# Article information:

On Cloud Storage Optimization of Blockchain With a Clustering-Based Genetic Algorithm | IEEE Journals & Magazine | IEEE Xplore
<https://ieeexplore.ieee.org/abstract/document/9089211>

# Article summary:

1. The storage capacity of blockchain is a bottleneck that hinders its application, especially in IoT systems where a large number of devices generate transactions at a high rate.

2. To alleviate the storage pressure on peers, an optimization scheme based on cloud storage is proposed to store parts of blocks in the cloud, which can reduce local disk space occupation and relieve storage pressure.

3. The problem is modeled as a multiobjective optimization problem by considering query probability, storage cost, and local space occupancy, and solved using a nondominated sorting genetic algorithm with clustering (NSGA-C), which outperforms NSGA-II and NSGA-III in terms of local space occupancy.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article "On Cloud Storage Optimization of Blockchain With a Clustering-Based Genetic Algorithm" discusses the storage problem in blockchain and proposes an optimization scheme based on cloud storage to alleviate the storage pressure of peers. The article provides a detailed description of the system model and symbols used, as well as related work in blockchain, cloud storage, and multiobjective optimization.

Overall, the article presents a well-researched and informative analysis of the blockchain storage problem. However, there are some potential biases and missing points of consideration that should be noted.

One potential bias is that the article focuses mainly on commercial blockchains and does not consider other types of blockchains, such as public or permissionless blockchains. This may limit the applicability of the proposed optimization scheme to certain types of blockchain applications.

Additionally, while the article discusses various approaches to improving scalability in blockchain, it does not address other challenges facing blockchain technology, such as energy consumption or regulatory issues. These factors may also impact the adoption and implementation of blockchain technology.

Furthermore, while the article proposes an optimization scheme based on cloud storage to alleviate storage pressure on peers, it does not address potential risks associated with storing sensitive data in the cloud. This may include concerns around data privacy and security breaches.

Finally, while the article presents a comparison between NSGA-C and other genetic algorithms for multiobjective optimization problems, it does not provide a comprehensive evaluation of all possible algorithms or approaches for solving this problem. This may limit the generalizability of their findings.

In conclusion, while "On Cloud Storage Optimization of Blockchain With a Clustering-Based Genetic Algorithm" provides valuable insights into addressing the storage problem in blockchain through cloud-based optimization schemes, there are potential biases and missing points of consideration that should be noted when interpreting its findings.

# Topics for further research:

* Energy consumption in blockchain technology
* Regulatory challenges facing blockchain adoption
* Privacy concerns with cloud storage of sensitive data
* Security risks associated with cloud storage of blockchain data
* Public and permissionless blockchains
* Alternative approaches to multiobjective optimization in blockchain

# Report location:

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