, airborne, and space-based networks to eliminate IoT blind spots in oceans and rural environments.

Location Precision: Sub-millimeter localization and cognitive spatial awareness.

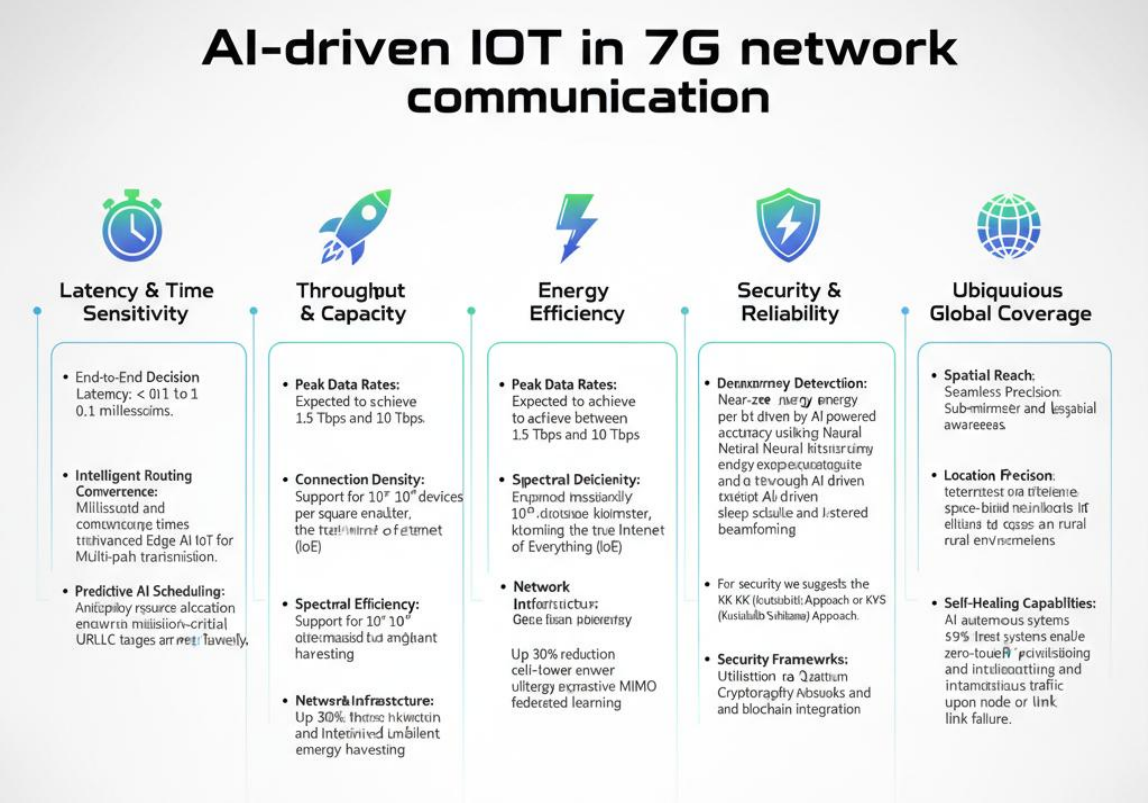

Figure 3: Performance of AIIoT in 7G communication network

V. CONCLUSION

The promise of 7G communication lies not just in velocity, but in the network's ability to maintain continuity of intelligence in an inherently discontinuous world. By acknowledging and addressing the duality of physical and informational occlusion, we shift the role of the AI agent from a fragile observer to a resilient architect of its own clarity. In the 7G era, the network will not merely connect devices; it will curate the information flow, ensuring that even when the world is hidden, the decision-making remains transparent, precise, and profoundly human-centric.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 10, June 2026
Impact Factor: 8.2

The future of AIIoT is not just about expanding the reach of our sensors; it is about teaching our machines to see through the ghosts of the environment, turning the uncertainty of occlusion into a structured, manageable variable in the calculus of the future.

REFERENCES

[1]. Kazi Kutubuddin Sayyad Liyakat Saheb, Significance of rotation and projection of image in Child Healthcare System', Gradiva Review Journal, Volume 3 Issue 1 2017, pp. 51-55. Available at: https://gradivareview.net/wp-content/uploads/2026/06/9.GRJ8948.pdf

[2]. Mr. Akhilesh Raut, Mr. Mahesh Mali, Miss. Trupti Mashale, Prof. Kazi K. S. (2018). Bagasse Level Monitoring System, International Journal of Trend in Scientific Research and Development (ijtsrd), Volume-2, Issue-3, April 2018, pp.1657-1659, URL: https://www.ijtsrd.com/papers/ijtsrd11469.pdf

[3]. Altaf Osman Mulani, Rajesh Maharudra Patil "Discriminative Appearance Model For Robust Online Multiple Target Tracking", Telematique, 2023, Vol 22, Issue 1, pp. 24- 43.

[4]. M Sunil Kumar, D Ganesh, Anil V Turukmane, Umamaheswararao Batta, ,"Deep Convolution Neural Network based solution for detecting plant Diseases", Journal of Pharmaceutical Negative Results, 2022, Vol 13, Special Issue- I, pp. 464-471,

[5]. Halli U M, "Nanotechnology in IoT Security", Journal of Nanoscience, Nanoengineering & Applications, 2022, Vol 12, issue 3, pp. 11 – 16.

[6]. Wale Anjali D., Rokade Dipali, et al, "Smart Agriculture System using IoT", International Journal of Innovative Research In Technology, 2019, Vol 5, Issue 10, pp.493 - 497.

[7]. Kazi K. S., "Significance And Usage Of Face Recognition System", Scholarly Journal For Humanity Science and English Language, 2017, Vol 4, Issue 20, pp. 4764 - 4772.

[8]. Mishra Sunil B., et al. (2024). AI-Driven IoT (AI IoT) in Thermodynamic Engineering, Journal of Modern Thermodynamics in Mechanical System, 6(1), 1-8.

[9]. Kazi Kutubuddin Sayyad Liyakat (2024). Impact of Solar Penetrations in Conventional Power Systems and Generation of Harmonic and Power Quality Issues, Advance Research in Power Electronics and Devices, 1(1), 10-16.

[10]. Sayyad Liyakat. Intelligent Watering System (IWS) for Agricultural Land Utilising Raspberry Pi. Recent Trends in Fluid Mechanics. 2023; 10(2): 26–31p.

[11]. Sunil Shivaji Dhanwe, et al. (2024). AI-driven IoT in Robotics: A Review, Journal of Mechanical Robotics, 9(1), 41-48.

[12]. Kazi Kutubuddin Sayyad Liyakat (2024). Railway Health-Monitoring Using KSK Approach: Decision-Making Using AIIoT Approach in Railways, *Journal of Controller and Converters*, 9(3), 1-10. Available at: https://matjournals.net/engineering/index.php/JCC/article/view/1047

[13]. Kazi Kutubuddin Sayyad Liyakat (2024). A Study on AI-driven IoT (AIIoT) based Decision Making: KSK Approach in Robot for Medical Applications, Recent Trends in Semiconductor and Sensor Technology, 1(3), 1-17. Available at: https://matjournals.net/engineering/index.php/RTSST/article/view/1044

[14]. Kazi Kutubuddin Sayyad Liyakat (2024). Wireless Train Collision Avoidance System, Advance Research in Communication Engineering and its Innovations, 1(3), 16-25.

[15]. Kazi Kutubuddin Sayyad Liyakat. (2024). Internet of Battlefield Things: An IoBT-inspired Battlefield of Tomorrow. *Journal of Telecommunication, Switching Systems and Networks*. 2024; 11(3): 11–19p.

[16]. Sunil B. Mishra (2024d). AI-Driven-IoT (AIIoT)-Based Decision Making in Manufacturing Processes in Mechanical Engineering, Journal of Mechanical Robotics, 9(2), 27-38.

[17]. Sunil B. Mishra (2024e). AI-Driven-IoT (AIIoT) Based Decision-Making in Molten Metal Processing, Journal of Industrial Mechanics, 9(2), 45-56.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 10, June 2026
Impact Factor: 8.2

[18]. Kutubuddin, **KSK Approach in LOVE Health: AI-Driven- IoT(AIIoT) based Decision Making System in LOVE Health for Loved One,** *GRENZE International Journal of Engineering and Technology,* 2025, 11(1), pp. 4628-4635. Grenze ID: 01.GIJET.11.1.371_1

[19]. Kazi Kutubuddin Sayyad Liyakat. TensorFlow- Based Big Data Analytics for IoT Networks: A Study. *International Journal of Data Structure Studies*. 2025; 3(1): 32–40p.

[20]. Kazi Kutubuddin Sayyad Liyakat. Brand Protection Using Machine Learning: A New Era. *E-Commerce for Future & Trends*. 2025; 12(1): 33-44p.

[21]. Dhanve and Liyakat, "Machine Learning Forges a New Future for Metal Processing: A Study," International Journal of Artificial Intelligence in Mechanical Engineering, vol. 1, no. 1, pp. 1-12, Mar. 2025.

[22]. Kutubuddin Sayyad Liyakat. e-Skin Applications in Healthcare and Robotics: A Study. Journal of Advancements in Robotics. 2025; 12(1):13 –21p.

[23]. Kutubuddin Sayyad Liyakat. Millimeter Wave in Internet of Things Connectivity: A Study. *International Journal of Wireless Security and Networks*. 2025; 03(01):13-23.

[24]. Kutubuddin Sayyad Liyakat. TensorFlow-Based Big Data Analytics for IoT Networks: A Study. *International Journal of Data Structure Studies.* 2025; 03(01):31-38.

[25]. Kutubuddin Sayyad Liyakat. Multimedia Technology in Healthcare: A Study. Journal of Multimedia Technology & Recent Advancements. 2025; 12(01):23-29.

[26]. Jatin M. Patil, "Robotic Surgery using AI-Driven-IoT Based Decision Making for Safety: A Study" *International Journal of Artificial Intelligence of Things (AIIoT) in Communication Industry*, vol. 1, no. 1, pp. 35-44, Mar. 2025.

[27]. N. R. Mulla and K. K. S. Liyakat, (2025). Pipeline Pressure and Flow Rate Monitoring Using IoT Sensors and ML Algorithms to Detect Leakages, *Int. J. Artif. Intell. Mech. Eng*., vol. 1, no. 1, pp. 20–30, Jun. 2025.

[28]. Nikat Rajak Mulla, (2025). Sensor-based Aircraft Wings Design Using Airflow Analysis, *International Journal of Image Processing and Smart Sensors,* vol. 1, no. 1, pp. 55-65, Jun. 2025.

[29]. N. R. Mulla and K. K. S. Liyakat, (2025). A Study on Machine Learning for Metal Processing: A New Future, *International Journal of Machine Design and Technology,* vol. 1, no. 1, pp. 56–69, Jun. 2025.

[30]. N. R. Mulla, and K. K. S. Liyakat, "Node MCU and IoT Centered Smart Logistics," *International Journal of Emerging IoT Technologies in Smart Electronics and Communication,* vol. 1, no. 1, pp. 20-36, Jun-2025.

[31]. Renuka Dnyanoba Todakar, Jadhav Vaibhavi Kishor. (2025). Kinetic Power Gyms for Revolutionizing Fitness. *Journal of Telecommunication, Switching Systems and Networks*. 2025; 12(02):13-21. Available from: https://journals.stmjournals.com/jotssn/article=2025/view=214971

[32]. Kazi Kutubuddin Sayyad Liyakat. Cardiovascular Modeling with Computational and Mathematical Methods. *Research & Reviews: A Journal of Bioinformatics*. 2025; 12(2): 1–11p.

[33]. Nikat Rajak Mulla, Kazi Kutubuddin Sayyad Liyakat. Air Flow Analysis in Sensor-Based Aircraft Wings Design. *Recent Trends in Fluid Mechanics*. 2025; 12(2): 29– 39p.

[34]. Nikat Rajak Mulla, Kazi Kutubuddin Sayyad Liyakat. IoT Sensors To Monitor Pipeline Pressure and Flow Rate Combined with Ml-Algorithms to Detect Leakages. *Recent Trends in Fluid Mechanics.* 2025; 12(2): 40–48p.

[35]. Heena Rafiq Shaik, Kazi Kutubuddin Sayyad Liyakat. Juncture of Nanotechnology and IoT: Novel Era of Connectivity. *Nano Trends – A Journal of Nano Technology & Its Applications.* 2025; 27(03):-. Available from: https://journals.stmjournals.com/nts/article=2025/view=212921

[36]. Kazi Kutubuddin Sayyad Liyakat. Machine Learning Revolutionizing Server Management and Performance. Journal of Computer Technology & Applications. 2025; 16(02):-. Available from: https://journals.stmjournals.com/jocta/article=2025/view=0

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 10, June 2026
Impact Factor: 8.2

[37]. Kazi Kutubuddin Sayyad Liyakat. KVS Approach for IoT Network Security: A Novel Approach to IoT Network Security With B-Cell Inspired Models. Journal of Network security. 2025; 13(02):16-25. Available from: https://journals.stmjournals.com/jons/article=2025/view=207920

[38]. Dr. Kazi Kutubuddin Sayyad Liyakat. Nanotechnology: Effective Pesticide Solutions for Jawar Leaf Diseases. Journal of Nanoscience, NanoEngineering & Applications. 2025; 15(02):-. Available from: https://journals.stmjournals.com/jonsnea/article=2025/view=204242

[39]. Parkhe Suyash Swaminath, Dhyavarkonda Udaykiran Tulshidas, Todkar Renuka Dnyanoba, Pawar Radhika Maruti, Kazi Kutubuddin Sayyad Liyakat. Nanotechnology in Internet of Things: A Powerful Partnership Shaping the Future. Journal of Nanoscience, NanoEngineering & Applications. 2025; 15(02):-. Available from: https://journals.stmjournals.com/jonsnea/article=2025/view=211534

[40]. Nikat Rajak Mulla, Kazi Kutubuddin Sayyad Liyakat. Nano-Materials in Vaccine Formation and Chemical Formulae's for Vaccination. Journal of Nanoscience, NanoEngineering & Applications. 2025; 15(03):-. Available from: https://journals.stmjournals.com/jonsnea/article=2025/view=216526

[41]. A K. Mulani, H. T. Shaikh, and K. K. S. Liyakat, (2025). Nuclear Power Generation Using UO2 Materials, *Journal of Advance Electrical Engineering and Devices,* Vol. 3, No. 2, pp. 27-40, Jul. 2025.

[42]. H. T. Shaikh and K. K. S. Liyakat, "Empowering the IoT: The Study on Role of Wireless Charging Technologies," Journal of Control and Instrumentation Engineering, vol. 11, no. 2, pp. 29-39, Jul. 2025.

[43]. H. T. Shaikh, and K. K. S. Liyakat, "Pre-Detection Systems Transfiguring Intoxication and Smoking Using Sensor and AI," Journal of Instrumentation and Innovation Sciences, vol. 10, no. 2, pp. 19-31, Jul. 2025.

[44]. Vaishnavi Ashok Desai, (2025). AI and Sensor Systems Revolutionizing Intoxication and Smoking Pre-Detection. *Journal of Control & Instrumentation*. 2025; 16(3): 15–26p.

[45]. Heena Tajoddin Shaikh. (2025). The Future of Coastal Resilience: Harnessing Satellite Technology. *Advance Research in Communication Engineering and Its Innovations*, 28–36. Retrieved from https://matjournals.net/engineering/index.php/ARCEI/article/view/2281

[46]. H. T. Shaikh and K. K. S. Liyakat., (2025). Sensor- based Intelligent Wearable Glasses, *Journal of Digital Circuitry Innovations in Electrical Devices,* vol. 1, no. 2, pp. 16-24, Jul. 2025.

[47]. Kazi Kutubuddin Sayyad Liyakat. Nanorobots: The Fight against Cholesterol. Nano Trends – A Journal of Nano Technology & Its Applications. 2025; 27(02). Available from: https://journals.stmjournals.com/nts/article=2025/view=205244

[48]. H. T. Shaikh and K. K. S. Liyakat, "Millimetre Wave: A Study on the Backbone of Future IoT Connectivity", *Advance Research in Analog and Digital Communications*, Vol. 2, no. 2, pp. 20-31, Aug. 2025.

[49]. Ayesha Khalil Mulani. Microwave Signals: A New Frontier in Non-Invasive Medical Diagnostics: A Study. Journal of Microwave Engineering & Technologies. 2025; 12(3): 27–41p.

[50]. Ayesha Khalil Mulani. Revolutionizing Optical Fibre Field Distribution with Linear Finite Element Method. Trends in Opto-electro & Optical Communication. 2025; 15(3): 31-41p.

[51]. H. T. Shaikh and K. K. S. Liyakat, (2025). Robust Access Control Mechanisms in IoT Security using VHDL Programming, Journal of VLSI Design and Signal Processing, vol. 11, no. 2, pp. 31-40, Aug. 2025. Available at: https://matjournals.net/engineering/index.php/JOVDSP/article/view/2351

[52]. Radhika Maruti Pawar, Kulkarni Amarja Bhaskar, Patu Shradha Gangadhar, Sensors and Artificial Intelligence based Intelligent Thermos. Recent Trends in Sensor Research & Technology. 2025; 12(3): 37–45p.

[53]. Ayesha Khalil Mulani. Optical Fibre Pressure Sensor in Medicine: A Study. Recent Trends in Sensor Research & Technology. 2025; 12(3): 18–27p.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 10, June 2026
Impact Factor: 8.2

[54]. Vaishnavi Ashok Desai, Heena Tajoddin Shaikh, Sensor and AI Based Pre- Detection Systems Transfiguring Intoxication & Smoking. Journal of Telecommunication, Switching Systems and Networks. 2025; 12(3): 37–50p.

[55]. C. M. Abhangrao and K. K. S. Liyakat, "A study on hybrid intelligence in COBOT," Journal of Mechanical Robotics, vol. 10, no. 2, pp. 15–29, Sep. 2025.

[56]. Heena Tajoddin Shaikh, (2025). The Future of Cancer Management: A Guide to Nanosensor Applications. *Recent Trends in Semiconductor and Sensor Technology*, 1–10.

[57]. Heena T Shaikh. A Study on Automatic Feedback Control by Image Processing for Mixing Solutions in a Microfluidic Device. International Journal of Advanced Control and System Engineering. 2025; 3(2): 32–41p.

[58]. Heena T Shaikh. A Study on Unmanned Air Vehicles (UAV). Journal of Aerospace Engineering & Technology. 2025; 15(3): 14–27p.

[59]. K. K. S. Liyakat, "Waste-to-Energy (WtE) Plants: A Study," Journal of Alternative and Renewable Energy Sources, vol. 11, no. 3, pp. 1-15, Oct. 2025.

[60]. Sultanabanu Sayyad Liyakat. (2024). Advancing IoT Connectivity through Very Large-Scale Integration of Semiconductor Technology. Journal of Semiconductor Devices and Circuits. 2024; 11(03):54-63. Available at: https://journals.stmjournals.com/josdc/article=2024/view=190467/

[61]. Dr. Kazi Kutubuddin Sayyad Liyakat. Sensor and IoT centered Smart Agriculture by NodeMCU. Recent Trends in Sensor Research & Technology. 2024; 11(03): 24-32. Available from: https://journals.stmjournals.com/rtsrt/article=2024/view=0

[62]. Dr. Kazi Kutubuddin Sayyad Liyakat. KSK Approach to Smart Agriculture: Utilizing AI-Driven Internet of Things (AI IoT). Journal of Microcontroller Engineering and Applications. 2024; 11(03): 41-50. Available from: https://journals.stmjournals.com/jomea/article=2024/view=0

[63]. Pathan Muskan Ibrahim.(2025). Photochemical Materials for Light-Responsive Optical Switching: AI-Optimized Design of Dynamic Visual Effects. International Journal of Photochemistry and Photochemical Research, Volume 3, Issue 2. 2025; 3(2): 13–27p.

[64]. Shaikh A. Hakim A. Razzaque. (2025). A Study on AI-Enhanced Environmental Toxicology: Sensor-Driven Predictive Framework. Research & Reviews: A Journal of Toxicology. 2025; 15(3): 1–20p.

[65]. Paul Pranit Sunil, Dhyvarkonda Udaykiran Tulshidas, Gone Yashasvi Prakash. (2025). AI-Powered Motorcycle Anti-Theft and Safety System, International Journal of Advanced Research in Science, Communication and Technology, Volume 5, Issue 1, October 2025. pp. 445- 454.

[66]. P. M. Ibrahim and K. K. S. Liyakat, "Guardian Angel: An Innovative Mobile Application for Rapid Accident Notification and Emergency Response," *Advance Research in Analog and Digital Communications*, vol. 2, no. 3, pp. 7-20, Oct. 2025.

[67]. Muskan Ibrahim, Shaikh A. Hakim A. Razzaque, Heena T Shaikh, Kazi. (2025). VHDL-Based Strategies for Protecting IoT Devices from Power and Electromagnetic Side-Channel Attacks: A Study. *Recent Trends in Electronics & Communication Systems*. 2025; 12(3): 30–40p. Available at: https://journals.stmjournals.com/article/article=2025/view=234151/

[68]. Amar Parmeshwar Bansode, (2025). Electronics and Communication Design of an AI-Powered Smart Chair for Real-Time Multilingual Interaction. *Recent Trends in Electronics & Communication Systems*. 2025; 12(3): 16–29p.

[69]. Pathan Muskan Ibrahim, Shaikh A. Hakim A. Razzaque, Heena T Shaikh, Kazi Kutubuddin Sayyad Liyakat. (2025). Reimagining Nuclear Reactor Safety: The Study toward Passive Safety. *Journal of Nuclear Engineering & Technology*. 2025; 15(3): 6–15p.

[70]. Ayesha Khalil Mulani, Heena Tajuddin Shaikh. (2025). Nuclear Reactor Safety Using Fuel Pallet: A Study. *Journal of Nuclear Engineering & Technology*. 2025; 15(3): 16–23p.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 10, June 2026
Impact Factor: 8.2

[71]. Sunil Mishra and Liyakat, (2025). Sensors in Metallurgy Applications: A Study, *Journal of Recent Activities in Production*, vol. 10, no. 2, pp. 11-22, Oct. 2025. Available at: https://matjournals.net/engineering/index.php/JoRAP/article/view/2576

[72]. Muskan Pathan. (2025). Study of Agriculture Using Drones in India: Evaluation of Feasibility, Impact, and Adoption Challenges. *International. Journal on Drones.* 2025; 1(2): 21–33p. Available at: https://journals.stmjournals.com/ijd/article=2025/view=230379/

[73]. Kazi Kutubuddin Sayyad Liyakat. (2025). A Study on Recent Trends in Chemical Sensors for Detecting Toxic Materials. *Journal of Modern Chemistry & Chemical Technology*. 2025; 16(3): 25–34p. Available at: https://journals.stmjournals.com/jomcct/article=2025/view=234528/

[74]. Heena T Shaikh. (2025). E-Commerce Study Using AR/VR and Ethical Convergence of Commerce. *E-Commerce for Future & Trends*. 2025; 12(3): 20–26p. Available at: https://journals.stmjournals.com/ecft/article=2025/view=232592/

[75]. Nikat Rajak Mulla, Bhakti Haridas Gavali, Ayesha Khalil Mulani, Vaibhavi Kishor Jadhav, (2025). Nanotechnology: Revolutionizing the World of Sensors. *International Journal of Applied Nanotechnology*. 2025; 11(2): 1–9p. Available at: https://journalspub.com/publication/ijan/article=21245/

[76]. Liyakat, (2025). Revolutionizing Petrology and Mineralogy: The Study of AI and Advanced Sensor Technologies. *International Journal of Mineral*. 2025; 2(2): 1–11p. Available at: https://journals.stmjournals.com/ijmi/article=2025/view=232613/

[77]. Sayyad & Liyakat (2025). AR Coatings in Solar Efficiency: A Study. *Journal of Thin Films, Coating Science Technology and Application*. 2025; 12(3): 25–34p. Available at: https://journals.stmjournals.com/article/article=2025/view=235156/

[78]. Sanika Anil Bhosale, (2025). AI-Based Software-Defined Satellite in Decision Making: A Study. *International Journal of Satellite Remote Sensing*. 2025; 03(01):63-72. Available from: https://journals.stmjournals.com/ijsrs/article=2025/view=207998.

[79]. Heena T. Shaikh. (2025). A Study on Insect Journey Using Sensor. *International Journal of Insects*. 2025; 2(2): 1–7p. Available at: https://journals.stmjournals.com/article/article=2025/view=234932/

[80]. Bhagyarekha Ujjwalganesh Dhaware, (2025). A Smart Stove System for Cooking Food: A Study. *International Journal of Electrical Machine Analysis and Design.* 2025; 3(2): 1–10p. Available at: https://journals.stmjournals.com/article/article=2025/view=235595/

[81]. Milind Shivaji Kadam, (2025). Power of Optical Sensors in Remote Sensing: A Study. *International Journal of Satellite Remote Sensing*, 2025; 3(2): 29–36p. Available at: https://journals.stmjournals.com/article/article=2025/view=235438/

[82]. IR. (2025). A Study of Optical Sensor in Clinical applications. *International Journal of Optical Innovations & Research.* 2025; 3(2): 1–7p. Available at: https://journals.stmjournals.com/article/article=2025/view=235439/

[83]. Muskan Pathan, (2026). Exploring the Intersection of Blockchain and Cybersecurity. Current Trends in Information Technology. 2026; 16(1): 32–42p.

[84]. Shaikh Heena T, Kazi Kutubuddin Sayyad Liyakat. (2025). Satellite Sensing in Aero-Plan Guidance and Radar Tracking System. *International Journal of Satellite Remote Sensing.* 2025; 3(2): 1–9p. Available at: https://journals.stmjournals.com/issue/ijwsn-volume-03-Issue-02-2025/

[85]. K. K. S. Liyakat, (2025). AI-driven Convergent Channel Allocation for 7G Mobile Networks: A Study, *Journal of RF and Microwave Communication Technologies,* vol. 2, no. 3, pp. 19-30, Dec. 2025. Available at: https://matjournals.net/engineering/index.php/JoRFMCT/article/view/2825

[86]. Ayesha Khalil Mulani, Kazi Kutubuddin Sayyad Liyakat. (2025). Transforming IoT with mmWave: A Study. *International Journal of Microwave Engineering and Technology.* 2025; 11(2): 1–9p.

[87]. Nikat R. Mulla, Kazi Kutubuddin Sayyad Liyakat. (2025). Predictive Maintenance of 6G Infrastructure Using Artificial Intelligence. *International Journal of Telecommunication and Emerging Technologies*. 2025; 11(2): 1–10p. Available at:

[88]. Heena T Shaikh, Kazi Kutubuddin Sayyad Liyakat. (2025). Symmetry Principles in Digital Twin Systems: Modeling, Integration, and Applications. *Emerging Trends in Symmetry*. 01(02):06-24p. Available from: https://journals.stmjournals.com/etsy/article=2025/view=233711

[89]. Kazi Kutubuddin Sayyad Liyakat. (2025). Cloud Computing-Based Software Testing. *International Journal of Software Computing and Testing*. 11(2): 17–25p.

[90]. Mayur Saudagar Jadhav, and Kazi Kutubuddin Sayyad Liyakat. (2025). Smart Cameras Integrated With Artificial Intelligence (AI) and Human Pose Estimation: A Study. *International Journal of AI and Machine Learning Innovations in Electronics and Communication Technology,* 1(2): 1–12. Accessed December 13, 2025. https://matjournals.net/engineering/index.php/IJAIMLECT/article/view/2424.

[91]. Nikat Rajak Mulla. (2025). A Transformative Approach to Empathetic Climate Change by Satellite Sensing. Research & Reviews : *Journal of Space Science & Technology*. 2025; 14(03):35-42. Available from: https://journals.stmjournals.com/rrjosst/article=2025/view=228204

[92]. Kazi Kutubuddin Sayyad Liyakat, Efficiency Improvements in Long-Distance Wireless Power Transmission. *International Journal of Electrical Power System and Technology*. 2024; 10(01): -p. Available from: https://journalspub.com/publication/ijepst/article=11880

[93]. Mulla Nikat, Kazi Kutubuddin. Securing IoT Wilderness with VHDL. *International Journal of VLSI Circuit Design & Technology*. 2025; 03(01):29-40. Available from: https://journals.stmjournals.com/ijvcdt/article=2025/view=206696

[94]. Nikat Rajak Mulla, Kazi Kutubuddin Sayyad Liyakat. GSM Based Intelligent Homes. *International Journal of Electrical and Communication Engineering Technology*. 2025; 03(02):-. Available from: https://journals.stmjournals.com/ijecet/article=2025/view=229260

[95]. *Kazi Kutubuddin Sayyad Liyakat. (2022).* Text Analysis in Health Care Study Using IoT, Journal of Computer Technology & Applications, Vol 13, No 3. Available at: https://computerjournals.stmjournals.in/index.php/JoCTA/article/view/955.

[96]. Kazi Kutubuddin Sayyad Liyakat. Enhancing LAN Security Using Machine Learning. *International Journal of Wireless Security and Networks*. 2025; 03(02):07-16. Available from: https://journals.stmjournals.com/ijwsn/article=2025/view=232814

[97]. Kazi Kutubuddin Sayyad Liyakat. (2024). Smart Agriculture based on AI-Driven-IoT (AIIoT): A KSK Approach. *Advance Research in Communication Engineering and Its Innovations*, 23–32. Retrieved from https://matjournals.net/engineering/index.php/ARCEI/article/view/746

[98]. Heena Tajoddin Shaikh. (2025). A Study on Innovations in Primary Containment Technology for Safer Nuclear Power. *Journal of Nuclear Engineering & Technology*. 2025; 15(03):-. Available from: https://journals.stmjournals.com/jonet/article=2025/view=233190

[99]. Kazi Kutubuddin Sayyad Liyakat. (2025) Tiny Titans: The Promise of E-Nanorobots in the Fight against Cancer. *Journal of Advancements in Robotics*. 2025; 12(02):11-21. Available from: https://journals.stmjournals.com/joarb/article=2025/view=0

[100]. Nikat Rajak Mulla. (2025) Analysis of Field Distribution in Optical Fibre Using FEM Method. *Trends in Opto-electro & Optical Communication*. 2025; 15(02):31-40. Available from: https://journals.stmjournals.com/toeoc/article=2025/view=215300

[101]. Nikat Rajak Mulla. (2025). Internet of Things Connectivity Using Millimetre Wave: A Study. *Journal of Microwave Engineering and Technologies*. 2025; 12(02):18-30. Available from: https://journals.stmjournals.com/jomet/article=2025/view=215480

[102]. Kazi Kutubuddin Sayyad Liyakat. (2025). Fog Computing Architecture and Deployment in IoT. *International Journal of Distributed Computing and Technology*. 2025; 11(2): 1–9p.

[103]. Heena T. Shaikh, Kazi Kutubuddin Sayyad Liyakat. (2025). Improved Programming Model Using AI: Shifting from Imperative Coding to Declarative Intent. *International Journal of Software Computing and Testing*. 11(2): 1–9p. Available at: https://journalspub.com/publication/ijsct/article=22151/

[104]. Heena Kazi. (2025) Collaborative Approaches in Using Satellite Data for Climate Action: A study. *International Journal of Atmos*phere. 2(2): 1–9p. Available at: https://journals.stmjournals.com/article/article=2025/view=234886/

[105]. Shaikh Heena T, Kazi Kutubuddin Sayyad Liyakat. (2025). The Versatility of the IC 741 in Electronic Sensor System Design. *International Journal of Analog Integrated Circuits*. 2025; 11(2): 8–13p. Available at: https://journalspub.com/publication/ijaic/article=23144/

[106]. Kazi Kutubuddin Sayyad Liyakat. (2025) Navigating the Antenna Frontier for Emerging IoT Technologies. *International Journal of VLSI Circuit Design & Technology*. 2025; 3(2): 1–10p. Available at: https://journals.stmjournals.com/ijvcdt/article=2025/view=235614

[107]. K. K. S. Liyakat, (2205). A Study on Side-Channel Attack Countermeasures in IoT Security using VHDL Programming, *Journal of VLSI Design and Signal Processing,* vol. 11, no. 3, pp. 27-36, Dec. 2025. Available at: https://matjournals.net/engineering/index.php/JOVDSP/article/view/2897

[108]. Kazi Kutubuddin Sayyad Liyakat. (2025). Hybrid Intelligence (HI) in Cyber Security: A Study. *International Journal of Wireless Security and Networks*. 2026; 4(1): 1–9p.

[109]. Kazi Kutubuddin Sayyad Liyakat, Heena T.Shaikh, Kazi Sultanabanu Sayyad Liyakat. (2025). Cloud Security Using Machine Learning: A Study. *International Journal of Distributed Computing and Technology*. 2025; 11(2): 1–10p. Available at: https://journalspub.com/publication/ijdct/article=22139

[110]. H. T. Shaikh, and K. K. S. Liyakat, (2025). The Future of Radar Antenna Design: A Study, Advance *Research in Communication Engineering and its Innovations*, vol. 2, no. 3, pp. 18-28, Dec. 2025. Available at: https://matjournals.net/engineering/index.php/ARCEI/article/view/2913

[111]. Heena T. Shaikh, Kazi Kutubuddin Sayyad Liyakat. (2025). 4 x 4 Multi-Band MIMO Antenna: A Study. *International Journal of Microwave Engineering & Technology*. 2025; 11(2): 1–11p.

[112]. Heena T. Shaikh, Pathan M. Ibrahim, Kazi K. S. Liyakat. (2025). A Study on the Future of Industrial Wastewater Treatment Plant: Trends and Innovations. *International Journal of Chemical Engineering and Processing*. 2025; 11(2): 1–13p. Available at: https://journalspub.com/publication/ijocep/article=22386/

[113]. Kazi Kutubuddin Sayyad Liyakat, Heena T. Shaikh. (2025). e-Kidney Filtration System (EKS) Using Sensor: A Study. *International Journal of Chemical Separation Technology*. 2025; 11(2): 1–10p.

[114]. Kazi Kutubuddin Sayyad Liyakat.(2025). Building a Secure IoT Ecosystem with TRNGs and VHDL. Journal of Telecommunication and Emerging Technologies. 2025; 11(2): 1–8p.

[115]. Milind Shivaji Kadam, Vaishnavi Gopal Shirsikar, N. N. Shaikh, Aditi Dinanath Shahane, Kazi Kutubuddin Sayyad Liyakat. (2025). A Study in Leveraging Deep Learning and IoT Arrays for Dynamic, Hyper-Local Atmospheric Intelligence. International Journal of Atmosphere. 2025; 2(2): 50–62p. Available at: https://journals.stmjournals.com/article/article=2025/view=234909/

[116]. Shaikh Heena Tajoddin, Ir. Kazi Kutubuddin Sayyad Liyakat. (2025). Carbon-Based Supercapacitors Evolutionizing EVs. Journal of Materials & Metallurgical Engineering. 2025; 15(3): 66–76p. Available at: https://journals.stmjournals.com/article/article=2025/view=235071/

[117]. Kazi Kutubuddin Sayyad Liyakat. (2025). Epidemiology and Transmission of Infectious Diseases Study Using Machine Learning. International Journal of Pathogens. 2025; 2(2): 10–20p. Available at: https://journals.stmjournals.com/article/article=2025/view=234948/

[118]. Sultanabanu, Shaikh Heena T. (2025). A Study on IoT and AI for Predictive Modeling and Control of Infectious Disease Transmission. International Journal of Pathogens. 2025; 2(2): 1–9p. Available at: https://journals.stmjournals.com/article/article=2025/view=234953/

[119]. K Kazi, Sayyad Liyakat, (2025). VHDL Programming for Secure Bootloaders in IoT Security. International Journal of VLSI Circuit Design & Technology. 2025; 03(01):19-28. Available from: https://journals.stmjournals.com/ijvcdt/article=2025/view=206693

[120]. Jadhav Vaibhavi Kishor. (2025). Robust Access Control Mechanisms Using VHDL Programming for IoT Security. Journal of VLSI Design Tools and Technology. 2025; 15(02):6-19. Available from: https://journals.stmjournals.com/jovdtt/article=2025/view=224414

[121]. *Heena T Shaikh and Dr. Kazi Kutubuddin Sayyad Liyakat, Innovating IoT Security: VHDL as a Solution for Bootloader Vulnerabilities. International Journal of Microelectronics and Digital integrated circuits. 2025; 11(02): -p. Available from: https://journalspub.com/publication/ijmdic/article=23170/*

[122]. Heena T Shaikh, IR. Kazi Kutubuddin Sayyad Liyakat. (2026). Multi-Layered AI-Driven Security in Wireless Ecosystems. International Journal of Wireless Security and Networks. 2026; 4(1): 21–28p.

[123]. Dr. Kazi Kutubuddin Sayyad Liyakat. Integrated, Geospatial Risk Assessment of Air, Water, and Soil Pollution Impacts on Agricultural Sustainability using Advanced Digital Technologies. International Journal of Environmental Noise and Pollution Control. 2025; 03(02):28-37. Available from: https://journals.stmjournals.com/ijenpc/article=2025/view=230868

[124]. IR. Dr. Kazi Kutubuddin Sayyad Liyakat, Heena T Shaikh. Study on Antibiotic Resistance: An Analysis of Molecular Mechanisms and Therapeutic Implications. International Journal of Antibiotics. 2026; 3(1): 9-21p.

[125]. V. Maske, S. Pauskar, V. Gundagi, S. H. T, and K. K. S. Liyakat, "Two-Way Tracking System for Buses Augmented by Intelligent Sensor and VLSI Technology: A Study," Journal of VLSI Design and Signal Processing, vol. 12, no. 1, pp. 14-27, Jan. 2026. Available at: https://matjournals.net/engineering/index.php/JOVDSP/article/view/3038

[126]. Kazi Kutubuddin Sayyad Liyakat. Study on Accelerating Threat of Emerging Infectious Diseases (EIDs) and Imperative for a Proactive, Interdisciplinary Global Health Security Framework. International Journal of Tropical Medicines. 2026; 3(1): 9–22p.

[127]. Heena T. Shaikh, Kazi Kutubuddin Sayyad Liyakat. (2026). A Study on Precision Blood Propulsion in Motor-Driven Artificial Hearts. Trends in Electrical Engineering. 2026; 16(1): 51–57p.

[128]. Kazi Kutubuddin Sayyad Liyakat, Heena T Shaikh. (2026). Multi-Layered AI-Driven Paradigm Shift in IoT Ecosystem Security. Journal of Communication Engineering & Systems. 2026; 16(1): 13–21p.

[129]. Heena T. Shaikh, Kazi Kutubuddin Sayyad Liyakat. Analysis of Machine Learning in Metal Processing: A Novel Prospect. Journal of Materials & Metallurgical Engineering. 2026; 16(1): 40–51p.

[130]. H. T. Shaikh and K. K. S. Liyakat, "A Study into Accurate Blood Pumping in Motor-powered Artificial Hearts," Advance Research in Power Electronics and Devices, vol. 3, no. 1, pp. 1-9, Feb. 2026.

[131]. Kazi Kutubuddin Sayyad Liyakat. A Technical Survey on Nanotechnology in Nanorobots. Journal of Nanoscience, Nanoengineering & Applications. 2026; 16(1): 14–21p. Available at: https://journals.stmjournals.com/article/article=2026/view=239242/

[132]. Vaishnavi Gopal Shirsikar, Aditi Dinanath Shahane, Kazi Kutubuddin Sayyad Liyakat. A Study on Securing the Local Area Network with the Immutable Trust of Blockchain. *International Journal of Distributed Computing and Technology*. 2026; 12(1): 23–33p.

[133]. Heena T. Shaikh, (2026). A Study on Controlling Artificial Heart. *Journal of Control & Instrumentation*. 2026; 17(1): 14–23p.

[134]. H. T. Shaikh, and K. K. S. Liyakat, ―A Study on AI-powered Ultra-low Latency in 6G: A Blueprint for the Next-Generation Mobile Communication System‖, *Advance Research in Communication Engineering and its Innovations,* vol. 3, no. 1, pp. 29-41, Mar. 2026.

[135]. Dhyvarkonda Udaykiran Tulshidas, Pranit Sunil Paul, Gone Yashasvi Prakash, IR. Kazi Kutubuddin Sayyad Liyakat. Revolutionizing School Schedules: An Arduino-Based Automatic Class Bell System with Real-Time Precision. Journal of Control & Instrumentation. 2025; 16(02):35-44. Available from: https://journals.stmjournals.com/joci/article=2025/view=213292

[136]. Kazi Kutubuddin Sayyad Liyakat. (2026). T-Flip-Flop Implementation using Quantum-dot Cellular Automata. *Journal of Electronics Design and Technology*, 24–32. Retrieved from https://matjournals.net/engineering/index.php/JEDT/article/view/3282

[137]. Heena T. Shaikh, Kazi Kutubuddin Sayyad Liyakat. Thin Film Technology in Sensor Manufacturing – A Technical Discussion. Journal of Thin Films, Coating Science Technology and Application. 2026; 13(1): 48–58p.

[138]. Heena T Shaikh, Dr. Kazi Kutubuddin Sayyad Liyakat. A study on CMOS Operational Amplifier in Sensor Development. Journal of VLSI Design Tools and Technology. 2026; 16(01):-. Available from: https://journals.stmjournals.com/jovdtt/article=2026/view=238929

[139]. Heena T. Shaikh, IR. Kazi Kutubuddin Sayyad Liyakat. An Overview on Energy Harvesting Using Piezoelectric Material for Wi-Fi Systems. International Journal of Electro-Mechanics and Material Behavior. 2026; 4(1): 56– 63p.

[140]. K. K. S. Liyakat, T-Flip-Flop Implementation using Quantum-dot Cellular Automata‖, Journal of Electronics Design and Technology, vol. 3, no. 1, pp. 24-32, Mar. 2026.

[141]. H. T. Shaikh and K. K. S. Liyakat, "An Overview of Transforming IoT with Millimeter-Wave," Journal of RF and Microwave Communication Technologies, vol. 3, no. 1, pp. 18-28, Mar. 2026. Available at: https://www.matjournals.net/engineering/index.php/JoRFMCT/article/view/3327

[142]. Kutubuddin Sayyad Liyakat Kazi, (2025). Roll of AI and Sensor in Aerospace: A Study, Journal of Advance Research in Aeronautics and Space Science, Vol. 12 No. 3&4. Available at: https://adrjournalshouse.com/index.php/Jof-aeronautics-space-science/article/view/2589

[143]. Heena T. Shaikh, Kazi Kutubuddin Sayyad Liyakat. The Future of Farming with IoT-Operated Drones. International Journal on Drones. 2026; 2(1): 20–26p. Available at: https://journals.stmjournals.com/article/article=2026/view=239864/

[144]. Kazi Kutubuddin Sayyad Liyakat. An Overview on Quantum dot Technology in Temperature Sensor Design. Journal of Electronic Design Technology. 2026; 17(1): 10–17p.

[145]. Shaikh Heena T, Kazi Kutubuddin Sayyad Liyakat. Sensors-Based Electric Machine Design for Industry. International Journal of Electrical Machine Analysis and Design. 2026; 4(1): 1-10p. Available at: https://journals.stmjournals.com/article/article=2026/view=240174/

[146]. Heena T Shaikh, Kazi Kutubuddin Sayyad Liyakat. An Overview on Intelligent Operating Systems (iOS). Journal of Operating Systems Development & Trends. 2026; 13(1): 21–28p. Available at: https://journals.stmjournals.com/article/article=2026/view=242357/

[147]. Kazi Kutubuddin Sayyad Liyakat, A Study of Self-Healing Polymer Nanocomposites with Filler Effect. International Journal of Applied Nanotechnology. 2026; 12(1): 26-35p. Available from: https://journalspub.com/publication/uncategorized/article=24828

[148]. H.T. Shaikh, and K. K. S. Liyakat, ―A Study on AI-driven Security Concerns in the Wireless Ecosystem, Research & Review: Electronics and Communication Engineering, vol. 3, no. 1, pp. 27-38, Apr. 2026.

[149]. Heena T. Shaikh, Kazi Kutubuddin Sayyad Liyakat. Optimization of Pesticide Requirement Calculations for IoT- Operated Hexacopter Delivery Systems. International Journal on Drones. 2026; 2(1): 8–14p. Available at: https://journals.stmjournals.com/ijd/article=2026/view=239857/

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 10, June 2026
Impact Factor: 8.2

[150]. Heena T. Shaikh, & Kazi Kutubuddin Sayyad Liyakat. (2026). A Study on AI-driven Security Concerns in the Wireless Ecosystem. Research & Review: Electronics and Communication Engineering, 27–38. Retrieved from https://matjournals.net/engineering/index.php/RRECE/article/view/3446

[151]. Kazi Kutubuddin Sayyad Liyakat. Nano-Chemical Revolution in Vaccinology: A Study. Research & Reviews: A Journal of Immunology. 2026; 16(1): 26–38p.

[152]. Chopade Mallikarjun Abhangrao1, IR. Kazi Kutubuddin Sayyad Liyakat. KSK Approach: An AI-Driven IoT Based Decision Making System's Study. Current Trends in Signal Processing. 2025; 15(02):14-25. Available from: https://journals.stmjournals.com/ctsp/article=2025/view=215216

[153]. *Heena T Shaikh and Kazi Kutubuddin Sayyad Liyakat, An investigation into the use of nanotechnology in medical-military applications. International journal of Nanobiotechnology. 2026; 12(1): -p. Available from:https://journalspub.com/publication/uncategorized/article=25271*

[154]. *Kazi Kutubuddin Sayyad Liyakat, An Overview on Nanomaterial-Enabled Electronic Skin for Physiological Sensing and Biomedical Use. International journal of Nanobiotechnology. 2026; 12(1): -p. Available from:https://journalspub.com/publication/uncategorized/article=25280*

[155]. Heena T. Shaikh, Kazi Kutubuddin Sayyad Liyakat. A Technical Overview of Nanorobots Using Nanotechnology. International Journal of Nanomaterials and Nanostructures. 2026; 12(1): 31–38p. *Available from:https://journalspub.com/publication/uncategorized/article=25222*

[156]. Heena T. Shaikh, Kazi Kutubuddin Sayyad Liyakat. A Survey on Hydrogen Storage System using Alloys. International Journal of Energetic Materials. 2026; 12(1): 13–19p.

[157]. Kazi Kutubuddin Sayyad Liyakat. Intelligent Trajectories: Harnessing Artificial Intelligence for Next Generation Missile and Propellant Design. International Journal of Energetic Materials. 2026; 12(1): 20–26p.

[158]. Kazi Kutubuddin Sayyad Liyakat. A Review of Electrical Conduction, Optical Sensing, and Semiconductor Device Innovations. Journal of Semiconductor Devices and Circuits. 2026; 13(1): 10–18p.

[159]. Kazi Kutubuddin Sayyad Liyakat, Heena T Shaikh. Dual-Wavelength and Tunable Fiber Lasers for Microwave Photonic Applications. Journal of Microwave Engineering & Technologies. 2026; 13(1): 17–25p.

[160]. Heena Shaikh, Kazi Kutubuddin Sayyad Liyakat. Electromagnetic Field Effects on Biological Systems and Safety Evaluation of Microwave Exposure. Journal of Microwave Engineering & Technologies. 2026; 13(1): 26–33p.

[161]. Kazi Kutubuddin Sayyad Liyakat, Heena T Shaikh. An Overview on Microwave Remote Sensing for Earth Observation. Research & Reviews: Journal of Space Science & Technology. 2026; 15(1): 21–25p.

[162]. Kazi Kutubuddin Sayyad Liyakat, Heena T Shaikh. An Overview on Harnessing Microwave Frequencies for Next-Generation Satellite Communication and Earth Observation. Research & Reviews: Journal of Space Science & Technology. 2026; 15(1): 1–6p.

[163]. Kazi Kutubuddin Sayyad Liyakat. AI-Driven IoT in Self-Healing Grid Power Systems: A Study. International Journal of Electrical Power System and Technology. 2026; 12(1): 15–24p.

[164]. Kazi Kutubuddin Sayyad Liyakat, Heena T Shaikh. An Overview on Microwave Remote Sensing for Earth Observation. Research & Reviews: Journal of Space Science & Technology. 2026; 15(1): 21–25p.

[165]. Liyakat K S S, Heena T S, Liyakat K K S. A study on Cognitive Signal Processing for Terahertz Horizons: The Role of AI in Enabling 7G Communication Networks. J Adv Res Sig Proc App 2025; 7(2): 8-12.

[166]. Liyakat K K S. Design and Optimisation of a Robust D-Flip Flop in Quantum-dot Cellular Automata Technology using QCA Designer. J Adv Res Microelec VLSI 2025; 8(2): 14-24.

[167]. Sayyad Liyakat. AI Driven IoT Based Satellite Remote Sensing System: KSK Approach in Satellite Remote Sensing. International Journal of Satellite Remote Sensing. 2026; 4(1): 50–57p.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 10, June 2026
Impact Factor: 8.2

[168]. Sayyad Liyakat, Heena T Shaikh. Nuclear Reactor Safety Using Seismic and Natural Disaster Protection: A Study. Journal of Nuclear Engineering & Technology. 2026; 16(1): 25–34p.

[169]. Heena T Shaikh. Photonic Diagnostics: Harnessing Optical Sensing for Non-Invasive Assessment of Coronary Obstruction. International Journal of Optical Innovations & Research. 2026; 4(2): 25–30p.

[170]. Heena T Shaikh, Kazi Kutubuddin Sayyad Liyakat. A Comprehensive Review of CMOS Analog Circuit Design Techniques for Low-Power VLSI Systems. International Journal of VLSI Circuit Design & Technology. 2026; 4(1): 12–24p.

[171]. Kazi Kutubuddin Sayyad Liyakat. Performance Improvement of Standalone Solar PV Pumping System Using Supercapacitor. International Journal of Electrical Power and Machine Systems. 2026; 4(1): 62–70p.

[172]. Heena Shaikh, Kazi Kutubuddin Sayyad Liyakat. Enhancing Solar Water Pumping in arid Regions with Hybrid Super Capacitor and Battery Storage. International Journal of Electrical Power and Machine Systems. 2026; 4(1): 18–29p.

[173]. S. H. Tajoddin, P. S. Kolhe, and K. K. S. Liyakat, "An Overview of Microcontroller-based Intelligent Pill Box Employing Sensors by E-mail Facility," Journal of Electronics Design and Technology, vol. 3, no. 2, pp. 13- 23, May 2026.

[174]. Kazi Kutubuddin Sayyad Liyakat. An AI-Driven IoT Framework for Autonomous Quality Assurance in Optical Lens Manufacturing. International Journal of Optical Innovations & Research. 2026; 4(1): 36–41p.

[175]. Kazi Kutubuddin Sayyad Liyakat. A Study on the Use of AI and Sensors in Aerospace. Journal of Aerospace Engineering & Technology. 2026; 16(1): 24–33p.

[176]. Kazi Kutubuddin Sayyad Liyakat, Heena T. Shaikh. An Overview of Reimagining MOSFET as Precision Thermal Sensor. International Journal of Analog Integrated Circuits. 2026; 12(1): 8–13p.

[177]. Kazi Kutubuddin Sayyad Liyakat, Heena Shaikh, Kosgiker G.M. An Overview on VLSI based Hardware Security in IoT Node. International Journal of VLSI Circuit Design & Technology. 2026; 4(1): 51–56p.

[178]. Heena T Shaikh, Kazi Kutubuddin Sayyad Liyakat. Intelligent Electromagnetic Synthesis: An AI-Driven IoT Framework for Adaptive Antenna Design in Missile Navigation. International Journal of Radio Frequency Innovations. 2026; 4(1): 1–15p.

[179]. Heena T Shaikh, Kazi Kutubuddin Sayyad Liyakat. A Study on AI-Driven Multi-Layered Defense in 6G Ecosystems. International Journal of Radio Frequency Innovations. 2026; 4(1): 1–9p.

[180]. Liyakat K K S. A Study on Intelligent Missile Launching, IoT based SightandShoot Capability, Journal of Advanced Research in Aeronautics and Space Science, 2026; 13(1&2): 20-25. Available at: https://adrjournalshouse.com/index.php/Jof-aeronautics-space-science/article/view/2729

[181]. Heena T. Shaikh, Kazi Kutubuddin Sayyad Liyakat. An Overview of AI in Thermal Behavior of Polymers and Composite Materials. International Journal of Composite and Constituent Materials. 2026; 12(1): 12–16p.

[182]. Kazi Kutubuddin Sayyad Liyakat. A Study of Delta Modulation Techniques for Bandwidth-Efficient Signal Transmission. International Journal of Digital Communication and Analog Signals. 2026; 12(1): 31–43p.

[183]. Kazi Kutubuddin Sayyad Liyakat. AI-Driven IoT Systems for Bovine Genetic Health and Fertility. International Journal of Animal Biotechnology and Applications. 2026; 12(1): 52–58p.

[184]. Heena T. Shaikh, Kazi Kutubuddin Sayyad Liyakat. An Investigation into the Use of Nanotechnology in Medical-Military Applications. International Journal of Nanobiotechnology. 2026; 12(1): 43–52p.

[185]. Kazi Kutubuddin Sayyad Liyakat. An Overview on AI Driven IoT in Atmospheric study: KSK Approach Study. Emerging Challenges for Sustainable Livestock Production. International Journal of Atmosphere. 2026; 3(2): 1–6p.