

Peer Review

Review of: "Improve the Performance of Search Processes in Large Linked Lists using Multi-threading and Caching Techniques"

Muhammad Tahir Shaikh¹

1. Computer Science, Iqra University, Pakistan

Major Comments on the Research Paper

Clarify the Key Contributions – Clearly specify how each contribution improves upon existing methods, preferably with percentage-based performance comparisons.

Improve the Abstract – The abstract should concisely summarize the problem, methodology, key results, and impact. Ensure that contributions are explicitly stated.

Revise the English and Grammar – Improve the overall readability by correcting grammatical errors and rephrasing unclear sentences to enhance clarity.

Ensure IEEE Reference Formatting – The reference section does not follow IEEE citation style. Revise all citations accordingly.

Dataset Details Needed – Specify whether the dataset used is public or private. If private, explain how other researchers can access or reproduce results.

Enhance Literature Review – Expand the related work section by adding a comparative analysis of state-of-the-art methods and identifying research gaps more clearly.

Improve Figure and Table Captions – Ensure that all figures and tables have descriptive captions that adequately explain their content and relevance.

Explain Data Preprocessing Steps – Provide a detailed explanation of how data was prepared, cleaned, and processed before applying the proposed model.

Validation and Testing Strategy – Clearly describe the validation methodology (e.g., cross-validation, train-test split) to ensure the robustness of results.

Hyperparameter Tuning Details – Include information on how model parameters were chosen and whether any hyperparameter optimization techniques were used.

Comparison with Baselines – Compare the proposed method with multiple baseline models and existing approaches to demonstrate its effectiveness.

Performance Metrics Explanation – Define all performance metrics used (e.g., Accuracy, Precision, Recall, F1-score, AUC) and justify their selection.

ROC and AUC Analysis – Provide Receiver Operating Characteristic (ROC) curves and Area Under the Curve (AUC) values to strengthen performance evaluation.

False Positive and False Negative Rates – Discuss false positive and false negative rates, as they are crucial in anomaly detection.

Limitations and Future Work – Explicitly mention the limitations of the study and propose directions for future research.

Security and Privacy Concerns – Address any potential security risks or privacy concerns associated with the dataset or model implementation.

Computational Complexity Analysis – Include a discussion on the computational efficiency and feasibility of deploying the model in real-time scenarios.

Reproducibility and Code Availability – Mention whether the code or implementation details will be shared to facilitate reproducibility.

Clarify Figures and Visuals – Ensure that figures are of high quality, properly labeled, and referenced in the text to enhance understanding.

Paper Structure and Flow – Improve the logical flow of sections, ensuring that ideas transition smoothly for better readability.

Declarations

Potential competing interests: No potential competing interests to declare.