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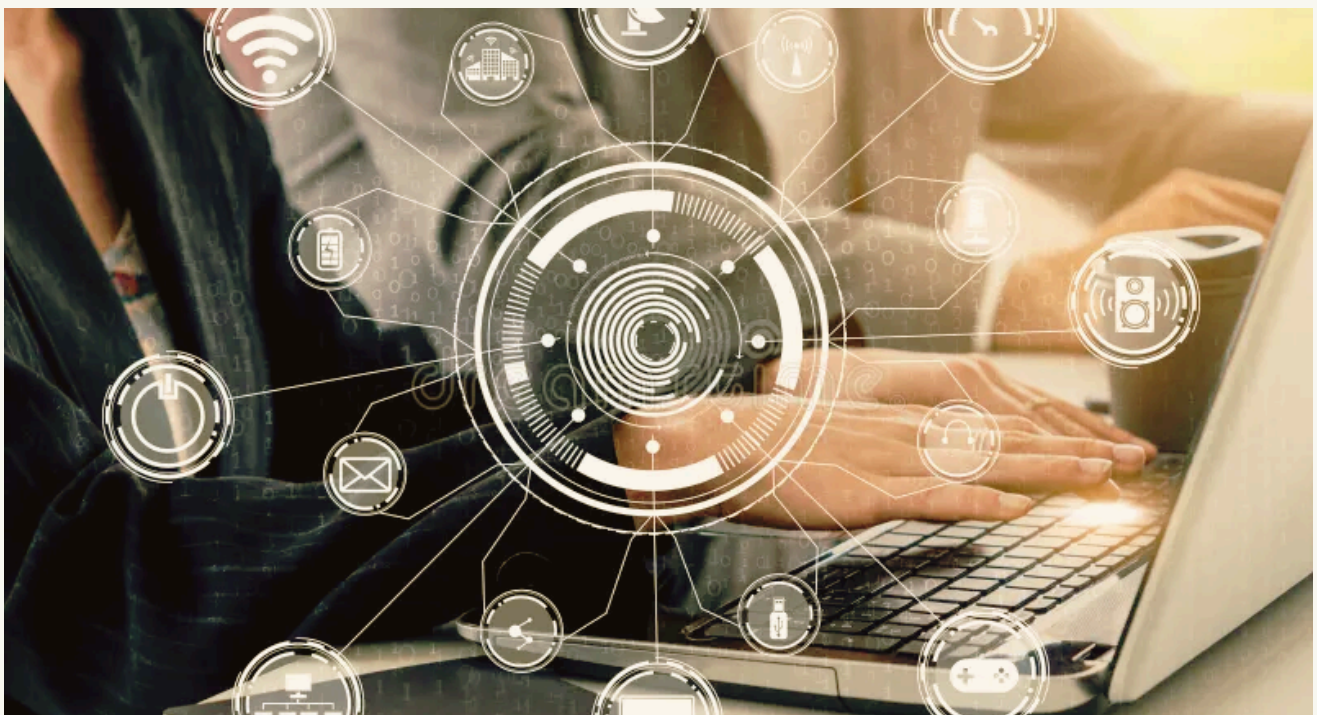
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Dear Readers

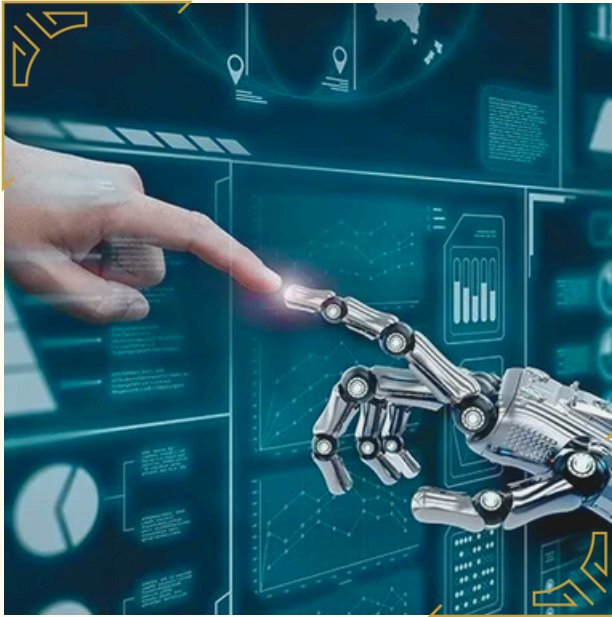
The nostalgic feeling that one experiences while sifting through the dusty old pages of the college magazine cannot be expressed in words. However, very few of us have retained those copies, and most of those precious articles that we wrote during those golden days with enthusiasm are lost forever. With the advent of e-books and other online media, the days of paper-bound college magazines are gone, and the digital platform has paved way to allow retention of such publications without much effort.

Wall-for-All, the e-Magazine published by the Department of Computer Applications, is one such effort that was started with an intent to provide a chance to all students and faculty members to share their thoughts and knowledge, and hone their skills in creative writing.

I am happy to see the enthusiasm of eminent members of the department to contribute to Wall-for-All. This shows the positive and creative energy of the contributors. However, it would be really wonderful if we can see the articles contributed by more students in the next editions, for this e- Magazine is intended to be a writing pad for each member of the department.

I proudly present the current edition of Wall-for-All.

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TECHNOLOGY TRENDS



COMPOSITE AI: AN IN-DEPTH EXPLORATION

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1. Introduction

Composite AI is a one of the strategies to enhance the efficacy and practicality of artificial intelligence. This integrated method allows a better understanding of complex problems and the generation of better and more useful output. I have seen period of increasing popularity of multi-functional and multi domain systems as AI is advancing. This article discusses the basics, applications, problems, and future prospects of composite artificial intelligence.

1.1. Understanding Composite AI

The composite artificial intelligence refers to a system created using different artificial intelligence techniques, one which can be adaptable and efficient. It extends the traditional view of artificial intelligence systems built around a single paradigm for example machine learning or natural language processing addressing complex problems : they form by combining several approaches to solving complex problems better [1]. The term composite evidence or composite AI is the combination of a variety of AI techniques such as computer vision, reinforcement learning, supervised and unsupervised learning, NLP and the like. Hence, these systems concretively tackle the problem, taking advantage of each one of the techniques used. For example, when combining rule systems and learning systems, balanced solutions can be obtained, as both, rule-based decisions along with machine learning operations, can contribute to the result [2]. One of those about Composite AI is that it brings together data from a variety of sources. This approach, tailored to the understanding of a problem or a certain situation, implies the integration of data from several domains. For example, in medicine, the cross-sectional approach of incorporating genetic data imaging findings and clinical notes of patients leads to better diagnosis and more tailored treatment strategies [3]. With advanced technologies, it becomes feasible in custom composite AI systems, to ingest and analyse multiple data formats including sounds, texts, images and even sensor inputs. A complex artificial intelligent system for self-driving cars, for instance, would be able to interpret courtship calls and GPS data, in addition to input from visual cameras, to ensure fluid movement [4].It is possible to adapt and scale artificial intelligence systems readily to other tasks or domains using a mixed method. For example, a Composite



AI system in the retail industry can respond to changing tastes of customers by modifying the use of analytical techniques along with time series sales forecasts, social forecasting of trends, and inventory status [5].

2.Applications of Composite AI

There are so many uses of composite AI, and it has been explored in different sectors to help address many issues.

2.1.Healthcare

The field of medicine is witnessing the use of Composite AI methods in the treatment planning and diagnosis stages. Pros of Composite AI include the efficiency in which multiple data types such as genomic data, electronic health records, medical imaging can be integrated in order to reach a more efficient and targeted medical intervention. For example, to propose the best treatment for a specific reason, a Composite AI could analyse the MRIs, ethnographies, and tumour profiling, etc [6]. Also, it would improve preventive analytics in the health sector through the combination of data from wearables. Within the context of modern health care systems, such an ingenious approach may leverage cost and improve the quality of healthcare services [7].

2.2.Finance

Composite AI is becoming increasingly accepted by the banking sector owing to its usage in combatting fraud, conducting market research and assessing risk. By synthesizing transaction data, social media data and economic data, financial institutions improve their understanding of customers and the market. For instance, a Composite AI system can guesstimate the rise and fall of stock prices based on objective news headlines and currents and historical prices. As another example, banks may enhance the efficiency of their fraud monitoring systems by augmenting the detection of transaction irregularities with the machine learning capabilities integrated into existing rule-based systems even for the systems targeting other forms of local corruption [8].

2.3.Autonomous Systems

The design and implementation of various autonomous systems, such as drones, self-driven vehicles and robot-makers rely heavily on composite AI. Composite AI enables autonomous systems not only to make decisions under time constraint but also be flexible by integrating several AI applications such as vision to detect objects, and reinforcement learning for decision making, among others. A prime example of this Composite AI in a self-driving car would include its ability to navigate a busy roadway while analysing footage from cameras and predicting where other drivers will move [9].

2.4.Retail

Composite AI is changing the face of supply network operations and customer engagement in the retail sector. By synthesizing various sources of information such as previous purchases, social media enrolment and browsing of the retailers' websites, marketers can create optimised marketing strategies tailored to care about individuals. Furthermore, with Composite AI, it is possible to enhance stock control by interfacing suppliers' data, market developments and sales figures. This link enables the deterioration of expenses and enhancement of consumer satisfaction since the retailers can predict demand and refine their supply chains [10].

3.Challenges and Considerations

Composite AI is not without its advantages, however there are some issues that must be tackled for this technology to achieve all that it can.

3.1.Complexity

This is particularly true for Composite AI, where organizations must pay particular attention to how they manage their initiatives because the complexity might lead to additional development time and costs [12].

3.2.Data Privacy and Security

Merging separate databases is an inherently dangerous undertaking due to the inherent risks for privacy and security. For such compliance in most cases, it is often a primary requirement to put in place effective data governance frameworks and protective measures against unauthorized access or leakage of users' information [13].

3.3.Interpretability and Transparency

Understanding how the users of AI systems make decisions is important for building trust as well as for ensuring responsibility [14]. It is much more so in areas like healthcare or finance, where decisions that carry great consequences are taken.

3.4.Model Integration

For these models to successfully achieve a coherent output, a clear process of calibration and validation is needed. Additionally, the efficiency of certain elements might affect the whole performance of the Composite AI system, thus demanding more tests and evaluations [15].

3.5.Ethical Considerations

The relevance of composite ai technology evokes such issues as application security, algorithm fairness and data imperfection. As ethical practices in the use of artificial intelligence should come first, companies ought to involve major actors in discussions on the effects of their AI [16].

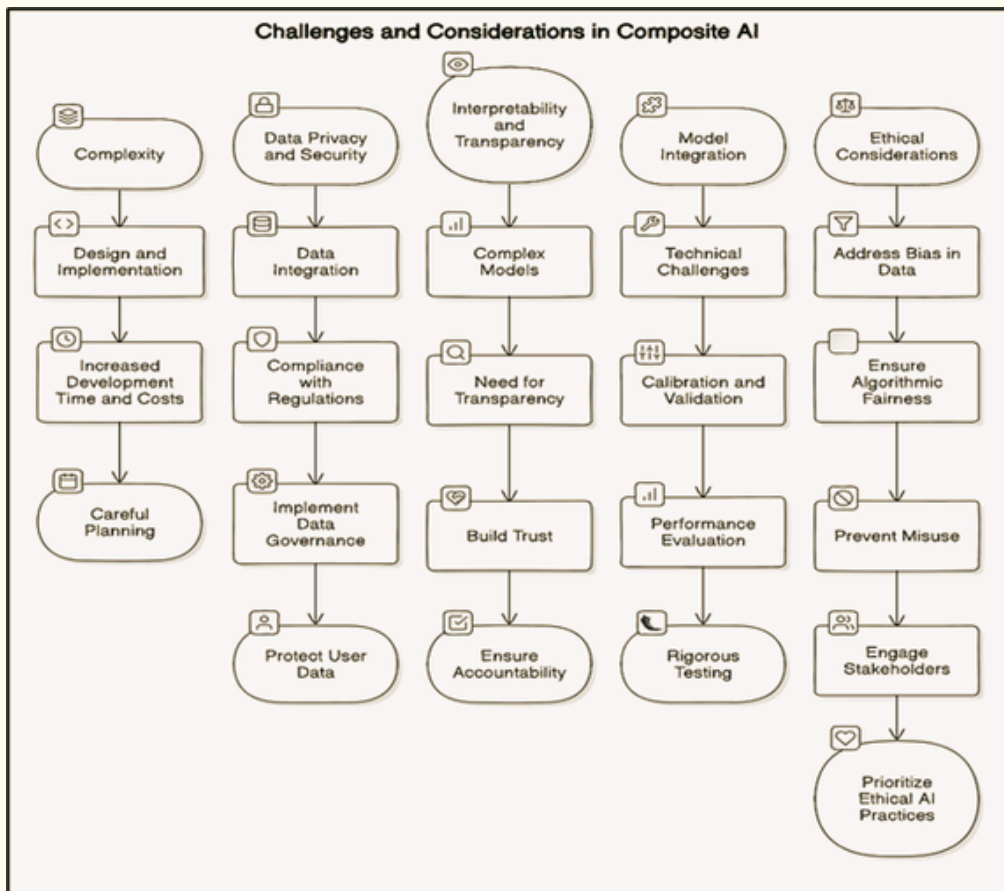


Figure 2: Challenges and Considerations in Composite AI

Conclusion

Composite AI stands out as an integrated method that such a great and complex problem can be partitioned into different levels or layers and be solved with the use of various methods at each level, finding its application in many fields. Composite AI systems augment already existing benefits of research methods by fusing them with data fusion, machine learning, natural language processing, among others enhancing their decision making and their efficiency. The Diverse Applications of Composite AI have Seen its Adoption Across Sectors, Such as retail and autonomous systems, smart cities, healthcare, finance and others. Even as Composite AI is more broadly adopted, organizations must make responsible use of AI a strategic imperative. Composite AI is well-poised for the betterment with the advances in edge/cloud computing and the Internet of Things.

Composite AI is clearly an image with great prospects; many trends and evolution that will Mold its path in the next years seem to be. Soon, we believe, Composite AI will be prevalent across many industries, as businesses recognize its value in addressing complex issues. When looking for a cause for the foundation industries such as health care, finance and transport, expansion of such investigations will be propelled by the benefits Composite AI brings in better decision making, increased efficiency and enhanced innovation. It is expected that as techniques for enhancing the interpretability of AI associated models advance, composite AI systems will also become less opaque, such that the stakeholders will understand the rationale behind the decisions that are made using AI. This step will enhance trust and ease the challenges of responsible usage of Composite AI. Conversational and Contextual AI offers multiple potentials to health systems but still it is related to some shortcomings e.g. understanding of the technology and its offers. Human-AI interaction is likely to be a future trend within Composite AI. In this way it can be seen assisting the process of decision-making by directing the user how to make use of facts and resources at his or her disposal; it is not meant to interpose or substitute a subject-matter expert who happens to be a human being. Thus enabling practitioners from all domains to utilize AI techs without displacing themselves in the core of a decision making process. There shall new AI research and development and therefore, new approaches and strategies shall improve on Composite AI systems With continuing progress in such fields as deep learning, reinforcement learning, and transfer learning, the Composite AI models can be built which are more and more complex and able to tackle more complex problems. As the ethics surrounding artificial intelligence gain more and more attention, organizations will place greater emphasis on the ethical AI practices in their Composite AI programs Such a focus will, however, mean tackling issues such as algorithmic bias, data bias, equity, and establishing guidelines for responsible AI development.

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BLOCKCHAIN: THE FOUNDATION OF TRUST IN A DIGITAL WORLD

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Most of you probably have heard of blockchain, especially the bitcoin the cryptocurrency, but it is not limited to that only, it is much more beyond cryptocurrency. Blockchain follows a different concept of data management which is decentralization, which means it stores the data across a network of computers, where the copy of data is stored in the distributed ledger. Each computer on the network maintains a complete copy of that ledger. One of the benefits of blockchain is that one can track the complete lifecycle of any transaction from start to finish as it provides complete transparency. Technically we can say the blockchain is a decentralized distributed ledger that is immutable and provides the complete transparency and traceability of every transaction and that may be a cash or non-cash transaction.

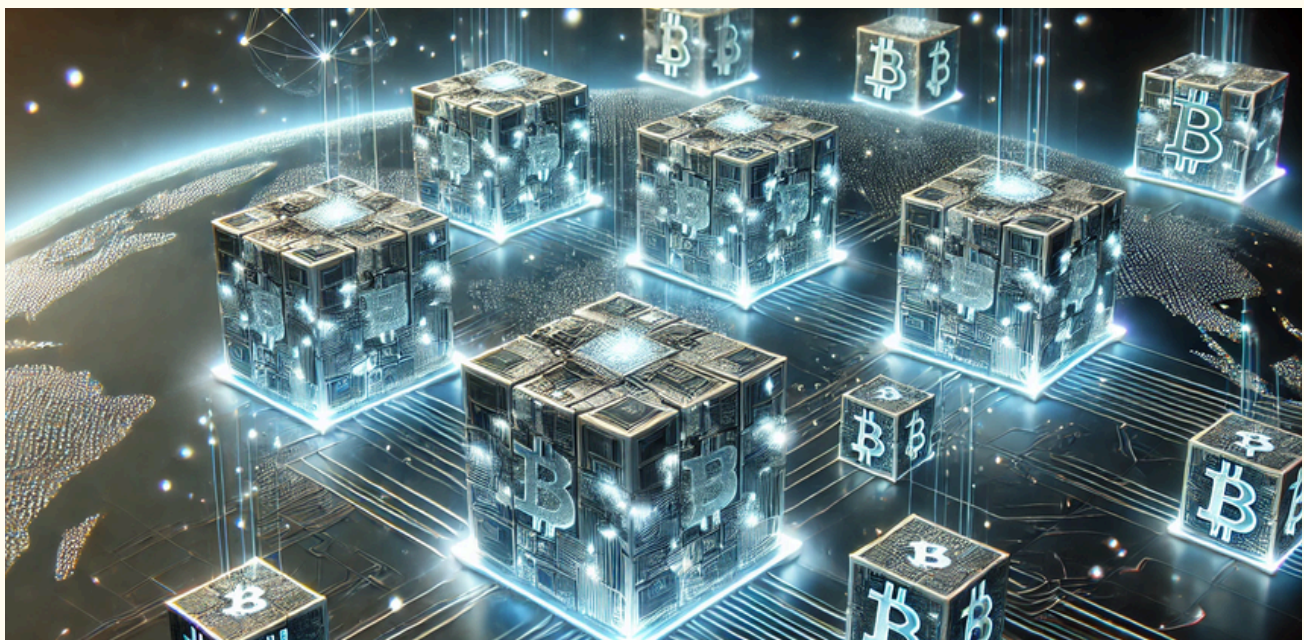
Security features of blockchain make it a valuable tool for many industries, such as finance, healthcare, education, and government services, where security is a critical factor.

In the current era where most of companies and even basic government services for their citizens are shifting towards digitization, which further raises concerns about the safety and security of information flows on the internet and also about the safety and privacy of end-users and with the advent of latest technologies such as Internet of Things, Natural Language processing and Artificial intelligence in many sectors such as healthcare and education, the digital data generation exponentially increases and transaction volume on these data is also skyrocketed[1].

1. Benefits of blockchain technology

1.1 Enhanced security and privacy

When the world faces increasing cyber threats, it becomes essential to safeguard the stakeholder's data. Blockchain offers enhanced security and privacy to reduce the risk of data breaches and unauthorized access to valuable data like financial information or the medical history of any patient.



1.2 Transparency

When most of the public portals such as customer care or complaint portals face a lot of issues regarding redressal issues the blockchain provides complete transparency in the entire process. Blockchain records are publicly accessible and completely immutable which builds the trust which builds the trust of end users, especially in government services and supply chain sectors.

1.3 Auditability

This unique feature of blockchain provide the users with the facility to check and complete history of any transaction.

1.4 Traceability

Traceability plays a significant role in the supply chain which enables companies to track the complete journey of products from their origin to the consumer. This helps to verify the authenticity of the products specifically in pharmaceuticals, agricultural products, or luxury products, and reduces the chances of fraud.

1.5 Cost-effectiveness

Blockchain does not depend on any intermediaries or any centralized authority or institution, which reduces the operational cost involved in the entire process. It uses smart contracts for decision-making. Instead of relying on traditional banking procedures, the financial sector saves the operation cost involved in making cross-border payments.

1.6 Increased Efficiency Through Automation

With the help of smart contracts, which are computer code written in supported programming languages, they automatically execute when specific conditions are met. These smart contracts automate most of the critical tasks that otherwise require manual intervention. These smart contracts enhance the overall efficiency with full accuracy.

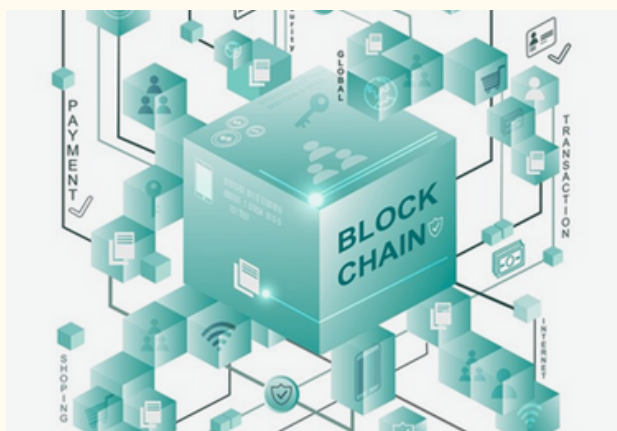


Figure 1: Blockchain network

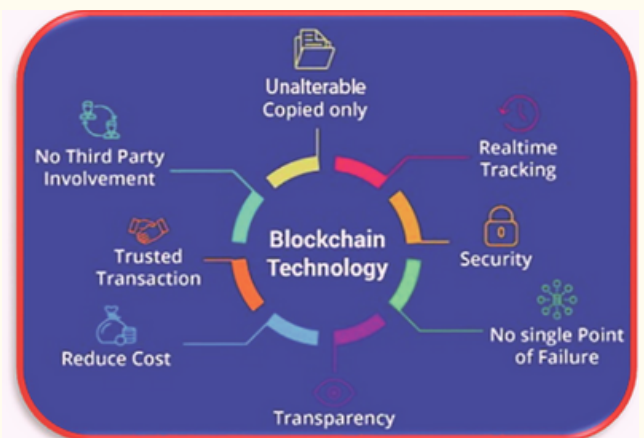


Figure 2: Benefits of blockchain

2. Indian industries and blockchain

The adoption of blockchain technology in Indian industries has rapidly increased in recent years, with growing interest in the financial, supply chain, and energy sectors. Its capacity to deliver transparency, security, and efficiency has rendered it attractive to both public and commercial sectors. Significantly, India's financial services sector (BFSI) is adopting blockchain services, including KYC verification and fraud detection.

2.1 Blockchain in Healthcare Sector

Today healthcare industry digitizing most of the patient's data including personal and medical data to provide better services to patients, making them a target for cyberattacks. Data breach incidents can expose personal health information, leading to identity theft or financial fraud.

The pharmaceutical industries face drug counterfeiting in the supply chain which may pose serious risks to patient's safety[2]. The pharmaceutical industries which run clinical trials also face issues with data security, and data manipulation incidents which is again a serious concern.

Blockchain can be the solution to all these issues. Estonia's national health system has implemented blockchain for securing medical records. Similarly, the medical chain of the UK has implemented a blockchain that allows patients to manage their health records. Similarly, Walmart and Merck use blockchain to trace medical supplies to ensure the quality and authenticity of the drugs. In India, Apollo Hospitals implementing blockchain to secure patient's data and their medical history.

2.2 Blockchain in Finance Sector

Fraud is a major problem in the finance sector, with billions lost each year to identity theft, transaction fraud, and unauthorized access to financial records. Traditional financial systems often rely on centralized databases, which are more vulnerable to hacking.

Blockchain can revolutionize the finance sector. It provides a secure and transparent process and its smart contracts automate these processes to further reduce the cost especially in cross-border payments. In India ICICI and HDFC banks use blockchain for making cross-border transactions[3].

2.3 Blockchain in Real Estate

Real Estate is a sector that involves several people such as brokers, lawyers, banks, and government departments in the sale and purchase of land or property which makes this sector most susceptible to fraud. Dealing with all these people and departments involves a lengthy process and cost. This sector often suffers from fraud such as forged documents, and wrong or incomplete ownership details which leads to disputes over property ownership.

Blockchain can store and manage both legal compliance and the complete history of land ownership data and also ensure the accuracy and immutability of the records. The transparency of the distributed ledger of transactions builds trust among buyers and sellers as both sellers and buyers have access to the same information. The decentralization and encryption of all transactions ensures that all transactions are secure and immutable. Andhra Pradesh has developed a blockchain-based project called "Bhoomi" to manage land registration and land record management[4]. Other Indian states Telangana, Maharashtra, and Karnataka are also implementing blockchain technology to manage land records and property transactions.



Figure 5: Blockchain in real estate

2.4 Blockchain in Education Sector

The education sector is also one of the sectors that face several challenges such as academic fraud, falsified degrees, certificates, tampered records, and credential verification. These challenges and issues directly impact the credibility of educational institutions.

Educational institutions manage a large database of sensitive data that includes the personal and academic details of students and staff members. Ensuring the security and privacy of these data is always a big challenge for the institution.

Here blockchain can effectively store and manage the student data from their time of registration to the completing the academic journey with the institution and provide transparency to the necessary details and security and authorized access to sensitive data. Many academic institutions in India have already implemented blockchain for various purposes, primarily focusing on providing transparency in the academic process.

IIT Kanpur, Amity University, and Manipal University have integrated blockchain into the academic credential verification system to ensure tamperproof and easy verification of degrees and certificates[5]. Similarly, IIT Kharagpur integrates blockchain into its online resource management to ensure the distribution of educational resources. IIT Bombay, VIT Vellore adopted blockchain technology to enhance the security and transparency in examination and certificate verification process.

Conclusion

Blockchain technology offers numerous benefits in the modern era, including enhanced security, transparency, efficiency, and data integrity. Its applications in finance, healthcare, real estate, and education demonstrate its transformative potential. As more companies adopt blockchain, we can expect continued innovation and improvements in how businesses operate and manage data. The future of blockchain technology is bright, with the potential to revolutionize various industries and create a more secure and efficient digital world.

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IMPACT OF EDGE AI ON REAL TIME ANALYSIS

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Edge Artificial Intelligence (Edge AI) is a crucial technology for 2024 since it enables real-time data processing and decision-making during the data generating phase. Edge AI transfers AI computations from centralized cloud servers to individual devices, improving efficiency, latency, and privacy. It demonstrates how Edge AI, which will transform technology in 2024, enables innovation and smarter devices.

1. Introduction

Artificial intelligence (AI) has changed significantly over the last decade, shifting from centralized cloud-based models to more distributed frameworks. Edge AI's expansion in 2024 has been fueled by the demand for real-time data analysis, reduced latency, enhanced privacy, and the spread of Internet of Things, or IoT, devices. Edge AI brings data sources and AI processing closer together [1]. Edge AI uses local computing resources, such as smart phones, Internet of Things devices, and embedded systems, to carry out complex computations without significantly relying on cloud infrastructure. The integration of AI at the edge enables a wide range of applications, including industrial automation, smart healthcare, augmented reality, and driverless cars [2]. By processing data locally, Edge AI lessens dependency on consistent internet connectivity, which is important in scenarios with inconsistent connectivity or limited bandwidth. The edge device framework is shown in Figure 1.

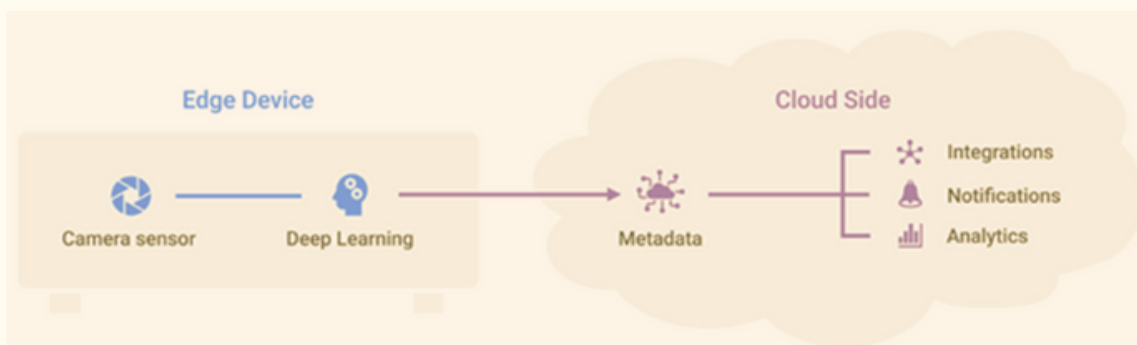


Figure 1: Edge AI Framework



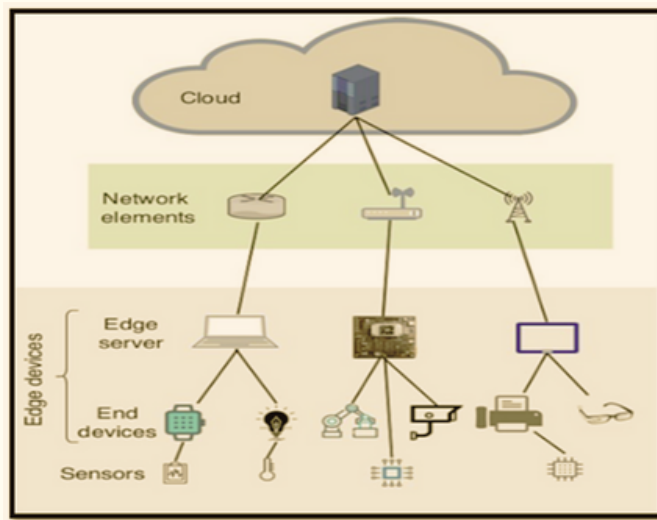


Figure 2: Key components and technology in edge AI

2. Key Components and Technologies in Edge AI

The Key components and technology in edge AI are detailed as follow.

2.1 Hardware Innovations:

AI Accelerators: Processing on edge devices can be done quickly and efficiently thanks to hardware designed for AI activities, such as Tensor Processing Units (TPUs) and graphic processors (also called GPUs).

Reduced-Power processors: AI processors with low power consumption that can carry out complex computations without depleting batteries have been made possible by advancements in semiconductor technology. This is crucial for portable and cell phones. Figure 2 presents the key components and technology used in edge AI.

2.2 Software Frameworks:

Model Optimization Techniques: Knowledge distillation, quantization, and model pruning are some of the methods that let AI models be deployed on low-resource devices by minimizing their size and processing demands.

Edge AI Frameworks: These frameworks, which include Google Coral, NVIDIA Jetson, and Intel OpenVINO, simplify the development process. They provide extensive toolkits for developing and putting into practice AI models on edge devices.

2.3 Connectivity Solutions:

5G technology Systems: Widespread use of 5G networks enhances Edge AI capabilities by facilitating data transfer between devices and edge services through quick, low-latency connectivity.

Infrastructures for edge computing: By fusing cloud resources with local processing, these hybrid systems provide flexibility and capacity, enabling more dependable AI applications.

2.4 Security and Privacy Mechanisms:

Cryptographic Techniques: Advanced encryption methods safeguard sensitive data handled by Edge AI systems both during transmission and storage.

Distributed Learning: This technique preserves privacy and reduces the likelihood of information exploitation by allowing AI models to be trained across scattered devices without sharing raw data [3].

2.5 AI-Powered Edge Devices for Machine Learning

Edge Intelligence is the result of combining edge computing and artificial intelligence. It employs hardware, or "edge devices," to carry out AI algorithms and handle data locally. Consequently, Edge AI provides a form of on-device AI that advantages fast reaction speeds with Reduced latency, Enhanced confidentiality, Increased dependability, and Efficient use of network bandwidth

Researchers studying data continue to advocate for new methods such as reduction, neural network, and machine learning [4]. These developments have an impact on edge device adoption. Numerous sectors can benefit from novel, reliable, and extensible AI systems made possible by ML edge computing.

3. Applications of Edge AI

The applications of edge AI are as follows:

3.1. Healthcare:

- **Medical Imaging:** Real-time diagnostic image processing is made possible by Edge AI applications in medical imaging, which aid physicians in making accurate and timely diagnosis.
- **Remote Patient Monitoring:** Wearable devices equipped with Edge AI monitor vital signs and detect anomalies quickly, allowing for proactive medical treatment and prompt alarms.

3.2. Autonomous Vehicles:

- **Real-Time Decision Making:** Edge AI enables autonomous vehicles to assess sensor data (including radar and sensors) in real-time, enhancing safety and facilitating quick responses to evolving driving conditions.
- **Predictive Maintenance:** By locally analyzing vehicle performance data, Edge AI systems may predict and address maintenance issues before they lead to failures, reducing downtime and operating costs.

3.3. Smart Cities:

- **Public Safety:** Edge AI-enabled surveillance systems' immediate detection and response to incidents enhances public safety and expedites emergency responses.
- **Traffic Management:** By evaluating real-time data from sensors and traffic cameras, edge AI applications in traffic management systems optimize traffic flow, reduce congestion, and improve urban mobility.

3.4. Industrial Automation:

- **Predictive analytics:** By locally analyzing data from production lines and machinery, Edge AI systems may anticipate equipment problems and improve maintenance schedules. This increases the effectiveness of operations.
- **Intelligent Manufacturing:** State-of-the-art AI-powered machinery and robots can do complex tasks with remarkable precision, adapt to changing production conditions, and immediately enhance manufacturing processes.

3.5. Consumer Electronics:

- **Smart Home Appliances:** Edge AI-powered smart home equipment, such as security cameras and voice assistants, improve user comfort and home security.
- **Augmented Reality (AR) and Virtual Reality (VR):** Both AR and VR are improved by Edge AI, which enables real-time interpretation of visual and sensory data, resulting in more dynamic and engaging user experiences.

4. Future Directions and Innovations

The future scope of edge AI is described as follow:

4.1. Advanced AI Models:

- **Neuro-morphic Computing:** Drawing inspiration from the human brain, neuro-morphic computing seeks to develop technology that processes information more efficiently in order to enhance Edge AI capabilities.
- **Tiny ML:** By developing AI models that are small and efficiently operate on edge devices with constrained resources, the new discipline of Tiny Machine Learning (TinyML) seeks to increase the use of Edge AI applications.

4.2.Improved Security Procedures:

- **Blockchain Integration:** Blockchain technology can improve data security and integrity in Edge AI systems by providing immutable records and decentralized verification methods.
- **Advanced Encryption:** By developing intricate encryption techniques specifically for Edge AI, it is possible to better protect sensitive data processed locally.

4.3.Federated Learning Extension:

- **Customized AI Models:** Federated learning can help create customized AI models that enhance user experience by adjusting to each user's own preferences and behavior.
- **Collaborative Training:** By expanding federated learning frameworks, several edge devices can work together to train AI models without sharing raw data, enhancing the privacy and resilience of the models.

4.4.Edge AI in UpComing Technologies:

- **Quantum Computing:** By combining Edge AI with quantum computing, complex problems might be solved more quickly and fields like materials research, cryptography, and optimization could be revolutionized.
- **5G and Beyond:** The advancement of 5G networks and research into 6G will enhance Edge AI capabilities and pave the way for more intricate real-time applications by providing even faster speeds and lower latency [5].

4.5.Sustainable Edge AI:

- **Green Hardware Solutions:** By creating ecologically friendly hardware components for Edge AI, the environmental impact of widespread AI deployment can be lessened.
- **Energy-Efficient Algorithms:** The sustainability of Edge AI, particularly in large-scale deployments, depends on the creation of AI algorithms that consume less energy without compromising functionality.

Conclusion

Edge AI has become a trailblazing technology in 2024, driving breakthroughs across several industries by enabling real-time data processing, enhancing privacy, and reducing latency. As advancements in networking, software frameworks, hardware, and security have come together, edge AI solutions have grown more intricate and scalable. Despite ongoing problems with interoperability, data privacy, and resource constraints, Edge AI has a promising future. Model optimization, security improvements, and the integration of new technologies are the main areas of current research and development. As Edge AI advances, it will play a crucial role in shaping the future of intelligent systems and fostering greater automation, effectiveness, and customization in our globally interconnected society.

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ARTIFICIAL INTELLIGENCE: A GAME-CHANGER FOR FUTURE OF BUSINESS & SOCIETY

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From this past modern day, there has been the most transformative technology to emerge and that is AI. The nature of AI research has progressed from theoretical lines to actually doing its applications in just a lot of industries and is often said to be the simulation of human intelligence in machines programmed to do think, learn and solve problems. The focus on improving the customer experience – not just operational efficiency – is also part of this drive to improve. This will give a basic on where AI comes from, how it is applied to various industries, what it is bring to the table for you, what challenges you encounter with it, what the implication is to the business world and society.

1. Understanding Artificial Intelligence: Basics

Artificial intelligence can either simply be defined as a branch of technology that tries to make the machine behave intelligently [1]. It is usually taken as the simulation of human intelligence in machines that are possessed with an ability to think, learn and act like humans. It is the capability of the computer driven devices or robots to take on situations that call for the higher mental faculties of human beings [2].

It is a process that many people call machine learning using the algorithm and improving with time based on the input data and experience the machine generates from doing its job. It is a narrow term for artificial intelligence to be able to design the system that learns and determine decisions based on data. These algorithmic and statistical models take the idea of computers improving over time to do something specific outside of direct programming and this is where this robot connects in to real world applications. For example, this may be imaging and speech recognition, recommendation systems, or predictive analytics [3].



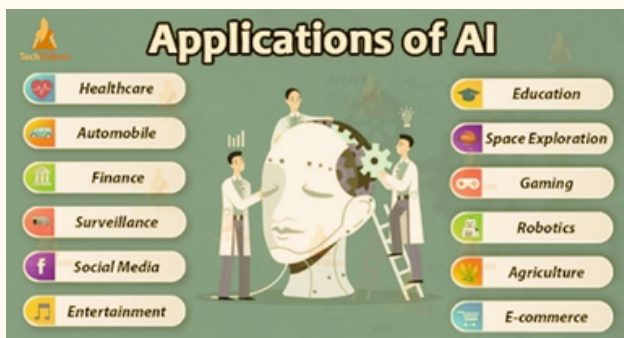


Figure 1: Applications of AI [5]

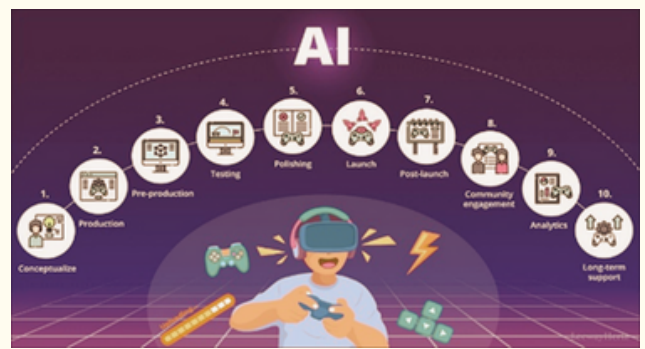


Figure 2: Use cases of AI [6]

2.Applications Across Industries

Artificial intelligence — it's changing various industries introducing innovativeness and economy. Artificial intelligence is used in health to provide Diagnostics and make out peoples' treatment plans. In finance, artificial intelligence is an aid to detect fraud, being an assistant in managing risk. Artificial intelligence is more useful for agriculture as precision farming and crop monitoring. In customer analytics and inventory monitoring, retail uses artificial intelligence. It uses improving the energy consumption in the field of energy as an artificial intelligence. In the end, AI is being used to make self-driving cars that are safe, efficient in vehicle handling [4].

The various region or application of Artificial Intelligence and how it is assimilated in different spheres of human life. Every activity and enterprise have been changed.

The applications in the images above some of the major applications, include the health sector which is very quickly transforming even if gradually. For example, they include diagnosing diseases, creating tailored treatment plans, drug creation, Education in which AI now plays a portion of learning experience, adaptive tests, intelligent tutoring system, automobile in which AI gives power to self-driving cars, high-level driver assistance system, traffic management solutions, finance, where AI has changed the face of the finance with fraud detection, algorithmic trading, risk management, gaming, where AI makes game environments more realistic, smart opponents and procedural content generation, social media.

3.Challenges and Considerations

Such an AI summer includes scientific breakthroughs, economic success in research, development and application of the system with artificial intelligence. But while artificial intelligence brings great hopes and promises, it also has a long list of challenges, shortcomings and, yes, limitations of the technology. The difficulty here lies in a methodological and epistemological misunderstanding about the capabilities of artificial intelligence. What we have here are products of the social context in which machine learning has been developed and given applications. They are also a product of the technological reality of the current development and deployment of artificial intelligence [7]. The other challenges being explainability and the transparency of the model. Most AI systems - especially those based on deep learning - are "black boxes" and cannot be explained in terms of how they have arrived at a certain decision: Consequently, it is not possible to determine how or what resulted in their decisions. And if we aren't transparent about this now, this is a problem in a wide range of applications where accountability and trust are a core component of the problem space. There is active research into developments for explainable AI [8].

4.Future Outlook

AI has a bright future, and ever increasing improvement in many application fields is expected, with acceleration soon bound to reach super levels across growing sectors of automation. Main trends of this field are increasing automatization in this field mainly by the fact the capital of AI in automatization routine job is getting higher in a greater number of industry fields. Therefore, human employment in the workplace will change as they can focus more on value added activity. Like most industries, AI adoption in healthcare is projected to facilitate diagnostics, personalized medicines and outcomes in health cases while improving patient care.

They will be due to analysing large datasets by the AI algorithms to find some patterns or events which can be used to predict the health risks taking more proactive approaches of care [9].

This will make NLP much stronger in what it can do to understand and create human language, and these applications could improve in services with customer, content creation, and virtual assistants through interactions with technology that are largely seamless. As AI technology grows, ethics and regulatory framework will transition to their future as it will impact concepts like bias, privacy, accountability etc., and will roll out as stakeholders work and collaborate together to develop them and secure their deployment. AI will bring education through the education, and will put education in the hands of the individual student, bring about more personalizing of the student's learning encounter, adapting to the needs of the particular student, and automating burdensome administrative tasks giving rise to more exciting and positive educational surroundings [10].

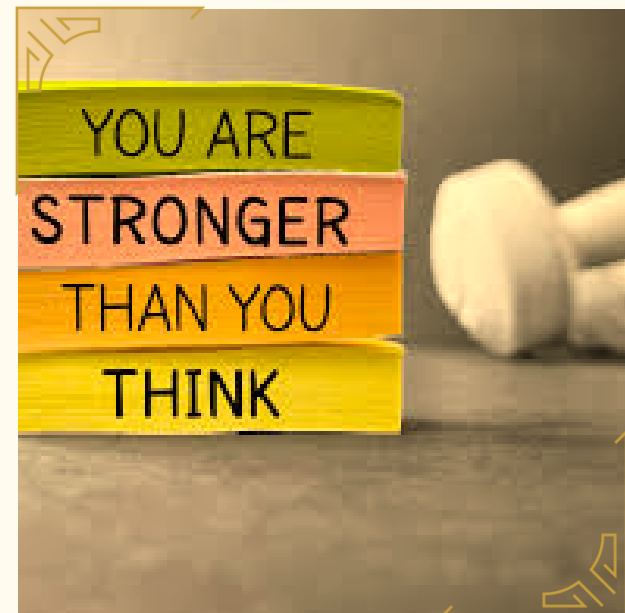
In this regard, AI will play the most significant role in this with utmost prominence in the management of resources, public security improvement and the best use of transport; there will be integration of IoT for real-time data analysis towards proper decision making. The last thing you'd want would be for AI to fill a human's position, instead, it should form an environment that enables you to work with AI, discover new ways to bring problems to solution, or the future should be a collaboration model where an AI complements human capabilities instead of taking its place.

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CREATIVE CORNER



ESCAPING THE WORST PRISON

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Human experiences often create attachments that are rewarding at first but soon become too much, then harmful. For instance, the idea of love for something; a person, an idea, or any materialistic entity. It may originate from a source of happiness that sometimes becomes an obsession. As a matter of fact, this transition from being an instrument of happiness to something confining is such that coming to understand this transition can lead to real self-discovery and to true freedom.



The Beginning of a Dream

First, the attachment is interesting and exciting. People meeting each other and developing a bond, they experience a sense of excitement, satisfaction, and fulfilment. The initial burst of attraction can be so overpowering that it can make one feel an experience of wholeness and feelings of completeness. The very connection that began in respect for each other could also be obsessive, dominating one's thoughts, actions, and even identity.

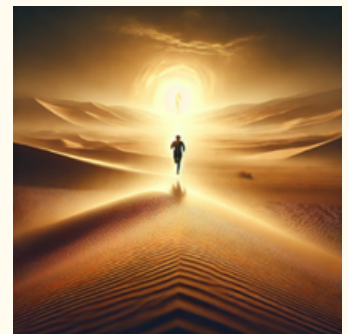
The Prison of Obsession

With time, that which was once a blossoming love now turns into an all-consuming desire. The person becomes more and more attached, as if the other person's orbit of existence is around them. A continuous fear of disapproval and the idea of separation can lead to emotional turmoil. The idea of happiness becomes linked with the other. At this point, the attachment may have evolved from love to an unhealthy attachment that demolishes the balance in one's emotions.



The Nature of Human Desire

It is very familiar to human life: misplaced attachment. People attach their strongest hopes and desires to those people, goals, or material things that never hold out for the promise of long-term fulfillment. Perhaps one does this in terms of relationship, jobs, or other means that will give a momentary victory, but can always disappoint us in the end. These misplaced attachments can shackle one into a prison of his or her own making.



The Islamic scholar Ibn Taymiyyah once quipped, "The one who is truly imprisoned is the one whose heart is imprisoned from Allah and the captivated one is the one whose desires have enslaved him".

The Illusion of Satisfaction

Most often, a distraction over someone else or the prospect of amassing wealth creates a condition in life that makes life quite empty. Striving after desires but still having nothing fulfilled makes individuals remain unsatisfied even with whatever they seek after that brought apparent happiness. That reflects on how misplaced attachments can always lead to an endless pursuit but finish nowhere.



We then become weak when we tie our happiness to weak or transitory things. Even if we obtain that which we crave, it will never give us the peacefulness we want for that long time. Now this explains why we live in a world where we are always "upgrading" our possessions, relationships, or careers, forever in search of something bigger yet never fulfilled.

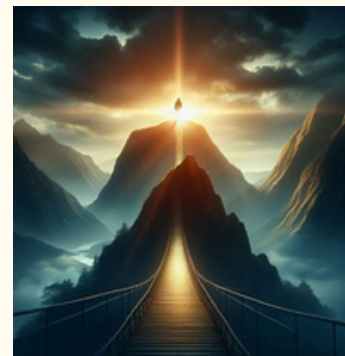
The Freedom of True Attachment

True freedom is that state wherein one can distinguish him from the transitory desires and unite with something stable, long-lasting, and substantial. Such union gives mental strength and peace. People who are grounded in something that is immovable and eternal, freed from the constant pursuit of fleeting pleasures, attain permanent peace and stability. The purpose of life is finding that eternal entity. When we put our trust in something that is eternal, we get strength that can stand the storm of human experience. This is the freedom spoken of by Ibn Taymiyyah—the ability to be at peace and strong in the very face of hardship because of unshakeable union with something higher. He said: “What can my enemies do to me? I have in my breast both my heaven and my garden. If I travel, they are with me, never leaving me.”



The Ultimate Prison: Misplaced Priorities

The most galling form of confinement comes from outside, whether linked to love, or to money, or to success: for when these ever-changing needs begin to overshadow greater needs, or greater values, life is reduced to a vicious spiral of wanting and disappointment. Far worse than any prison would be such a life to grow into, or through which to live.



Struggling for True Love

True love will never request anybody to give up on their dignity or well-being. It shall not bring sadness and sorrow; it should rather welcome serenity and steadiness into the life of the loving heart. Desires and instincts deciding the way with least consciousness can lead to destruction on the way. The ideal love and relationships should actually lift people, making people more humanly good from turning them into psychological or emotional wrecks.

The Real Source of Love

Most of the times, that is, in quest for love and success or in achievements, they dawn that those things won't give them the sense they crave. Real human desire is unconditional and enduring love. That is where it is found in a realization of something greater and lasting than the superficial satisfaction which the world may afford. It is from that recognition that people find peace and true fulfillment.



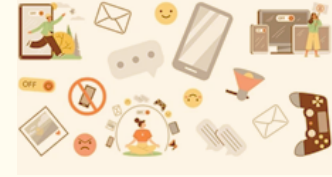
Conclusion: A Call to Reflection

The journey of self-discovery unveils a poignant truth: when happiness is tethered to fleeting and fragile things, a lingering sense of emptiness inevitably remains. However, by forging connections with that which is stable and enduring, individuals may find genuine peace and fulfillment. True freedom emerges when one liberates themselves from the relentless pursuit of ever-changing desires, choosing instead to embrace a deeper, more meaningful bond with what is lasting and unchangeable.

DIGITAL DETOX: RECLAIMING BALANCE IN A HYPER-CONNECTED WORLD

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In an age tyrannized by technology, where smartphones and social media have become allowances of ourselves, the belief of a digital detox has appeared as a prominent antitoxin to the alluring pace of the modern digital landscape. A digital detox, as the name implies, comprises taking a deliberate break from digital gadgets and online platforms to recouple with the physical world and refocus on individual well-being. It is not solely about switching off your phone; it's about re-building a hygiene association with innovation and figure out what precisely occurrence in life.



The need for a digital detox has never been more pressing. An individual devotes hours each day affixed to screens—scrutinize mails, browsing media feeds, or binge-watching videos. While technology has undeniably transformed the way we are living and converse, its prevalent existence has also acquainted a variety of encounters. Overuse to digital gadgets frequently hints to exhaustion, anxiety, and concern. Notifications urging persistent consideration, disturbing our attention and disintegrating our opinions. Media platforms, which is rigorously compiled with culmination of others' lives, would procreate the feelings of paucity and low self-esteem, as participants relate their behind-the-curtain obstacles with others zenith success.



Furthermore, the physical entanglement and lengthy display interval has been accompanied to sleep disorders, eye strain, and a desk-bound lifestyle, which can subsidise to long-term wellbeing concerns. Beyond these consequences, relations and psychological fitness also experienced in a bad way. The satire of being "connected" over technology is that it sometimes leaves us feeling aloof than ever.



Workplaces and corporations are also commencing the awareness and importance of digital detoxes. Enterprises stimulate their staffs to disengage after official hours, nurturing a better work-life equilibrium. Institutes are familiarising "screen-free" lectures to help students occupy intensely with knowledge. These joint endeavours highlight that digital well-being is not just a solely obligation but a social one.

The upsurge of digital detox plans and programs is other evidence to its mounting importance. These retreats often take users to calm surroundings, far away from the persistent usage of Wi-Fi and social media, contributing them an opportunity to unwind and reset. Such practices not only emphasize the importance of unblocking but also teach members how to assimilate mindful expertise inherit into their daily lives.



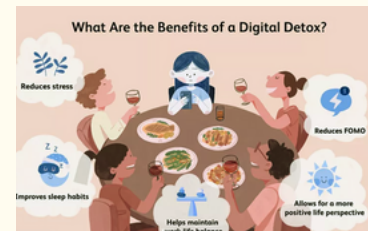
A digital detox provides a valuable moment to pause and recharge. It's an opportunity to step away from the constant digital noise and reconnect with the present. This doesn't mean abandoning technology altogether but rather approaching its use with greater intention. The advantages of a digital detox are significant.

Mentally, it alleviates stress and clears the mind, making room for creativity and better problem-solving. Physically, it promotes healthier habits, such as enjoying outdoor activities or engaging in exercise. Emotionally, it nurtures stronger relationships with loved ones and brings a sense of satisfaction through meaningful real-world interactions.



One of the most impactful benefits of a digital detox is uncovering the gift of time. Many who step away from technology discover hours they didn't realize were available. Moments previously lost to endless scrolling can instead be used for hobbies, reading, or savoring the peace of a quiet moment. Disconnecting from the digital realm often allows individuals to reconnect with themselves, offering a fresh perspective on their goals and priorities.

Adopting a digital detox can be intimidating in a culture where using the internet all the time seems nearly required. But the effort doesn't have to be all or nothing. You can make a big difference with little actions. Establishing limits, such as avoiding screens during meals or having an hour before bed without using a device, can help establish a healthier lifestyle. Mindful usage of digital devices can be further promoted by setting up frequent technology-free days or designating "phone-free zones" in the house. Many people also find that utilizing applications that track screen time or disabling unnecessary notifications helps them become more conscious of their habits.



Eventually, a digital detox is about synchronisation in result. It is not about criticizing the technology but about safeguarding that it assists us rather than dominates us. By intentionally walking away from display/screens and welcoming the richness of the world around us, we can accomplish a more stable and satisfying life. In this hyper-connected era, the greatest connection we can foster may just be the one with ourselves.

MEDITATION – A JOURNEY TO SELF-AWARENESS

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Modern time is a time of chaos, stress, and anxiety. Everyone is facing lot of challenges in their personal and professional life on daily basis. This makes a human-being insecure, stressed, unhappy, and depressed. An individual might suffer from different physical health issues either in addition or because of mental stress. During this time of confusion, insecurity, and frustration the individual begins searching for tranquillity and affection. A question arises in his mind that why he has come into this world? What is the purpose of his life? In search of life's truth, the person may adopt different approaches but finds himself disappointed and dissatisfied.



Meditation is the answer of all his questions. Meditation is state in which one can be feel normal, calm, peaceful, and relaxed in every situation. It improves all three aspects of a human-being that is physical, mental, and emotional. It is a path to know yourself in a deep awareness, good or bad in for the spiritual ascent. An endless sequence of thoughts bombarding the human mind repeatedly causes restlessness and frustration. Meditation can help a person to be in a thoughtless state through watching himself. It is a journey from thoughtfulness to thoughtlessness which can be achieved through self-realization. Self-realization makes a person to see the world in different dimension.



Meditation is a method to give some time to yourself, it can be defined as the food to your spirit to make yourself calm and relaxed. Since ancient time the Yog Sadhana was practiced by number of people in search of truth and self-realization. In their Yog Sadhna they discovered the subtle system of human body that has seven chakras and Kundilini Shakti in sacrum bone. To awaken this Kundilini power one must first have their self-realization.



When kundalini power rises in central path, the chakars get activated with their qualities and person feel relaxed and peaceful. Daily practicing of meditation for few minutes in morning and evening makes a person complete, clam, and energetic.

जज़्बा

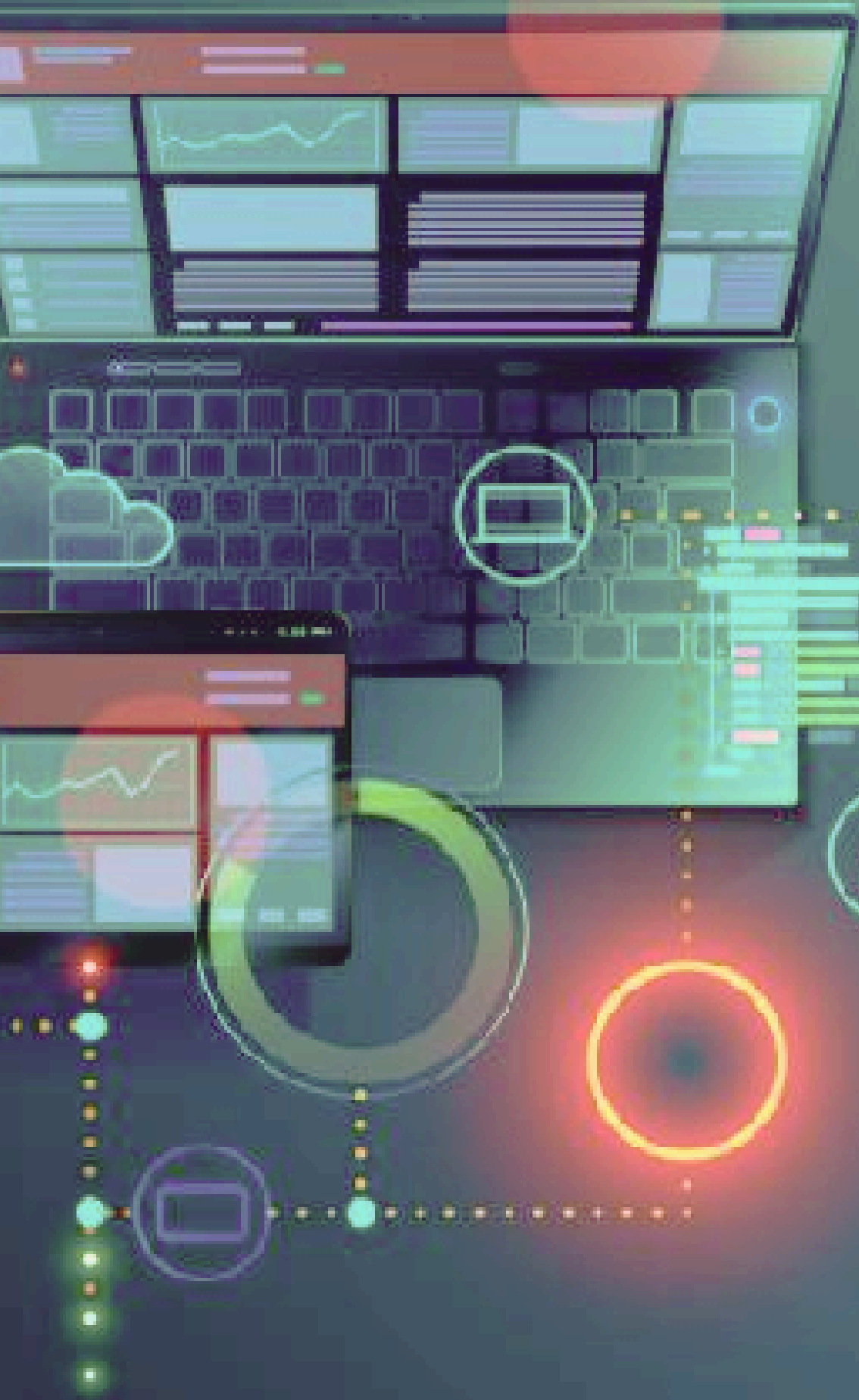
गिरा, तो गिरकर उठ भी सकता हूँ मैं,
जिंदगी की राहों में फिर से चल सकता हूँ मैं
हार नहीं मंजूर मुझे,
ए मन मेरे, गिरकर भी संभल सकता हूँ मैं

हरठोकर से सिखा, हरजखम ने कुछ कहा,
जो टूटकर बिखरा, वो फिर से संजो लिया।
माना मेरी मंज़िल अभी दूर है,
उम्मीद के ईस ज़ज्बे को कैसे भूल सकता हूँ मैं

जब दुनिया कहे "अब तुम नहीं कर सकते,"
तब मैं खुद से कहूँ, "मैं कुछ भी कर सकता हूँ।"
मेरी हिम्मत से बढ़कर कुछ नहीं,
ऐसे कैसे टूट के बिखर सकता हूँ मैं

तेरी मेरी सबकी ईके जेसी कहानी है
संघर्ष से भरी ये जिंदगानी है
आसमा को छुना अभी बाकी है दोस्त,
इस सपने को कैसे मिटा सकता हूँ मैं

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