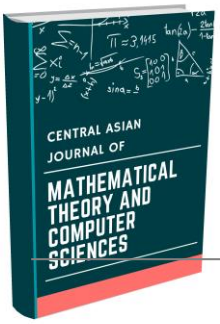

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A BLOCKCHAIN-BASED DECENTRALISED KYC VERIFICATION SYSTEM THAT'S RELIABLE, SECURE, AND EFFICIENT

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Abstract

Know your customer, or KYC, verifies the identity of its users and examines illicit business objectives. Manual KYC is insecure, time-consuming, and expensive. Blockchain's immutability, security, and decentralisation make it a good solution. Commercial solutions like KYC-chain.com provide a way for documents to be authenticated by a trustworthy network participant. This paper offers an Ethereum-based Optimized KYC Blockchain employing symmetric AES encryption and LZ compression. This system is optimised by distributed ledger, cryptography, compression, and blockchain technologies. The proposed system is a new solution based on Distributed Ledger Technology or Blockchain technology that will minimise KYC verification costs for institutions and shorten the process schedule while making it easier for clients. Our technology is superior to conventional techniques since we only verify each consumer once, regardless of how many institutions he or she wants to link to. Since we use DLT, consumers may securely receive verification findings, boosting transparency. Following this method, we constructed a Proof of Concept (POC) utilising the Ethereum API, websites as endpoints, and an android app as a front office. This enhances client experience, decreases costs, and boosts onboarding transparency.

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Introduction

Today, It is discussed in this chapter how an ideal homomorphic encryption based on the lattice method may be applied to the Ethereum blockchain and how to do so effectively [8]. As a result of the lack of reliance on trusted third parties (TTP), Blockchain creates an atmosphere in which equal confidence may be formed between legitimate users [10]. Nonetheless, the accompanying openness aspect threatened practical uses since each bit of info stored on the Blockchain was made available in the open [11-14]. Therefore apps for delicate information or private details that need confidentiality and safety management aren't considered morphic encryption (FHE) methods because they are not considered end-to-end solutions to data security and anonymity challenges [15-21]. Using the Ethereum Blockchain as a model, we investigate the feasibility (and cost) of incorporating the optimal FHE based on a lattice to create a novel & reliable system outline utilizing safety & confidentiality defence capabilities [22-25].

Additionally, FHE is run off-chain owing to restrictions of the present Blockchain; on-chain users can use non-FHE- based factors to instantly calculate ciphertext area processes following SC are published on Blockchain [26]. For demonstrating & comparing platform evaluation results, we are developing more Vickrey auction systems based on FHE & Blockchain technology, with hidden online auction prices [27-31]. Smart contracts can handle both the selection of winners and the distribution of funds in real-time, independently and automatically. KYC is the process of identifying and authenticating a consumer's identity and assessing intent in a business relationship [32-44]. The traditional manual KYC process has several flaws, including being less secure, cumbersome, and expensive. The qualities of Blockchain technology, such as immutability, security, and decentralization, make it a possible explanation for problems like these [45]. While marketplace answers like kycchain.com and KYC.legal provide a tool to authenticate documents by a trusted network, they also provide a way for documents to be authenticated by a network reliable [46-51]. This article proposes an improved KYC Blockchain scheme based on Ethereum with proportional LZ compression and AES encryption [52].

The system appears transparent by distributed ledger, cryptographically secure, efficient by compression, and globally optimized by blockchain functions [53]. The proposed system is a new interpretation based on DLT, commonly known as Distributed Ledger Technology, decreasing the cost of old-style KYC authentication for organizations and shortening the overall time for the conclusion [54-61]. process while making it easier for cthem Our system has a significant advantage over traditional approaches in that the entire verification process is performed at once for a single consumer, regardless of the number of institutions they choose to associate with [62-71]. In addition, because we tend to quantify the squared of DLT abuse, verification results are reliably shared with consumers, increasing transparency [72]. In this approach, we tend to develop a point of view (POC) with Ethereum API, web pages as endpoints linking to the golem application as the main office; awareness of the feasibility and success of this approach overall, this approach improves customer expertise, reduces inflation, and will increase clarity in the customer journey [73-81]. The different ideas and concepts are studied and related to the proposed system with better understanding and explanation, making the concepts clear and emphasizing their importance [82-97].

Literature Survey

The various proposed ideas and concepts are studied and related to the proposed system with better understanding and explanation, making the concepts clear and emphasizing their importance [98-101]. In addition to the need for Trusted Third Party Companies (TTP), Blockchain creates an environment where trust can be established among members [102-109]. However, affiliate galleries threaten the real application because all channel information is displayed [110]. In summary, applications containing sensitive or personal information that require security and anonymity other than Metamorphic Encryption (MHE) are considered one of the important solutions to anonymity problems. Anonymity and data security [111-115]. This article discusses the power (or cost) of incorporating FHEbased Lattice to Blockchain Ethereum to create a novel, trusted system outline having strong anonymity & security features [116-121]. Due to current Blockchain limitations, FHE releases are done without a chain; Alternatively, chain users can request an FHEbased feature for directly computing cyphertext area functions following the publication of smart contracts on the Blockchain. For displaying & checking the outcome of the system outline, the Vickreybased Blockchain and FHE bidding systems are also being upgraded, where online auction prices are kept confidential [122-127].

More than unnecessary for Trusted Third Party Companies (TTP), Blockchain creates an environment where trust between members can be established [1]. However, a website displaying the link also threatens real-world applications, as all channel data is leaked to the public. This means that D-apps containing private information, which needs to be hidden safely with foolproof security and anonymity protection, cannot be used directly in the Blockchain. The Analog Encryption System (FHE) is considered by many to be one of the last resorts to data anonymity and security concerns. This article explores the feasibility (or cost) of a suitable FHE network integrated with the Ethereum blockchain to create a new trusted framework with strong security and strict anonymity. Strict. Due to current Blockchain limitations, FHE releases are done without a chain; In addition, chain members can further utilize FHE-based features to directly integrate ciphertext domain functions after publishing their smart contracts on the Blockchain [128]. We display and check the results of our BlockChain Base tests; the Vickrey-based FHE and Blockchain Bidding system is also upgraded, where online auction prices remain confidential. At the same time, the determination of the winner and the transfer of the payment is done automatically by the Smart Contract [129-135].

Uses proper cryptography without compromising anonymity while providing mathematical precision and plain text results for encryption [2]. However, due to its distinct functionality, the concepts of certified homomorphic encryption were somewhat complex, and the building of a complete guaranteed homomorphic encryption never took place. In this study, we propose a new protection concept and the first base of a complete licensed homomorphic cipher. Our new concept of protection defines the combination of data security and the legitimacy of homomorphic encryption. Plus, our security posture is easy to use/apply and more powerful than ever. To realize our new security concept, we also offer a full homomorphic cryptocurrency building license for the standard version. We combine homomorphic and 2 homomorphic codes, one fully homomorphic and one visible morph, to create a certified fully homomorphic code that meets our security concept. Secret. Our design requires your homomorphic encryption so that it does not appear as a special blank text attack. Its identity cannot be defended in a specially selected blank text application. Our version is also compatible with almost all the datasets and reduces efficiency [136-144]. Indeed, we are also developing a complete homomorphic site verification scheme, which is different from the rest of the original homomorphic signature system. Our multi-site verification system meets the security requirements of our standard design above and effectively supports mitigation [145-156].

Full Uniformity Encryption is a type of encryption with a public key that enables encryption [3]. Therefore, it is a powerful asset with many applications; certified encryption is a type of public key encryption that joins the benefits of PKI-based public key encryption with proprietary encryption (IBE). As a result, Comprehensive Comprehensive Certification (CLFHE) has attracted a lot of researchers. Recently, someone proposed a standard homomorphic encryption system and demonstrated its semantic defences based on a study error in an undefined oracle model. However, their system only works with homomorphic integration & not homomorphic repetition. We have created two CLFHE schemes in this project using the limited eigenvector method. Based on the LWE problem model, we ensure that one system meets the undefined oracle model's flexible semantic protection and anonymity. In contrast, the other meets the confidentiality and makes the selected semantics anonymous in the standard model. On the LWE issue, we have developed two CLFHE schemes, one for the undefined oracle model and the other for the base model. Our future work includes the following: The LWE circular problem is an algebraic form of the LWE problem. In general, LWEcrisisbased CLFHE schemes have much better performance than LWEbased crisis programs. Hence, we made CLFHE programs based on the RingLWE problem [157]. A few selected safe schemes for ciphertexts have been proposed. A system protected by another CLFHE system may be compromised under a specially selected encryption. Therefore, we will create secure CLFHE documents based on the LWE problem. Multikey FHE allows isomorphic calculation of data encrypted with different keys. Multikey FHE schemes and highkey FHE schemes with multiple keys are proposed [158-161]. We will design unconfirmed FHE schemas with multiple keys. Public Key Proxy Reset (PRE). Uniform Extended Coding (HPRE) for Patented Programs HPRE [162].

Fully homomorphic encryption is a system that enables data encryption to encrypt data without encryption and provide anonymity for diff applications like cloud-based computing [4]. This paper presents two computer systems developed to accelerate the encryption and decryption of a Brakerski- FanVercauteren homomorphic cipher system with highly efficient polynomial copies. As a PoC, we use our properties in the software acceleration Base, where code and logs are downloaded to the FPGA device while everything runs on the BFV system. Done with the software running. Office on the shelf. Specifically, our accelerator framework is designed to accelerate the Simplified Statistics Library, developed by the Microsoft Research Cryptography Research Group. The proposed chassis hardware components control the XILIINX VIRTEX07 FPGA1 device, which communicates with its software via its own Peripheral Express Connect (PCIe) sys. To get a feel for the concept, we used our design for a 1024-degree polynomial with 8 & 32-bit coeff of empty text and cipher text, respectively. The proposed base achieves latency rates of about 7 and 12, including downloaded I/O encoding and decoding functions, compared with a pure software implementation. We introduced FPGA implementations of two highly compatible computer-encoded encoding formats and the BFV homomorphic encoding scheme [163-171]. We used our sites as part of the encryption and decryption acceleration of the BFV homomorphic cryptosystem used in SEAL. We use a computer/software code signing system, where encryption and encryption are uploaded to the FPGA, while all the functions of the BFV SEAL program are performed on the desktop software. We noticed a frame on the FPGA connected to a PCIe desktop outside the storage area [172-181].

Homomorphic encryption is a developing form that can generate computer-encrypted data without deleting it [5]. Applications may include merging encrypted data with cloud data without compromising data anonymity. Some recent developments have led to the development of homomorphic encoding schemes and variants. We use and test the performance of 2 advanced models, BajardEynardHasanZucca (BEHZ) and HaleviPolyakovShoup (HPS), to determine the most promising homomorphic cryptosystem for CPUs and GPUs.The most interesting (and surprising) results when we tested our performance were the HPS variant in the best practice scale (1530% frequency) and the irregular depth of computer circuitry at BEHZ, i.e. the HPS variant still exceeds the BEHZ. In a system of multifunctional applications. With 98 iteration depths, our fastest GPU implementation achieved 51ms isomorphic overlap in 128-bit security settings, twice as fast as previous results and already running in the cloud for GPU computing. Our application-supported depth of iteration is essential for applications including neural networks, reads fetching input, and other critical machine learning problems [183-186]. We present the implementation and performance evaluation of two types of RNS for the BFV SHE system. We analyzed your performance by testing and evaluating several application models (multi-threaded CPU & GPU). Our analysis shows that HPS beats BEHZ in many settings on different premises (due to the same network settings) [187-191].

A certain level of the homomorphic coding scheme (SHE) allows processes to be performed on the code-based background information [6]. In cloud computing, personal information can be treated as confidential, requiring a high level of security. For many years the actual parameters of the SHE system were underestimated, so only FFT algorithms were considered to speed up the SHE hardware. However, recent research suggests that the parameters can be reduced without compromising safety. In this style, this work finds the advantages of using Karatsuba’s algorithm instead of the FFT for the FanVerkouteren homomorphic cryptosystem. The recommended speed is based on hardware-software design and is made to perform quick arithmetic operations on 2,560 polynomials with 135-bit coefficients, allowing symmetric computation of the algorithms. Compared to a design that works evenly using FFT, our accelerator makes a simple recurrence of 11.9ms instead of 15.46ms and reduces register size and sensible use in FPGA. In this article, we show that, in some cases, the Karatsuba algorithm could be a better alternative than FFT. Adapted to the conditions, Karatsuba can measure the resources available on the hardware and is easily adapted as required for specific operations, which is the case for FVs, and SHEs in general. The acceleration shown in this paper can perform isomorphic FV duplication of 11.9 ms while using modern

FFT requires approximately 15.46 ms at 4 depths. In addition, our accelerator uses a few hardware resources, allowing continuous upgrades. Accelerate FV by doing more Karatsuba with or with other acceleration steps. Future work will include a review of the proposed solution for buildings with additional constraints. The tendency of the Karatsuba accelerator to the depth of repetition with large coefficients will also be investigated. This study was funded by Direction Générale de Larment (DGA) [192].

Enable Full Unified Encryption (FHE) anonymizes encrypted data and has huge potential for maintaining cloud anonymity and unpacking functions computers securely [7]. However, excessive complexity is a major limitation in the practical use of FHE. Here we have used a more consistent FPGA-based format to accelerate FHE-based schemes based on Read Errors (RLWE), in particular, by proposing a fast-tracking scheme based on a fully BGV- based homolog introduced. To minimize computation delay and increase performance, we have applied block-level and region-level flow techniques to boost clock freq and thus speed up polynomial cloning and trial operation. Isomorphic test. Many polynomial cores and modular reduction units are used to improve hardware performance. Ultimately, we used and tested our makeup on the Virtex UltraScale FPGA platform. Running at 150MHz, our usage yielded $4.60\times\sim 9.49\x Intel i7-optimized 3.1GHz software launches with isomorphic encryption simultaneously and 1.03 times the sim encoding time. 4.64 when launching the software BGV$. Compared to the FV software launch time, our accelerators have achieved speeds of $5.05 and 167.3 times for public maths and isomorphic iterations, respectively. This article focuses on using RingLWE-based, fully FPGA-homogeneous cryptographic compromise software. Our facilities provide hardware and operating costs [193-196]. To accelerate the deep computation performance of isomorphic cryptographic functions, we developed the NTT-based and modular overlapping polynomial performance. Design with minimal use of resources [197].

Requirements

Requirements Elicitation is the process of gathering information regarding the requirements of a system. The literature often refers to the "requirement collecting" method. Trying to elicit specifications is challenging because you'll never be certain you've received all the user's demands by merely asking them what the system should or should not do [198].

Functional Requirements

The system must fulfil the functional criterion of doing what it was designed to accomplish. A functional requirement specifies what a system should achieve, but non-functional requirements limit how the system will accomplish that goal [199]. Incorporating a prototype of decentralized, time-stamped ledger accounts into business and insurance organizations' KYC processes, blockchain algorithms can significantly assist them in streamlining their operations by providing quicker and more accurate real-time data exchange between multiple shareholders for faster and more accurate gratification. Compared to conventional solutions, an approach based on Blockchain s a preferable because of its immutable ledger, simplicity of connection, and much cheaper operating & infrastructure expenses. A system's or a system component's functional requirements identify a function that it must be able to fulfil. It may be shown in a variety of ways. Written descriptions in papers are the most popular. The following are a few of the system's functional requirements:

- In addition to minimizing duplication in the Rectification process and
- automated lodging, this blockchain KYC has the potential to save expenses for all parties involved.
- Several distinctive elements of the Trusted Workflow of KYC with technology innovation have been identified that will undoubtedly help companies, authorities, and consumers, in general, all over the world.
- In this procedure, one-way hash data is formed, which means that hash data may be derived from simple content. However, the opposite operation, such as calculating plain text from the hash, isn't possible. In this procedure, one-way hash data is formed.
- The 2 qualities of Blockchain render it tampering resistant and safe.

System Architectural Design

The overall design is discussed and explained in this chapter. The high-level architecture provides clear details of the entities involved in the system and how they depend on other entities (figure 1).

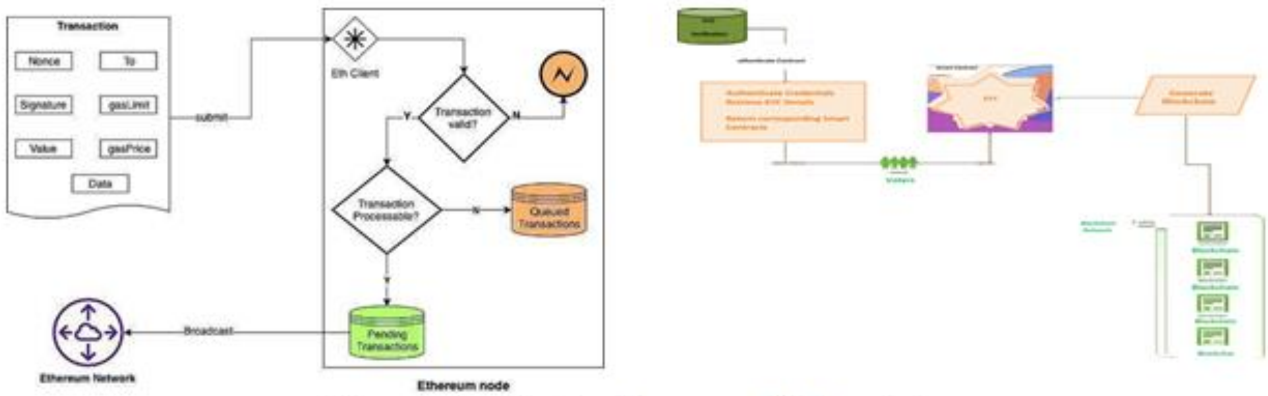

Figure 1: Architecture Diagram and Flow chart

Blockchain is a distributed network that allows for flexibility while maintaining privacy, security, and openness. Although there is no middle-ground business that will guarantee and guarantee transactions, Blockchain believes that each transaction is completely secure and guaranteed individually. Because of the compliance protocol, which is an integral part of any Blockchain network, has recently been implemented. The algorithm is how each node in Blockchain does not extend to an arrangement on the current stage of a shared website, also called the algorithm. Strengthening blockchain networks and creating trust among unknown peers in a distributed computing environment is achieved through concerted strategies. Simply put, the sync method ensures that each new structure added to Blockchain represents the end of a true version to which all Blockchain nodes agree. Each node is required to participate in this consensus approach, which is one of the specific objectives of the Blockchain consensus mechanism. These terms include access to agreements, partnerships, and equal rights for all networks. Thus, the algorithm aims to determine the point of contact which benefits the entire network.

System Module

This chapter focuses on each system module in detail and explains its working. Each module is divided into separate subheadings and discussed accordingly. The pseudo-code and working methodologies are also included and explained with diagrams wherever possible.

Module 1: Record Creation

This report is critical since it provides data on the packing procedure of a lot and the info needed by Good Manufacturing Practice (GMP) paperwork. It has to have all of the information concerning the packing procedure. A batch packaging log is a paper trail of a lot from distributing phase to the dispatching phase that describes the method and step-by-step instructions that must be followed during the packaging of every lot from the distributing level to the dispatching level. It includes real information from packaging & serves as evidence that sets had been correctly created, examined & validated by the production and Quality Assurance teams. Additionally, activity specifics are included, such as whoever completed the task & at what time they completed it. For chemical & process manufacturers, a batch manufacturing record (BMR) is critical (figure 2).

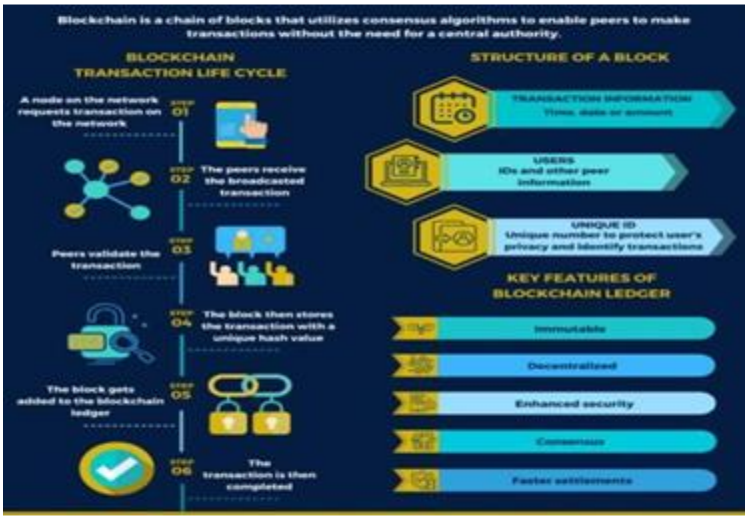

Figure 2: How Blockchain Record Creation Works? [9]

Module 2: Blockchain Generation

Each block contains three types of transactions in our construction, which financial institutions load. This transaction comprises five data fields, including time stamp, name, id proof, address proof, and data records in smart contracts designed for the Blockchain based on Ethereum technology. Ethereum is a dedicated blockchain tech which allows anyone to create and execute blockchain-DAAPs. This way, information about K-Y-C is spread throughout the network as a reminder to the corresponding institutions (figure 3).

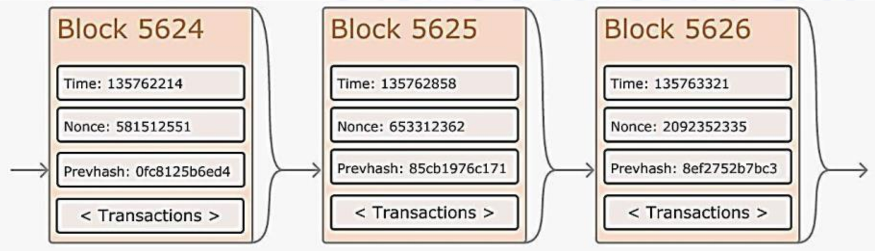

Figure 3: Blockchain Generation

Module 3: Information Query

For anyone who needs to verify KYC, the KYC blockchain tracks the entire distribution process to investigate and obtain information. Therefore, the blockchain system provides query functions, also used by smart contractors. Smart contracts start with message calls provided by the Ethereum platform. Question parameters are stored in the message database. Then, the system determines ownership by parameters (figure 4).

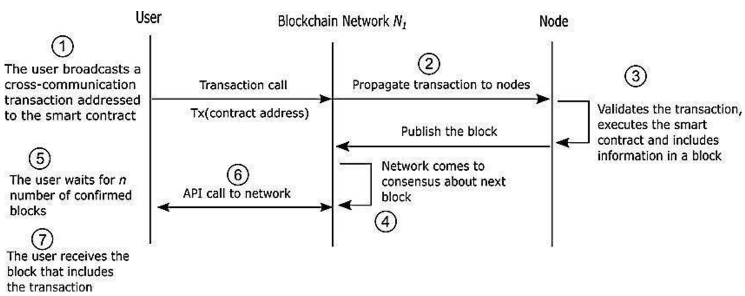

Figure 4: Information Query Information Message Sequence Chart

Module Implementation

The main system to be implemented mainly includes the properties needed to be implemented in human movement and actions. Therefore, implementing this kind of system becomes very useful for the system to understand and then give a result regarding the input given by the user. The main system is responsible for the input of the movements of the human interaction, and movement is completely responsible for the system getting configured. The appropriate output would completely depend upon the system's state and the parts of the system involved in processing the input and hence giving the desired output as a result. The depth-wise analysis is done where the input is analyzed through pooling layers where the sound separation is done using sound filters in various layers. The input depends upon the thickness of the layer-wise thickness and different system outputs and results. There are many layers of modulation involved in separating and studying the input data and then simulating the corresponding output for the appropriate production of the required values to show whether the appropriate output is given out. Therefore, an appropriate system is required so that this system works in a manner which would be useful for the user to understand the working and hence, this would help the users who are disabled or cannot do any movement. This would help the users understand the computer's response towards processing and integrating the input to obtain the appropriate output. Hence, it is required that the user understands the working and acts accordingly towards the working of the system.

Anaconda

The execution was conducted with the help of an Anaconda. Anaconda distributes Python & R computer programming languages (big data processing, machine learning, data science, etc.) for facilitating organization & use packages. Distribution comprises packages of data science appropriate for macOS, Linux & Windows. Built & sustained by Anaconda Inc., established by Travis Oliphant & Peter Wang in 2012, is a creation of Anaconda Inc. Versions of Anaconda packages are maintained by the conda packages maintenance scheme. Package supervisor is released like a free source package since it's valuable.

Jupyter

Jupyter Notebook app, a server-client app which permits you to edit & work with notes using a web browser. This can be done on a local computer that does not require access to the web otherwise can be fixed on an isolated server & can be retrieved via the web. Moreover, for viewing/erasure / using notebook docs, the Jupyter Notebook app has a "dashboard", displays location files and allows you to open or close notes.

Tensorflow

TensorFlow is a free-source software for ML & AI, utilized for wide series of functions, nonetheless focusing on the training and in-depth understanding of neural networks. Built by team Google Brain to use within Google for study & creation purposes, the 1st version came out in 2015TensorFlow is utilized by various programming languages, including Java, C++, Python, javascript, etc., proving that versatility means a wide range of applications, in many different fields.

Programming Language(s) used

Python

Python is an advanced programming language translated for the same purpose. Created by Guido van Rossum & 1st available in 1991. The philosophy behind its framework highlights that code can be read easily and the remarkable utilization of white space. Its object-oriented approach & language structure's purpose is to aid programmers in writing perfect, rational code for projects large & small.

Implementation Details

Algorithm

Proof of Work (PoW): This compatibility algorithm is used to select the next-generation miner. PoW compatibility algo is utilized by Bitcoin. The chief aim of algo is to resolve complex maths problems & offer quick solutions. Arithmetic complexity requires a lot of computer power, so the first way to solve it would be to find a nearby block mine. For more information on PoW, see Proof of Work (PoW) Consensus.

PBFT stands for Practical Byzantine Fault Tolerance.

Stake Proof (PoS): It is the most common standard. Ethereum integration has gone from PoW to PoS. The guarantor invests in the system by inserting a coin component as part of this consensus process rather than investing in complex puzzles. All verifiers then approve the block. When the guarantor finds a block he thinks we can add to the chain, we bet the block and secure it. The guarantor gets the same bet return based on the blocks loaded on the Blockchain, and the stake grows equally. Finally, the guarantor is selected to produce a new block based on its economic allocation to the network. As a result, PoS providers are encouraged to reach a consensus through promotional methods.

Proof of Burning (PoB)

Instead of investing in expensive hardware, the guarantor "burns" the coin by sending it to an address where it is unavailable. Authenticators obtain the right to mine the system based on a random selection by depositing coins in inaccessible addresses. As a result, the guarantor has a long-term obligation to compensate for temporary losses when burning tokens. Miners can burn some currencies, such as cash and Bitcoin, into traditional blockchain systems, depending on how PoB is used. If they burn coins, they may be selected for the next mine. PoB is an attractive form of PoW, but it wastes resources unnecessarily. In addition, it is said to provide the ability to mine those willing to burn more money. The warranty is designed to provide disk space instead of investing in expensive equipment or hot coins at eligibility points. Certificates with additional disk space may be selected to mine the next block and win a block prize. In authoritative blockchain networks, they are usually hired. This approach increases the likelihood that all authenticity providers in the network will produce that block. Created barriers are streamed over the network for others to explore. The minimum guarantee of part-time proof wins. The winning node block is attached to Blockchain. Extra tests are constructed on an algo for averting nodes from becoming victorious frequently, otherwise generating minimum time. Other types of compliance are available, such as Work Proof, Weight Proof, Validation Proof, Leased Stake Proof, and more. Blockchain networks cannot function effectively without compliant algorithms to monitor all transactions, so it is important to choose a strategy based on the needs of your business network (figures 5 to 8)

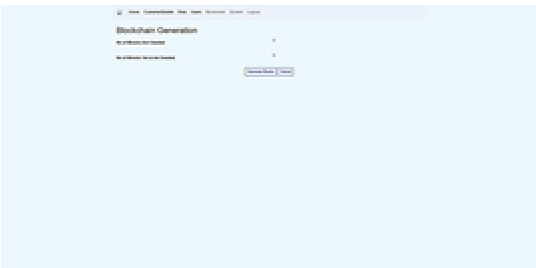

Figure 5: Generation of Blockchain

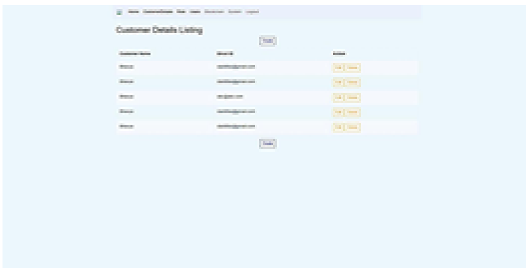

Figure 6: Listing of Customer Details

Figure 7 : Report on Blockchain

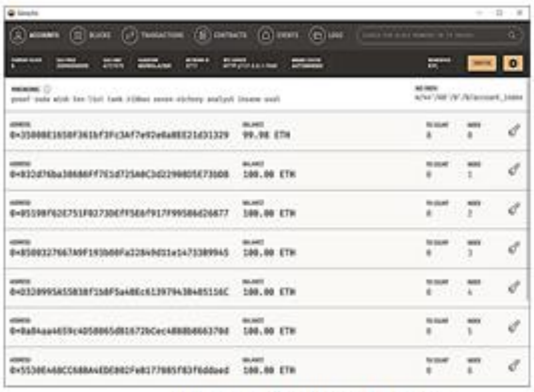

Figure 8: Blockchain

Results and Discussion

At this stage, tests are performed to assess the speed and gas dissipation of all the FHE activities involved. To confirm the idea & make it easier to fulfil, at the instant, the safety level (length of the key) of the test is set to 256-B, that's minor & should only be utilized to demonstrate. Yet, the objectives are to discover the viability of utilizing schemes under FHE in Blockchain & to analyse associated complexities (trends in gas consumption) to the magnitude of the target problem (Vickrey bid scale); The present test outcomes offer certain internal grades to achieve the objectives mentioned above. Advanced safety stages (longer keys) are checked to determine whether additional calculation assets are available in the coming times. First, we focus on assessing gas emissions for each FHE activity and gas dissipation at Vickrey bidding by a diverse no. of auctioneers. Further, we convert gas consumed to American bucks for analysing the possibility of Vickrey based on FHE.

For a Blockchain platform like Ethereum, all instructions were provided at a limited cost of gas. Subsequently, a solitary FHE calculation needs a lot of commands to develop all work, costing a lot of assets. At no charge to us, the system outline continues to provide the full capacity to maintain privacy, at least, which is equally important in the context of our operating system. However, at the listed USD costs of auctions based on BFV, an important gap is still required to be overcome to implement FHE modern anti-quantum attack auction strategies to protect online auctions on Blockchain. If more than 2 users have a secret key simultaneously, there is a big problem. In Vickrey's auction, the seller must be honest and honest in handling the bidding & holding a secret key. Else, the confidentiality of the info will easily be violated in case of a dispute between the bidder & user. The issue is solved by limiting the maximum no. of online tenders at one time to 2; otherwise, by planning an apt bidder's debt score or else prize plan & penalty. Our project suggests a scheme that assimilates the FHE system with the Blockchain Ethereum to provide complete and reasonable confidentiality. Looking at the larger picture, the FHE lattice-based scheme is suitable for post-quantum protection, probably based on the SVP's rigid hardness limited to another structured lattice. And it's difficult to resolve with the subsequent cohort quantum computer.

Conclusion

The resolution based on Blockchain proposes an exclusive lot of benefits which allow seamless & safe information interchange among diverse, reliable organizations and significantly reduce handling charges since the organization's charge of developing a new resolution will just be 19% during KYC handling charges. Incorporating the KYC procedure creates a standard user entry system outline, which makes the procedure further competent & less expensive. In addition, we attest to the theory of an artefact â € "strong code - which is readily utilised by anyone fascinated with testing & developing an idea, using it in a test environment, & develop & transform it to improve its effectiveness & practicality.

References

1. P.-C. Chen, T.-H. Kuo, and J.-L. Wu, "A study of the applicability of ideal lattice-based fully homomorphic encryption scheme to ethereum blockchain," IEEE Syst. J., vol. 15, no. 2, pp. 1528–1539, 2021.
2. J. Kim and A. Yun, "Secure Fully Homomorphic Authenticated Encryption," in IEEE Access, vol. 9, pp. 107279-107297, 2021, doi: 10.1109/ACCESS.2021.3100852.
3. M. Li, "Leveled certificateless fully homomorphic encryption schemes from learning with errors," IEEE Access, vol. 8, pp. 26749–26763, 2020.
4. A. C. Mert, E. Ozturk, and E. Savas, "Design and implementation of encryption/decryption architectures for BFV homomorphic encryption scheme," IEEE Trans. Very Large Scale Integr. VLSI Syst., vol. 28, no. 2, pp. 353–362, 2020.
5. A. Al Badawi et al., "Implementation and performance evaluation of RNS variants of the BFV homomorphic encryption scheme," Iacr.org, 2018. [Online]. Available: https://eprint.iacr.org/2018/589.pdf. [Accessed: 27-Dec-2022].

6. V. Migliore, M. M. Real, V. Lapotre, A. Tisserand, C. Fontaine and G. Gogniat, "Hardware/Software Co-Design of an Accelerator for FV Homomorphic Encryption Scheme Using Karatsuba Algorithm," in IEEE Transactions on Computers, vol. 67, no. 3, pp. 335-347, 1 March 2018, doi: 10.1109/TC.2016.2645204.

7. Y. Su, B. Yang, C. Yang and L. Tian, "FPGA-Based Hardware Accelerator for Leveled Ring-LWE Fully Homomorphic Encryption," in IEEE Access, vol. 8, pp. 168008-168025, 2020.

8. B. Dhiman and R. Bose S, "A Reliable, Secure and Efficient Decentralised Conditional of KYC Verification System: A Blockchain Approach," 2022 International Conference on Edge Computing and Applications (ICECAA), 2022, pp. 564-570.

9. 101 Blockchains, “How blockchain records all the transactions,” 101 Blockchains, 12-Jul-2020. [Online]. Available: http://101blockchains.com/blockchain-records-transactions/. [Accessed: 27-Dec-2022].

10. Rupapara, V., Narra, M., Gonda, N. K., & Thipparthy, K. (2020). Relevant Data Node Extraction: A Web Data Extraction Method for Non Contagious Data. 2020 5th International Conference on Communication and Electronics Systems (ICCES), 500–505.

11. Ishaq, A., Sadiq, S., Umer, M., Ullah, S., Mirjalili, S., Rupapara, V., & Nappi, M. (2021). Improving the Prediction of Heart Failure Patients’ Survival Using SMOTE and Effective Data Mining Techniques. IEEE Access, 9, 39707–39716.

12. Rustam, F., Khalid, M., Aslam, W., Rupapara, V., Mehmood, A., & Choi, G. S. (2021). A performance comparison of supervised machine learning models for Covid-19 tweets sentiment analysis. PLOS ONE, 16(2), e0245909.

13. J. J. Patil, Y. H. Patil, A. Ghosh, “Comprehensive and analytical review on optical fiber refractive index sensor”, 2020 4th International Conference on Trends in Electronics and Informatics (ICOEI) (48184), IEEE, P. 169-175, June. 15, 2020.

14. H. Bohra, A. Ghosh, “Design and analysis of microstrip low pass and band stop filters”, International Journal of Recent Technology and Engineering (IJRTE), Vol. 8, Issue 3, P. 6944-6951, Sept. 2019.

15. Y. H. Patil, A. Ghosh, “Optical fiber humidity sensors: a review”, 2020 4th International Conference on Trends in Electronics and Informatics (ICOEI) (48184), IEEE, P. 207-213, June. 15, 2020.

16. J. J. Patil, Y. H. Patil, A. Ghosh, “Fiber Optics Refractive Index Sensor based on Intensity Modulation”, 2020 4th International Conference on Electronics, Communication and Aerospace Technology (ICECA), IEEE, P. 623-628, May. 2020.

17. H. Bohra, A. Ghosh, A. Bhaskar, A. Sharma, “A miniaturized notched band microstrip wideband filter with hybrid defected ground structure technique”, 2020 Third International Conference on Smart Systems and Inventive Technology (ICSSIT), IEEE, P. 745-750, Aug. 2020.

18. Y. H. Patil, J. J. Patil, A. Gaikwad, A. Ghosh, “Development of Optical Fiber Test Bench for Intensity-Modulated Optical Fiber Sensors”, 2020 4th International Conference on Trends in Electronics and Informatics (ICOEI) (48184), IEEE, P. 176-180, June. 2020.

19. H. Bohra, A. Ghosh, “A Review on Different Optimization Techniques for Selecting Optimal Parameters in Microstrip Bandpass Filter Design”, International Journal of Advanced Science and Technology, Vo. 28, Issue 14, P. 379-394, Nov. 2019.

20. J. Terdale, A. Ghosh, “An intensity-modulated optical fiber sensor with agarose coating for measurement of refractive index”, International Journal of System Assurance Engineering and Management, Springer India, P. 1-7, Nov. 2022.

21. J. J. Patil, A. Ghosh, “Intensity Modulation based U shaped Plastic Optical Fiber Refractive Index Sensor” 2022 6th International Conference on Trends in Electronics and Informatics (ICOEI), IEEE, P. 18-24, Apr. 2022.

22. H. Bohra, A. Ghosh, A. Bhaskar, "Design and Analysis of Spurious Harmonics Suppressed Microstrip Ultrawide Band Filter using Modified Defected Ground Structure Techniques", Wireless Personal Communications, Springer US, Vol. 121, Issue 1, P. 361-380, Nov. 2021.
23. H. Bohra, A. Ghosh, A. Bhaskar, A. Sharma, "A Miniaturized Ultra-Wideband Low-Pass Microstrip Filter Design using Modified Defected Ground Structure Techniques", Invertis University, Vol. 14, Issue 1, P. 25-30, 2021.
24. H. Patidar, P. Chakrabarti, A. Ghosh, "Parallel Computing Aspects in Improved Edge Cover Based Graph Coloring Algorithm", Indian Journal of Science and Technology, Vol. 10, P. 25, Jul. 2017.
25. A. Ghosh, P. Chakrabarti, P. Siano, "Approach towards realizing the Security Threats for Mobile IPv6 and Solution Thereof", International Journal of Computer Applications, Foundation of Computer Science, Vol. 90, Issue 10, Jan. 2014.
26. A. Ghosh, P. Chakrabarti, D. Bhatnagar, "Performance Evaluation of Optimized Mobile IP Protocol Vis-à-vis Bit Map Indexing Method", International Journal of Computer Applications, Foundation of Computer Science, Vol. 75, Issue: 2, Jan. 2013.
27. Akhilesh Kumar Sharma , Shamik Tiwari, Gaurav Aggarwal, Nitika Goenka, Anil Kumar, Prasun Chakrabarti, Tulika Chakrabarti, Radomir Gono, Zbigniew Leonowicz, Michal Jasiński , "Dermatologist-Level Classification of Skin Cancer Using Cascaded Ensembling of Convolutional Neural Network and Handcrafted Features Based Deep Neural Network", IEEE Access , 10 : 17920-17932, 2022
28. Gaurav Kumawat, Santosh Kumar Viswakarma, Prasun Chakrabarti , Pankaj Chittora, Tulika Chakrabarti , Jerry Chun-Wei Lin, "Prognosis of Cervical Cancer Disease by Applying Machine Learning Techniques",
29. Journal of Circuits, Systems, and Computers, 2022 Abrar Ahmed Chhipa, Prasun Chakrabarti, Vadim Bolshev , Tulika Chakrabarti , Gennady Samarin, Alexey N. Vasiyev, Sandeep Ghosh, Alexander Kudryavtsev, "Modeling and Control Strategy of Wind Energy Conversion System with Grid-Connected Doubly Fed Induction Genenator", Energies , 15, 6694, 2022.
30. Tulika Chakrabarti, Sibabrata Mukhopadhyay, Prasun Chakrabarti, Gholamreza Hatam, Mohammad Nami, "Phenyl Ethanoid Glycoside from the Bark of Oroxylum indicum Vent: a Potential Inhibitor of DNA Topoisomerase IB of Leishmania donovani", Journal of Advanced Medical Sciences and Applied Technologies, 2022.
31. B Prasanalakshmi , Bui Thanh Hung, Prasun Chakrabarti, Xue-bo Jin, Tulika Chakrabarti, Ahmed Elngar, "A Novel Artificial Intelligence-Based Predictive Analytics Technique to Detect Skin Cancer", 2022.
32. S Ningthoujam, T Chingkheinganba, S K Chakraborty, A Elngar, Prasun Chakrabarti, Tulika Chakrabarti, Praveen, S. Phani , Amit Gupta, Margala, Martin, "Performance Analysis for Molecular Communication Under Feedback Channel Using Multipath and Single Path Technique", Pre-print, 2022.
33. Pankaj Chittora, Tulika Chakrabarti, Papiya Debnath, Amit Gupta, Prasun Chakrabarti, S Phani Praveen, Martin Margala, Ahmed A Elngar , "Experimental analysis of earthquake prediction using machine learning classifiers, curve fitting, and neural modeling", Pre-print, 2022.
34. Umesh Agarwal, Abrar Ahmed Chhipa, Tulika Chakrabarti, Amit Gupta, S Phani Praveen, Prasun Chakrabarti, Neha Sharma, Ahmed A Elngar , "Reliability Evaluation of Radial Distribution Network for Educational purpose using Greedy Search Approach-Distribution Network Data and Results", Pre-print, 2022.

35. Nagendra Singh, Manish Tiwari, Tulika Chakrabarti, Prasun Chakrabarti, Om Prakash Jena, Ahmed A Elngar, Vinayakumar Ravi, Martin Margala, “Minimization of Environmental Emission and cost of generation by using economic load dispatch”, Pre-print, 2022.
36. Akhilesh Deep Arya, Sourabh Singh Verma, Prasun Chakarabarti, Tulika Chakrabarti, Ahmed A Elngar, Mohammad Nami, Ali-Mohammad Kamali, “A Systematic Review on Machine Learning and Deep Learning Techniques in the Effective Diagnosis of Alzheimer’s Disease”, Pre-print, 2022
37. Suchismita Gupta, Bikramjit Sarkar, Subhrajyoti Saha, Indranath Sarkar, Prasun Chakrabarti, Sudipta Sahana, Tulika Chakrabarti, Ahmed A Elngar, “A Novel Approach Toward the Prevention of the Side Channel Attacks for Enhancing the Network Security”, Pre-print, 2022.
38. Naveen S Pagad, N Pradeep, Tulika Chakrabarti, Prasun Chakrabarti, Ahmed A Elngar, Martin Margala, Mohammad Nami, Neha Sharma, Samuel Frimpong, “Clinical XLNet-based End-to-End Knowledge Discovery on Clinical Text Data using Natural Language Processing”, Pre-print, 2022
39. K Suvarna Vani, Bui Thanh Hung, Prasun Chakrabarti, Tulika Chakrabarti, Ahmed A Elngar, “Detection and Classification of Invasive Ductal Carcinoma using Artificial Intelligence”, Pre-print, 2022.
40. KS Balamurugan, Prasun Chakrabarti, Tulika Chakrabarti, Amit Gupta, Ahmed A Elngar, Mohammad Nami, Vinayakumar Ravi, Grienggrai Rajchakit, M Ali Akbar, “Improving the Performance of Diagnosing Chronic obstructive Lung Disease Using Outlier Detection with Decision Tree Algorithm”, Pre-print, 2022.
41. Ruhul Amin Hazarika, Arnab Kumar Maji, Debdatta Kandar, Prasun Chakrabarti, Tulika Chakrabarti, KS Jagannatha Rao, Jose Carvalho, Babak Kateb, Mohammad Nami, “An evaluation on changes in Hippocampus size for Cognitively Normal (CN), Mild Cognitive Impairment (MCI), and Alzheimer’s disease (AD) patients using Fuzzy Membership Function”, OSF Preprints, 2021.
42. Jitendra Shreemali, Prasun Chakrabarti, Tulika Chakrabarti, Sandeep Poddar, Daniel Sipple, Babak Kateb, Mohammad Nami, “A Machine Learning Perspective on Causes of Suicides and identification of Vulnerable Categories using Multiple Algorithms”, medRxiv, 2021.
43. Papiya Debnath, Pankaj Chittora, Tulika Chakrabarti, Prasun Chakrabarti, Zbigniew Leonowicz, Michal Jasinski , Radomir Gono, Elżbieta Jasińska, “Analysis of earthquake prediction in India using supervised machine learning classifiers”, Sustainibility ,13(2):971 , 2021.
44. 21. Pankaj Chittora, Sandeep Chaurasia, Prasun Chakrabarti, Gaurav Kumawat, Tulika Chakrabarti, Zbigniew Leonowiz, Michael Jaisinski, Lukasz Jaisinski, Radomir Gono, Elzbieta Jaisinski, Vadim Bolshev, “Prediction of Chronic Kidney Disease - A Machine Learning perspective", IEEE Access, 9 : 17312-17334,2021
45. Akhilesh Kumar Sharma, Gaurav Aggarwal, Sachit Bhardwaj, Prasun Chakrabarti, Tulika Chakrabarti, Jemal Hussain, Siddhartha Bhattarcharyya, Richa Mishra, Anirban Das, Hairulnizam Mahdin, “Classification of Indian Classical Music with Time-Series Matching using Deep Learning”, IEEE Access , 9 : 102041-102052 , 2021.
46. Abrar Ahmed Chhipa , Vinod Kumar, R. R. Joshi, Prasun Chakrabarti, Michal Jaisinski, Alessandro Burgio, Zbigniew Leonowicz, Elzbieta Jasinska, Rajkumar Soni, Tulika Chakrabarti, “Adaptive Neuro-fuzzy Inference System Based Maximum Power Tracking Controller for Variable Speed WECS”, Energies ,14(19) :6275, 2021.
47. Tulika Chakrabarti, Sibabrata Mukhopadhyay, Prasun Chakrabarti, Gholamreza Hatam, Mohammad Nami, “Phenyl Ethanoid Glycoside from the bark of Oroxylum indicum vent : a potential inhibitor of DNA Topoisomerase IB of Leismania donovani”, Journal of Advanced Medical Sciences and Applied Technologies , 2021.

48. Sreemoy Kanti Das, GS Chakraborthy, Tulika Chakrabarti, Prasun Chakrabarti, Mohammad Javad Gholamzadeh, Mohammad Nami, "Evaluation of nootropic activity of standardized Epipremnum aureum extract against scopolamine-induced amnesia in experimental animals", Journal of Advanced Medical Sciences and Applied Technologies , 6(1): 64-71,2021
49. Prasun Chakrabarti , Tulika Chakrabarti , Mayank Sharma. , D Atre D, K.Baba Pai, "Quantification of Thought Analysis of Alcohol-addicted persons and memory loss of patients suffering from stage-4 liver cancer", Advances in Intelligent Systems and Computing, 1053, pp.1099-1105, 2020
50. Prasun Chakrabarti, Tulika Chakrabarti , Biswajit Satpathy, I SenGupta , Jonathan Andrew Ware, "Analysis of strategic market management in the light of stochastic processes, recurrence relation, Abelian group and expectation", Advances in Artificial Intelligence and Data Engineering, 1133 , pp.701-710, 2020
51. Prasun Chakrabarti, Siddhant Bane, Biswajit Satpathy , Mark Goh , B N Datta , Tulika Chakrabarti, "Compound Poisson Process and its Applications in Business", Lecture Notes in Electrical Engineering, 601, pp.678-685,2020
52. Prasun Chakrabarti , Biswajit Satpathy, Siddhant Bane, Tulika Chakrabarti, N S Chaudhuri, Pierluigi Siano , "Business forecasting in the light of statistical approaches and machine learning classifiers", Communications in Computer and Information Science , 1045, pp.13-21, 2019
53. Manish Tiwari, Prasun Chakrabarti, Tulika Chakrabarti , "Novel work of diagnosis in liver cancer using Tree classifier on liver cancer dataset (BUPA liver disorder)" , Communications in Computer and Information Science , 837, pp.155-160, 2018
54. Manish Tiwari, Prasun Chakrabarti, Tulika Chakrabarti , "Performance analysis and error evaluation towards the liver cancer diagnosis using lazy classifiers for ILPD", Communications in Computer and Information Science , 837, pp.161-168,2018
55. Prasun Chakrabarti, Manish Tiwari, Tulika Chakrabarti, "Performance Vector analysis in context to liver cancer-A Support Vector Machine Approach with a survey on the latest Perspectives of Chemistry in liver cancer treatment", International Journal of Computer Science and Information Security, 14(9):1238,2016
56. Ashish Kumar , Somenath Roy Chowdhury , Tapas Sarkar , Tulika Chakrabarti , Hemanta K. Majumder ,Tarun Jha and Sibabrata Mukhopadhyay, "A new bisbenzylisoquinoline alkaloid isolated from Thalictrum foliolosum, as a potent inhibitor of DNA topoisomerase IB of Leishmania donovani", Fitoterapia, 109,25-30, 2016
57. Ashish Kumar, Somenath Roy Chowdhury, Kumar Kalyan Jatte, Tulika Chakrabarti, Hemanta K Majumder, Tarun Jha and Sibabrata Mukhopadhyay , "Anthocephaline, a New Indole Alkaloid and Cadambine, a Potent Inhibitor of DNA Topoisomerase IB of Leishmania donovani (LdTOP1LS), Isolated from Anthocephalus cadamba", Natural Product Communications ,10(2),297-299,2015.
58. Prasoon Bhatnagar, Deepak Vyas, S K Sinha , Tulika Chakrabarti , "Stability Indicating HPLC Method for Simultaneous Estimation of Entacapone, Levodopa and Carbidopa in Pharmaceutical Formulation", Journal of Chromatography & Separation Techniques, 6(7), 304-311, 2015.
59. Ashish Kumar, Somenath Roy Chowdhury, Tulika Chakrabarti, Hemanta K Majumdar, Tarun Jha, Sibabrata Mukhopadhyay, . "A New Ellagic Acid Glycoside and DNA Topoisomerase IB Inhibitory Activity of Saponins from Putranjiva roxburghii" Natural Product Communications, 9(5) ,671-675,2014.
60. Tania Das, Kumar Singha Roy, Tulika Chakrabarti, Sibabrata Mukhopadhyay, Susanta Roychoudhury, . "Withaferin A modulates the Spindle Assembly Checkpoint by degradation of Mad2- Cdc20 complex in colorectal cancer cell lines", Biochemical Pharmacology, 91(1),31-39,2014.

61. Sayan Chowdhury, Tulika Mukherjee, Somenath Chowdhury, Souvik Sengupta, Sibabrata Mukhopadhyay, Parasuraman Jaisankar, Hemanta Majumder, “Disuccinyl betulin triggers Metacaspase Dependent Endonuclease G Mediated Cell death in Unicellular Protozoan Parasite Leishmania donovani”, Antimicrobial Agents and Chemotherapy, 58(4),2186-2201,2014.
62. Sourav Saha, Tulika Mukherjee, Sayan Chowdhury, Amartya Mishra, Somenath Roy Chowdhury , Parasuraman Jaisankar ,Sibabrata Mukhopadhyay , Hemanta K. Majumder , “The lignan glycosides lyoniside and saracoside poison the unusual type IB topoisomerase of Leishmania donovani and kill the parasite both in vitro and in vivo”, Biochemical Pharmacology, 86, 1673–1687, 2013.
63. Tulika Mukherjee , Tapas Sarkar , Piyali Paul ,Ajit K. Chakraborty, Parasuraman Jaisankar and Sibabrata Mukhopadhyay, “Putralone,a Novel 10α-Hydroxy-25-nor D:A friedo-oleanane Triterpenoid from Putranjiva roxburghii”, Natural Product Communications , 7(4), 511-513, ,2012.
64. Tulika Mukherjee, Sayan Chowdhury, Ashish Kumar, Hemanta K Majumder, Parasuraman Jaisankara , Sibabrata Mukhopadhyay, “Saracoside: A New Lignan Glycoside from Saraca indica, a Potential Inhibitor of DNA Topoisomerase IB”, Natural Product Communications , 7(6), 767-769 , 2012.
65. Sayan Chowdhury, Tulika Mukherjee, Rupkatha Mukhopadhyay, Budhaditya Mukherjee, Souvik Sengupta, Sharmila Chattopadhyay, Parasuraman Jaisankar, Syamal Roy, Hemanta K. Majumder, “The lignan niranthin poisons Leishmania donovani topoisomerase IB and favors a Th1 immune response in mice” , EMBO Molecular Medicine, 4(10), 1126–1143, 2012.
66. Sayan Chowdhury, Tulika Mukherjee, Souvik Sengupta, Somenath Roy Chowdhury, Sibabrata Mukhopadhyay, Hemanta K. Majumder , “Novel Betulin Derivatives as Antileishmanial Agents with Mode of Action Targeting Type IB DNA Topoisomerase”,Molecular Pharmacology ,80, 694–703, 2011
67. Srabanti Rakshit , Labanya Mandal , Bikas Chandra Pal , Jayashree Bagchi, Nabendu Biswas , Jaydeep Chaudhuri , Avik Acharya Chowdhury , Anirban Manna , Utpal Chaudhuri , Aditya Konar , Tulika Mukherjee , Parasuraman Jaisankar , Santu Bandyopadhyay, “Involvementof ROS in chlorogenicacid-induced apoptosis of Bcr-Abl+ CML cells”, Biochemical Pharmacology,80(11),1662-1675, 2010.
68. G A Soares, B. Bhattacharya, Tulika Chakrabarti , P. Tagde, , S. Cavalu, “Exploring Pharmacological Mechanisms of Essential Oils on the Central Nervous System. Plants 2022, 11, 21.
69. Ashish Kumar, Nilanjana Banerjee, Venugopal Singamaneni, Sudheer K Dokuparthi, Tulika Chakrabarti , Sibabrata Mukhopadhyay, “Phytochemical investigations and evaluation of antimutagenic activity of the alcoholic extract of Glycosmis pentaphylla and Tabernaemontana coronaria by Ames test”, Natural Product Research, 31,1-6.2017.
70. Venugopal Singamaneni, Sudheer Kumar Dokuparthi, Nilanjana Banerjee, Ashish Kumar, Tulika Chakrabarti , “Phytochemical Investigation and Antimutagenic Potential of Ethanolic Extracts of Emblica officinalis, Terminalia chebula and Terminalia bellirica”, The Natural Products Journal , 10(4),pp.488-494,2020.
71. Monika Rathore, Deepak Vyas, Tulika Chakrabarti, Archana Gajbhaye, Mahendra Singh Rathore, “Chemical and statistical study of chlorinated pesticides and biofertilizer on growth parameters of cotton cultivation from different villages of Nagaur district in Rajsthan (India)”, Journal of Jilin University (Engineering and Technology Edition) ,41(10) : 243-263, 2022.
72. Kumbha Ram Mahala, Deepak Vyas, Tulika Chakrabarti, Archana Gajbhiye, “Assessment of Pesticides use and Heavy Metals Analysis of Surface and Ground Water Sources by Atomic Absorption Spectroscopy at Nagaur Region, Rajasthan (India)”, International Journal of Mechanical Engineering, 7(1) : 7079-7089,2022.
73. Ananda Shankar Hati, and T. K. Chatterjee, "Symmetrical component filter based online condition monitoring instrumentation system for mine winder motor" Measurement (Elsevier), vol. 82, pp. 284-300, 2016 https://doi.org/10.1016/j.measurement.2016.01.005.

74. Prashant Kumar and Ananda Shankar Hati "Review on Machine Learning Algorithm Based Fault Detection in Induction Motors," Archives of Computational Methods in Engineering, vol: 28, pp: 1929-1940, 2021.

75. Kumar Prashant and Hati, Ananda Shankar "Convolutional Neural Network with batch normalization for fault detection in SCIM," IET Electric Power Application, vol: 15, issue: 1, pp. 39-50, 2021.

76. Kumar Prashant and Hati, Ananda Shankar "Deep Convolutional Neural Network based on adaptive gradient optimizer for fault detection in SCIM," ISA Transactions, vol: 111, pp: 350-359, 2021.

77. Prince, Hati Ananda Shankar, Chakrabarti Prasun, Abawajy Jemal Hussein and Ng Wee Keong "Development of Energy Efficient Drive for Ventilation System using Recurrent Neural Network," Neural Computing and Applications, Vol. 33, no. 14, pp. 8659-8668, 2021.

78. Sinha Ashish Kumar, Hati Ananda Shankar, Benbouzid Mohamed and Chakrabarti Prasun "ANN-based Pattern Recognition for Induction Motor Broken Rotor Bar Monitoring under Supply Frequency Regulation" Machines (2021), vol: 9(5)

79. Prince and Hati Ananda Shankar "A Comprehensive Review of Energy-Efficiency of Ventilation System using Artificial Intelligence" Renewable and Sustainable Energy Reviews (2021), vol: 146, 2021 https://doi.org/10.1016/j.rser.2021-.111153.

80. Kumar Prashant and Hati, Ananda Shankar "Transfer Learning Based Deep CNN Model for Multiple Faults Detection in SCIM" Neural Computing and Applications (2021) https://doi.org/10.1007/s00521-021-06205-1.

81. Prince and Hati Ananda Shankar "Temperature and Humidity Dependent MRAS Based Speed Estimation Technique for Induction Motor used in Mine Ventilation Drive" Journal of Mining Science, 2021, Vol. 57, No. 5, pp. 842–851.

82. Kumar Prashant and Hati, Ananda Shankar "Dilated Convolutional Neural Network Based Model For Bearing Faults and Broken Rotor Bar Detection in Squirrel Cage Induction Motors" Expert Systems With Applications (2022).

83. Prince and Hati Ananda Shankar "Convolutional Neural Network-Long Short Term Memory Optimization for Accurate Prediction of Airflow in a Ventilation System" Expert Systems with Applications (2022).

84. Vatsa Aniket and Hati Ananda Shankar "Depolarization Current Prediction of Transformers OPI System Affected From Detrapped Charge Using LSTM," in IEEE Transactions on Instrumentation and Measurement, vol. 71, pp. 1-11, 2022, Art no. 2511711.

85. Gorai Rahul, Hati Ananda Shankar, and Maity Tanmoy, "A new cascaded multilevel converter topology with a reduced number of components" 3rd IEEE 2017 Conference on International conference on Power, Control, Signals and Instrumentation Engineering (ICPCSI-2017), 21-22 September 2017 | IEEE, Chennai, India., pp. 539-543.

86. Kumar Prashant, Hati, Ananda Shankar, Sanjeevikumar Padmanaban, Leonowicz Zbigniew and Prasun Chakrabarti "Amalgamation of Transfer Learning and Deep Convolutional Neural Network for Multiple Fault Detection in SCIM" 2020 IEEE International Conference on Environment and Electrical Engineering and 2020 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe), 9th-12th June 2020, Madrid, Spain.

87. Sinha Ashish Kumar, Kumar Prashant, Prince and Hati, Ananda Shankar, "ANN Based Fault Detection Scheme for Bearing Condition Monitoring in SRIMs using FFT, DWT and Band-pass Filters" 2020 International Conference on Power, Instrumentation, Control, and Computing (PICC) 2020 IEEE.

88. Prince Kumar and Hati, Ananda Shankar, "Sensor-less Speed Control of Ventilation System Using Extended Kalman Filter For High Performance," 2021 IEEE 8th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON), 2021, pp. 1-6.

89. Ali-Mohammad Kamali , Milad Kazemiha, Behnam Keshtkarhesamabadi, Mohsan Daneshvari, Asadollah Zarifkar, Prasun Chakrabarti, Babak Kateb, Mohammad Nami “Simultaneous Transcranial and Transcutaneous Spinal Direct Current Stimulation to Enhance Athletic Performance Outcome in Experienced Boxers”, Scientific Reports , 11 : 19722, 2021.

90. Xin Wang, Yuhao Zhou, Tingwen Huang, Prasun Chakrabarti , "Event-triggered Adaptive Fault-tolerant Control for a Class of Nonlinear Multiagent Systems with Sensor and Actuator Faults" , IEEE Transactions on Circuits and Systems I: Regular Papers, 2022.

91. Tuan Pham Van, Dung Vo Tien, Zbigniew Leonowicz , Michal Jasiński , Tomasz Sikorski , Prasun Chakrabarti “Online Rotor And Stator Resistance Estimation Based On Artificial Neural Network Applied In Sensorless Induction Motor Drive”, Energies , 13 : 4946 , 2020.

92. Imayanmosha Wahlang, Arnab Kumar Maji, Goutam Saha, Prasun Chakrabarti, Michał Jasiński , Zbigniew Leonowicz, Elzbieta Jasinska , “Deep Learning methods for classification of certain abnormalities in Echocardiography”, Electronics , 10 : 495., 2021.

93. Rajkumar Soni , Prasun Chakrabarti , Zbigniew Leonowicz , Michal Jasinski , Krzysztof Wieczorek , Vadim Bolshev, “Estimation of Life Cycle of Distribution Transformer in Context to Furan Content Formation , Pollution Index and Dielectric Strength”, IEEE Access, 9 : 37456, 2021.

94. Yogendra Singh Solanki, Prasun Chakrabarti, Michal Jasinski , Zbigniew Leonowicz, Vadim Bolshev , Alexander Vinogradov, Elzbieta Jasinska, Radomir Gono, Mohammad Nami , “A Hybrid Supervised Machine Learning Classifier System for Breast Cancer Prognosis Using Feature Selection and Data Imbalance Handling Approaches”, Electronics ,10(6) : 699, 2021.

95. Siddhartha Bhattacharyya, Tulika Dutta, Sandip Dey, Somnath Mukhopadhayay, Prasun Chakrabarti , “Hyperspectral Multi-level Image Thresholding using Qutrit Genetic Algorithm Expert Systems With Applications”, Expert Systems with Applications, 181 : 115107, 2021.

96. Sergey Senkevich, Vadim Bolshev, Ekaterina Ilchenko, Prasun Chakrabarti, Michał Jasiński, Zbigniew Leonowicz , Mikhail Chaplygin, "Elastic Damping Mechanism Optimization by Indefinite Lagrange Multipliers", IEEE Access,9 :71784,2021.

97. Tapan Behl, Anuja Singh ,Aayush Sehgal ,Sukhbir Singh , Neelam Sharma, Tanveer Naved, Saurabh Bhatia, Ahmed Al-Harrasi, Prasun Chakrabarti, Lotfi Aleya,Simona Bungau “Mechanistic Insights into the Role of B Cells in Rheumatoid Arthritis”, International Immunopharmacology, 99 : 108078 , 2021.

98. Zuhaib Ashfaq Khan, Hafiz Husnain Raza Sherazi , Mubashir Ali, Muhammad Ali Imran, Ikram Ur Rehman, Prasun Chakrabarti , “Designing Wind Energy Harvester for Connected Vehicles in Green Cities”, Energies , 14(17) :5408, 2021.

99. M. Farman, A. Akgül, M.T. Tekin, M. M. Akram, A. Aqeel , E. E. Mahmoud, I. S. Yahia, “Fractal fractional-order derivative for HIV/AIDS model with Mittag-Leffler kernel”, Alex. Eng. J, vol. 61, no. 12,pp. 10965-10980, April 2022.

100. K.S. Nisar, A. Aqeel, M. Inc, M. Farman, H. Rezazadeh, L. Akinyemi, M.M. Mannan, “Analysis of dengue transmission using fractional order scheme”, Aims Math, vol. 7 no. 5, pp. 8408–8429, May 2022.

101. M.M. Akram, M. Farman, A. Akgül, M. U. Saleem, A. Ahmad, M. Partohaghigh, F. Jarad, “Analysis of HIV/AIDS model with Mittag-Leffler kernel”, Aims Math, vol. 7 no. 7, pp. 13383-13401, July 2022.

102. I. Khalifa, H. Abd Al-glil, and M. M. Abbassy, “Mobile hospitalization,” International Journal of Computer Applications, vol. 80, no. 13, pp. 18–23, 2013.

103. I. Khalifa, H. Abd Al-glil, and M. M. Abbassy, “Mobile hospitalization for Kidney Transplantation,” International Journal of Computer Applications, vol. 92, no. 6, pp. 25–29, 2014.

104. M. M. Abbassy and A. Abo-Alnadr, “Rule-based emotion AI in Arabic Customer Review,” International Journal of Advanced Computer Science and Applications, vol. 10, no. 9, 2019.

105. M. M. Abbassy and W. M. Ead, “Intelligent Greenhouse Management System,” 2020 6th International Conference on Advanced Computing and Communication Systems (ICACCS), 2020.

106. M. M. Abbassy, “Opinion mining for Arabic customer feedback using machine learning,” Journal of Advanced Research in Dynamical and Control Systems, vol. 12, no. SP3, pp. 209–217, 2020.

107. M. M. Abbassy, “The human brain signal detection of Health Information System IN EDSAC: A novel cipher text attribute based encryption with EDSAC distributed storage access control,” Journal of Advanced Research in Dynamical and Control Systems, vol. 12, no. SP7, pp. 858–868, 2020.

108. M. M. and S. Mesbah, “Effective e-government and citizens adoption in Egypt,” International Journal of Computer Applications, vol. 133, no. 7, pp. 7–13, 2016.

109. M.M.Abbassy, A.A. Mohamed “Mobile Expert System to Detect Liver Disease Kind”, International Journal of Computer Applications, vol. 14, no. 5, pp. 320–324, 2016.

110. R. A. Sadek, D. M. Abd-alazeem, and M. M. Abbassy, “A new energy-efficient multi-hop routing protocol for heterogeneous wireless sensor networks,” International Journal of Advanced Computer Science and Applications, vol. 12, no. 11, 2021.

111. S. Derindere Köseoğlu, W. M. Ead, and M. M. Abbassy, “Basics of Financial Data Analytics,” Financial Data Analytics, pp. 23–57, 2022.

112. W. Ead and M. Abbassy, “Intelligent Systems of Machine Learning Approaches for developing E-services portals,” EAI Endorsed Transactions on Energy Web, p. 167292, 2018.

113. W. M. Ead and M. M. Abbassy, “A general cyber hygiene approach for financial analytical environment,” Financial Data Analytics, pp. 369–384, 2022.

114. W. M. Ead and M. M. Abbassy, “IOT based on plant diseases detection and classification,” 2021 7th International Conference on Advanced Computing and Communication Systems (ICACCS), 2021.

115. W. M. Ead, M. M. Abbassy, and E. El-Abd, “A general framework information loss of utility-based anonymization in Data Publishing,” Turkish Journal of Computer and Mathematics Education, vol. 12, no. 5, pp. 1450–1456, 2021.

116. Shaikh Abdul Hannan, “An Overview of Big Data and Hadoop”, International Journal of Computer Application”, Volume 154, Number 10,, November 2016, New York, USA.

117. Shaikh Abdul Hannan, An Examination of the Blockchain Technology: Challenges and Future Opportunities, International Journal of Engineering and Computer Science, Volume11 Issue 09 November2022, Page No.25612-25619.

118. Shaikh Abdul Hannan, “Application and Scope of Blockchain in Technical Research and Higher Education” Vol 20, Issue 15, page 6185-6191, NeuroQuantology, Nov 2022.

119. Shaikh Abdul Hannan, Manjusha Hivre, Lata, M., Krishna, B. H., Sathyasiva, S., & Arshad, M. W. “Brain damage detection using Machine learning approach”, International Journal of Health Sciences, Special Issue 7, 27 Sept. 2022, PP 4910-4924.

120. Dubey, A., Mujoo, Shaikh Abdul Hannan., Satpathy, G., Arshad, M. W., & Manikandan, E., “Cancer detection using RNA sequencing and deep learning”, International Journal of Health Sciences, Special Issue 7, 27 Sept. 2022, PP 4925-4939.

121. Arun Prasad, Shaikh Abdul Hannan, Kavita Panjwani, Muthe Ramu, Kawaender Singh Sidhu, Nagabhusanam Tida, “Detailed Investigation of the role of Artificial Intelligence in stock market predictions, British Journal of Administrative Management, Vol 58, Issue 06, 6th Sept 2022, UK.

122. Swati Saxena, Shaikh Abdul Hannan, “Women Warrior – Android Mobile Application for Women Security” International Journal of Computer Science and Information Technologies, Volume 13, Issue 3, PP 76-84, India, June 2022.

123. Anupriya Kambe, Shaikh Abdul Hannan, Ramesh Manza and Mohammad Eid Alzahrani, “Prediction of Prediabetes, No Diabetes and Diabetes Mellitus -2 usnig Simple Decision Tree Classification” Springer, Rising Threats in Expert Applications and Solutions. 2021 at IIS University, 2021.

124. Swati Saxena, Shaikh Abdul Hannan, “A Quaitative Review on Intervention of Robotics in Medical Science”, International Journal of Computer Applications, Vol. 179, Number 46, 2021, USA.

125. Anupriya Kamble, Sonali Gaikwad Shaikh Abdul Hannan, Mohammed Alwazzab Alzaharani, Ramesh Manza, “Prediction of the State of Diabetes Disorder using Simple Decision Tree Classification Technique”, Pensee Journal, Vol 51, issue 04, 2021.

126. Yogesh Rajput, Shaikh Abdul Hannan, “Design New Wavelet Filter for Detection and Grading of Non-proliferative Diabetic Retinopathy Lesions”, International Conference on Recent Trends in Image Processing and Pattern Recognition, Jan 2020, Springer, Singpore.

127. Sagar Vakhare, Ramesh Manza, Abdul Hannan Shaikh and Anubha Jain, “Time Series Analysis and Forecasting of Temperatures Records in Aurangabad District of Maharashtra”, Springer FICR International Conference on Rising Threats in Expert Applications and Solutions. 2020 at IIS University, 17-19 Jan, 2020 Jaipur.

128. Y. M. Rajput, A. H. Hannan, M. E. Alzahrani, R. R. Manza, D. D. Patil, “EEG-Based Emotion Recognition Using Different Neural Network and Pattern Recognition Techniques–A Review”, International Journal of Computer Sciences and Engineering, Vol 6, Issue 9, Sep 2018.

129. Mohammad Eid Alzaharani, Shaikh Abdul Hannan, “Diagnosis and Medical Prescription of Heart Disease Using FFBP, SVM and RBF”, Issue,1, Vol 5, , KKU Journal of Basic and Applied Sciences, Mar 2019 , Page 6-15.

130. Santosh Maher, Shaikh Abdul Hannan, Sumegh Tharewal, K. V. Kale" HRV based Human Heart Disease Prediction and Classification using Machine Learning " December 2019, (Vol. 17 No. 2 International Journal of Computer Science and Information SecApplicatiion, New York, USA.

131. Akram Ablsubari, Shaikh Abdul Hannan, Mohammed Eid Alzaharani, Rakesh Ramteke, "Composite Feature Extraction and Classification for Fusion of Palmprint and Iris Biometric Traits", Engineering Technology and Applied Science Research, Volume 9, No 1, Feb 2019, Greece.

132. Santosh K. Maher, Sumegh Tharewal, Abdul Hannan, “Review on HRV based Prediction and Detection of Heart Disease”, International Journal of Computer Applications (0975 – 8887), Pag 7-12, Volume 179 – No.46, June 2018.

133. Yogesh Rajput, Shaikh Abdul Hannan, Mohammed Eid Alzaharani, D. Patil Ramesh Manza, Design and Development of New Algorithm for person identification Based on Iris statistical features and Retinal blood Vessels Bifurcation points” ” International Conference on Recent Trends in Image Processing & Pattern Recognition (RTIP2R), December 21-22, 2018, India.

134. Santosh K. Maher, Sumegh Tharewal, Abdul Hannan, K. V. Kale “Review on HRV based Prediction and Detection of Heart Disease” International Journal of Computer Application, Vol. 179, Number 46, June 2018, ISSN 0975-8887, USA.

135. Yogesh, Abdul Hannan, Rahul Sagar, Kishor Jave, Identification and Counting Trees from Oil Palm Plantations Using Digital Image Processing Techniques, International Journal of Engineering Research & Technology, Vol. 6 Issue 05, May – 2017, ISSN: 2278-0181.

136. Mahammed Waseem, Naushad Ahmed Osmani, Shaikh Abdul Hannan, "A Survey on E-education of information and Communication 'Technology", European Journal of Computer Science and Information Technology, Vol. 4, Issue 6, October 2016.

137. Mir Arif Ali, Shaikh Abdul Hannan, "A Review on Modern and Classical Encryption Techniques", International Journal of Engineering Trends and Technology, Volume 12, Number 4, June 2014, India.

138. Shaikh Abdul Hannan, "Heart Disease Diagnosis by using FFBP and GRNN algorithm of Neural Network", International Journal of Computer Science and Information Security, Vol 12, Number 6, June 2014, ISSN 1945-5500, United States of America.

139. Shaikh Abdul Hannan, Bharatratna P. Gaikwad, Ramesh Manza, "Brain Tumor from MRI Images: A Review". International Journal of Scientific and Engineering Research, Volume 5, Issue 4, April-2014, France.

140. Satish Misal, Shaikh Abdul Hannan, Santosh Lomte "Comparative study of image processing Techniques on Geometrical shapes", International Journal of Emerging Technology & Advanced Engg., An ISO 9001:2008 Certified International Journal, Vol 2, Issue 9, New Delhi.

141. Aqueel Ahmed, Shaikh Abdul Hannan, "Data Mining Techniques to Find Out Heart Diseases: An Overview", International Journal of Innovative Technology and Exploring Engineering, An ISO 9001:2008 Certified International Journal, Volume-1, Issue-4, September 2012, New Delhi, India.

142. A, V. V. ., T, S. ., S, S. N. ., & Rajest, D. S. S. . (2022). IoT-Based Automated Oxygen Pumping System for Acute Asthma Patients. European Journal of Life Safety and Stability (2660-9630), 19 (7), 8-34.

143. Regin, D. R., Rajest, D. S. S., T, S., G, J. A. C., & R, S. (2022). An Automated Conversation System Using Natural Language Processing (NLP) Chatbot in Python. Central Asian Journal Of Medical And Natural Sciences, 3(4), 314-336.

144. Rajest, S. S. ., Regin, R. ., T, S. ., G, J. A. C. ., & R, S. . (2022). Production of Blockchains as Well as their Implementation. Vital Annex : International Journal of Novel Research in Advanced Sciences, 1(2), 21–44.

145. T, S., Rajest, S. S., Regin, R., Christabel G, J. A., & R, S. (2022). Automation And Control Of Industrial Operations Using Android Mobile Devices Based On The Internet Of Things. Central Asian Journal of Mathematical Theory and Computer Sciences, 3(9), 1-33.

146. Jerusha Angelene Christabel G, Shynu T, S. Suman Rajest, R. Regin, & Steffi. R. (2022). The use of Internet of Things (Iot) Technology in the Context of "Smart Gardens" is Becoming Increasingly Popular. International Journal of Biological Engineering and Agriculture, 1(2), 1–13.

147. R. Steffi, G. Jerusha Angelene Christabel, T. Shynu, S. Suman Rajest, R. Regin (2022), " A Method for the Administration of the Work Performed by Employees", Journal of Advanced Research in Dynamical and Control Systems, Vol.14, no.1, pp. 7-23.

148. R. Regin, Steffi. R, Jerusha Angelene Christabel G, Shynu T, S. Suman Rajest (2022), "Internet of Things (IoT) System Using Interrelated Computing Devices in Billing System", Journal of Advanced Research in Dynamical and Control Systems, Vol.14, no.1, pp. 24-40.

149. S. S. Rajest, R. Regin, S. T, J. A. C. G, and S. R, "Improving Infrastructure and Transportation Systems Using Internet of Things Based Smart City", CAJOTAS, vol. 3, no. 9, pp. 125-141, Sep. 2022.

150. Regin, R., Rajest , S. S., T , S., G, J. A. C., & R , S. (2022). An Organization's Strategy that is Backed by the Values and Visions of its Employees' Families. Central Asian Journal of Innovations on Tourism Management and Finance, 3(9), 81-96.

151. Regin, R., Rajest, S. S., T, S., Christabel G, J. A. and R, S. (2022) "The Influence that the Advertising of Pharmaceuticals has on the Economy", Central Asian Journal Of Social Sciences And History, 3(10), pp. 1-18.

152. Regin, R., Rajest, S. S., T, S., G, J. A. C., & R, S. (2022). Pharmaceutical Supply Chain Challenges and Inventory Management. Central Asian Journal of Innovations on Tourism Management and Finance, 3(10), 143-159.

153. R, S., Regin, R., Rajest, S. S., T, S. and G, J. A. C. (2022) "Rail Project's Needed Project Management Approaches, Strategies, Methodologies, and Processes", International Journal on Economics, Finance and Sustainable Development, 4(10), pp. 109-126.

154. Regin, R., Rajest, S. S., T, S., & R, S. (2022). Impact of Internet Banking on the Efficiency of Traditional Banks. Central Asian Journal of Innovations on Tourism Management and Finance, 3(11), 85-102.

155. Rajest, S. S., Regin, R., T, S. and R , S. (2022) "The Effect of Corporate Social Responsibility on Organizational Effectiveness", Central Asian Journal of Innovations on Tourism Management and Finance, 3(11), pp. 125-144.

156. R, S., Rajest, S. S., Regin, R., & T, S. (2022). The Obstacles Facing Businesses that are Run by their Families as their Primary Owners. Central Asian Journal of Innovations on Tourism Management and Finance, 3(11), 145-163.

157. Priscila, S. S., Rajest, S. S., T, S. and G, G. (2022) "An Improvised Virtual Queue Algorithm to Manipulate the Congestion in High-Speed Network", Central Asian Journal of Medical and Natural Science, 3(6), pp. 343-360.

158. Shaikh Abdul Hannan, Jameel Ahmed, Naveed Ahmed, Rizwan Alam Thakur, "Data Mining and Natural Language Processing Methods for Extracting Opinions from Customer Reviews", International Journal of Computational Intelligence and Information Security, pp 52-58, Vol. 3, No. 6, July 2012.

159. M. J. Baheti, A. V. Mane, Shaikh Abdul Hannan, K. V. Kale, "Comparison of PCA and SVM for a west Indian Script- Gujarati", CiiT Journal of Digital Image Processing, Vol. 3. No. 11, pp. 709-715, July 2011.

160. Shaikh Abdul Hannan, V. D. Bhagile, R. R. Manza, R. J. Ramteke, "Development of an Expert System for Diagnosis and appropriate Medical Prescription of Heart Disease Using Support Vector Machine and Radial Basis Function", International Journal of Computer Science and Information Security, August issue (Vol. 8 No. 5), 2010, Pages/record No.: 245-254.

161. Shaikh Abdul Hannan, R. R. Manza and R.J. Ramteke, "Association Rules for Filtering the Medicine to Avoid Side Effects Of Heart Patients", on 16 -19 Dec 2009, at Advances in Computer Vision and Information Technology – 09, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

162. Shaikh Abdul Hannan, A.V. Mane, R. R. Manza and R. J. Ramteke, "Prediction of Heart Disease Medical Prescription Using Radial Basis Function", IEEE International Conference on Computational Intelligence and Computing Research at Tamilnadu College of Engineering, Coimbatore, Tamilnadu, India, ICCIC-2010, December 28-29, 2010.

163. Shaikh Abdul Hannan and Mir Arif Ali Mir Asif, "Analysis of Polyalphabetic Transposition Cipher Techniques used for Encryption and Decryption", International Journal of Computer Science and Software Engineering, Volume 6, Issue 2, February 2017, PP 41-46.

164. O. Fabela, S. Patil, S. Chintamani and B. H. Dennis, "Estimation of effective thermal conductivity of porous Media utilizing inverse heat transfer analysis on cylindrical configuration," in ASME 2017 International Mechanical Engineering Congress and Exposition, 2017.

165. S. Patil, S. Chintamani, B. Dennis and R. Kumar, "Real time prediction of internal temperature of heat generating bodies using neural network," Thermal Science and Engineering Progress, vol. 23, 2021.
166. S. Patil, S. Chintamani, J. Grisham, R. Kumar and B. H. Dennis, "Inverse Determination of Temperature Distribution in Partially Cooled Heat Generating Cylinder," in ASME 2015 International Mechanical Engineering Congress and Exposition , 2015.
167. G. Nagamalleswari, P. Prachet, A.E. Prabahar, P.V. Suresh, N. Rama Rao; Enantio Separation By Hplc – A Review; IAJPR. 2015; 5(3): 1078-1083. N. Jaya Raju, Ch.Avinash, P.V. Suresh; Evaluation Of In Vitro Anthelmintic Activity Of Seed Extracts Of Thymus Serpyllum; IAJPR. 2015; 5(3): 1230-1233.
168. Gollapalli Nagararaju, Karumudi Bhavya Sai, Kota Chandana, Madhu Gudipati, P.V.Suresh, Nadendla Ramarao; synthesis, evaluation of antioxidant and antimicrobial study of 2-substituted benzothiazole derivatives; Indo American Journal of Pharmaceutical Research; 2015, 50 (03), pg. 1288.
169. M.P.Harshitha, P. Venkata Suresh, “Simultaneous determination of residual NSAIDS and antibiotics in raw milk by RP-HPLC”, International Journal of Pharmaceutical Sciences and Research, 2014, Vol:5.
170. J. Ashok Kumar, P. Venkata Suresh, J. Priyanka, R. Anusha, N. Geetha Anupama, A. E.Prabahar, Rama Rao. N, “A Rapid and Novel Green Analytical Chemistry method for estimation of minocycline hydrochloride in pharmaceutical formulations by Fourier Transform Mid Infrared (FT-MIR) spectroscopy” International Journal of Pharmaceutical Analysis, 2014, 39 (1), 1205 – 1209.
171. K. Swathi, P. Venkata Suresh, A.Elphine Prabahar, “Colorimetric estimation of Ezetimibe in bulk and pharmaceutical dosage form by MBTH”, Pharm analysis & quality assurance, 2014, 1-3.
172. P. Venkata Suresh, Rama Rao Nadendla and B. R. Challa; “Bio- analytical method development and validation of Valsartan by precipitation method with HPLC-MS/MS: Application to a pharmacokinetic study, Journal of Chemical and Pharmaceutical Research, 2013, 5(7):7-20.
173. P. Venkata Suresh, Rama Rao Nadendla and B. R. Challa; “Quantification of Desloratadine in Human Plasma by LC-ESI-MS/MS and Application to a Pharmacokinetic Study”; Elsevier Limited; Journal of Pharmaceutical Analysis, issue 2 (2012), 180-187.
174. P. Venkata Suresh, Rama Rao Nadendla and B. R. Challa; “Quantification of sibutramine and its two metabolites in human plasma by LC–ESI-MS/MS and its application in a bioequivalence study”; Elsevier Limited; Journal of Pharmaceutical Analysis, Vol.2, issue 4, (2012),pp. 249-257.
175. P. Venkata Suresh, Rama Rao Nadendla and B. R. Challa; “Quantitative analysis of eletriptan in human plasma by HPLC-MS/MS and its application to pharmacokinetic study”, Springer, Anal Bioanal Chem.2011 Nov; 401(8):2539-48. Epub.2011 Sep 3.
176. P. Venkata Suresh, Rama Rao.Nadendla “HPTLC Method for the Simultaneous Estimation of Etophylline and Theophylline in Tablet Dosage Forms”; Asian journal of chemistry, 2011, 23, 1,309-311.
177. V. Venkatesh, N. Vijaya Lakshmi, P. Venkata Suresh, P, Mohana rao, K. Siva, G. Dhana Raju and N. Rama Rao, “Determination and validation of Modafinil in Pharmaceutical Formulation by Spectrophotometric and RP- HPLC Methods” Journal of Pharmacy research, 2011; 4(2):509-511.
178. Nagamalleswari, G., D.Phanendra, Prabahar, A.E., P. Venkata Suresh, Ramarao, N., “Development and validation of chromatographic method for simultaneous estimation of levocetricine and phenylepherine in pharmaceutical dosage forms” International journal of advances in pharmaceutical research, 2013,Vol 4, issue 7, 1921-26.
179. V. Venkatesh, A. Elphine Prabahar, P. Venkata Suresh, Ch. Uma Maheswari, and N. Rama Rao “RP-HPLC Method for Simultaneous Estimation of Azithromycin and Ambroxol Hydrochloride in Tablets” Asian journal of Chemistry, 2011, 23, 1,312-314.

180. P. Venkata Suresh, Rama Rao.Nadendla, “A New RP-HPLC Method For Simultaneous Estimation Of Etophylline And Theophylline In Tablets” Research Journal of Pharmacy and Technology; Vol: 4No:1: January-February: 2011.

181. V. Venkatesh, N. Vijaya Lakshmi, P. Venkata Suresh, Mohana rao, K. Siva, G. Dhana Raju and N. Rama Rao, “Determination and validation of Modafinil in Pharmaceutical Formulation by Spectrophotometric and RP- HPLC Methods”; Journal of Pharmacy Research, 2011; 4(2):509-511.

182. Hashem Shatnawi, “Computational Fluid Flow Model for the Development of an Arterial Bypass Graft”, CFD Lett., vol. 14, no. 10, pp. 99-111, Oct. 2022. https://doi.org/10.37934/cfdl.14.10.99111

183. K. Sridhar, Ajay Reddy Yeruva, Renjith P N, Asmita Dixit, Aatif Jamshed, and Ravi Rastogi, “Enhanced Machine learning algorithms Lightweight Ensemble Classification of Normal versus Leukemic Cel”, Journal of Pharmaceutical Negative Results, Vol.13, no.SI-9, pp. 496–505, 2022.

184. Nita S. patil, Sanjay M. Patil, Chandrashekhar M. Raut, Amol P. Pande, Ajay Reddy Yeruva, and Harish Morwani, “An Efficient Approach for Object Detection using Deep Learning”, Journal of Pharmaceutical Negative Results, Vol.13, no.SI-9, pp. 563–572, 2022.

185. A. Ahmad et al., “Energy Efficient Intrusion Detection in a heterogeneous environment of Wireless sensor networks,” NeuroQuantology, vol. 20, no. 13, pp. 1493–1503, 2022.

186. B. R. Rajagopal, B. Anjanadevi, M. Tahreem, S. Kumar and M. Debnath, and K. Tongkachok, "Comparative Analysis of Blockchain Technology and Artificial Intelligence and its impact on Open Issues of Automation in Workplace," 2022 2nd International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE), 2022, pp. 288-292.

187. B.R. Rajagopal, E. Kannapiran, A.D. Gupta, M.Momin and D.S.K. Chakravarthy, "The future prospects and challenges of implementing big data in healthcare management using Structural equation model analysis," Bull. Env. Pharmacol. Life Sci., Spl Issue [1] 2022, pp. 1111-1119, 2022.

188. N.P. Krishnam, M.S. Ashraf, B.R. Rajagopal,P.Vats and D.S.K. Chakravarthy and S.M. Rafi, "Analysis Of Current Trends, Advances And Challenges Of Machine Learning (Ml) And Knowledge Extraction: From Ml To Explainable AI," Industry Qualifications The Institute of Administrative Management UK, Vol.58, pp. 54-62, May 2022.

189. A.D.Gupta, S.M. Rafi, B.R. Rajagopal, T.Milton and S.G.Hymlin, "Comparative analysis of internet of things (IoT) in supporting the health care professionals towards smart health research using correlation analysis," Bull.Env.Pharmacol. Life Sci., Spl Issue [1] 2022, pp. 701-708, 2022.

190. Roja Boina, “Assessing the Increasing Rate of Parkinson's Disease in the US and its Prevention Techniques”, International Journal of Biotechnology Research and Development, 3(1), pp. 1-18, 2022.

191. K. Suresh and E. Parimalasundar, "A Modified Multi Level Inverter with Inverted SPWM Control," in IEEE Canadian Journal of Electrical and Computer Engineering, vol. 45, no. 2, pp. 99-104, Spring 2022.

192. K. Suresh and E. Parimalasundar, “A novel dual-leg DC-DC converter for wide range DC-AC conversion,” Automatika, vol. 63, no. 3, pp.572-579, 2022.

193. Parimalasundar Ezhilvannan and Suresh Krishnan, “An efficient asymmetric direct current (DC) source configured switched capacitor multi-level inverter,” Journal Européen des Systèmes Automatisés, vol. 53, no. 6, pp.853-859, 2020.

194. E. Parimalasundar, S. Jayakumar, R. Ravikumar and K. Suresh, “Investigation analysis of open circuit and short circuit fault on cascaded H-bridged multilevel inverter using artificial neural network approach,” International Journal of Electrical and Electronics Research, vol. 10, no. 2, pp.320-326.

195. R. Senthilkumar, B. G. Geetha, "Asymmetric Key Blum-Goldwasser Cryptography for Cloud Services Communication Security," Journal of Internet Technology, vol. 21, no. 4 , pp. 929-939, Jul.2020.

196. Senthil kumar, R., Geetha, B.G. Signature Verification and Bloom Hashing Technique for Efficient Cloud Data Storage. Wireless Pers Commun 103, 3079–3097,2018.

197. R. Oak and M. Khare, "A novel architecture for continuous authentication using behavioural biometrics," in 2017 International Conference on Current Trends in Computer, Electrical, Electronics and Communication (CTCEEC), 2017, pp. 767–771.

198. R. Oak, "A literature survey on authentication using behavioural biometric techniques," in Intelligent Computing and Information and Communication, Singapore: Springer Singapore, 2018, pp. 173–181.

199. M. Khare and R. Oak, "Real-time distributed denial-of-service (DDoS) attack detection using decision trees for server performance maintenance," in Asset Analytics, Singapore: Springer Singapore, 2020, pp. 1–9.