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Hybrid lion-GA optimization algorithm-based task scheduling approach in cloud computing

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Abstract

This research work inquiries to design the load balancer algorithm for cloud computing by exploring the merits of heuristic techniques. Here, two major contributions are developed for load balancing techniques. The hybrid technique has given better applicability and the achieved results have given outstanding performance in terms of maximum turnaround time, and resource usage on virtual machines. As first contribution, lion optimizer is developed to balance the loads by developing the optimal parameter selection for virtual machines. Two selection probabilities like task scheduling probability and virtual machine selection probability are developed for refining the selection procedure. Fitness criteria based on the task and the virtual machine properties are used for the lion optimizer. As the second contribution, a genetic algorithm is developed by modifying the global search criteria with relevance to the lion optimizer. Experimental results have proven the efficiency of the hybrid lion-based genetic algorithm.

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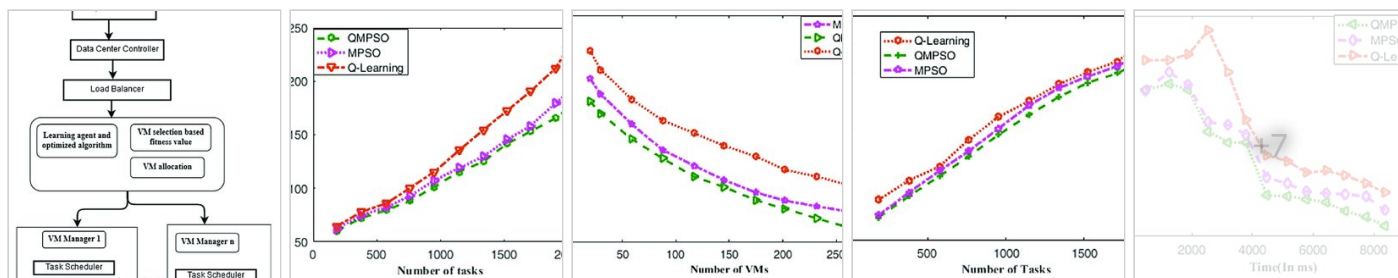
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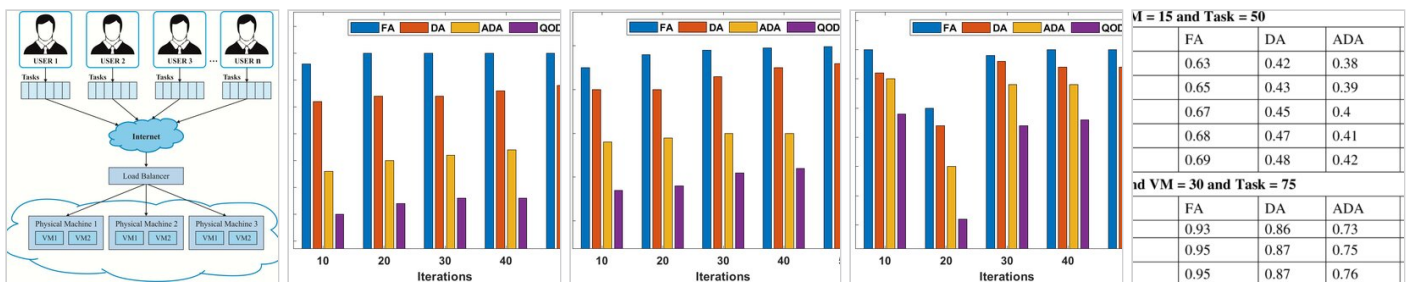
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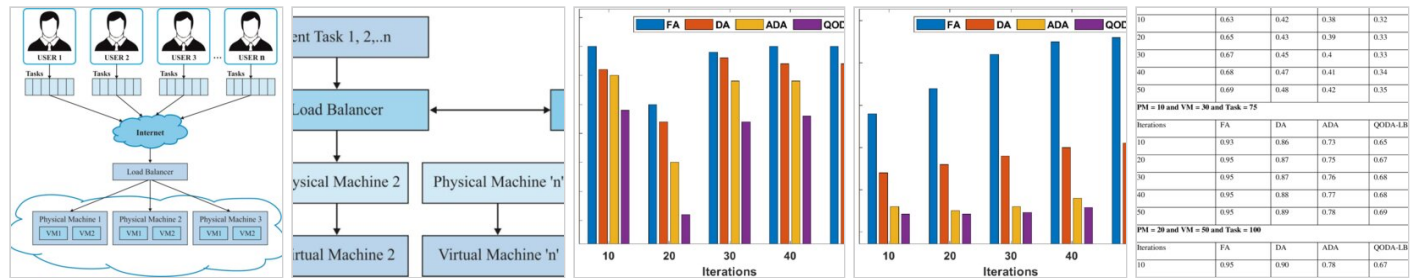
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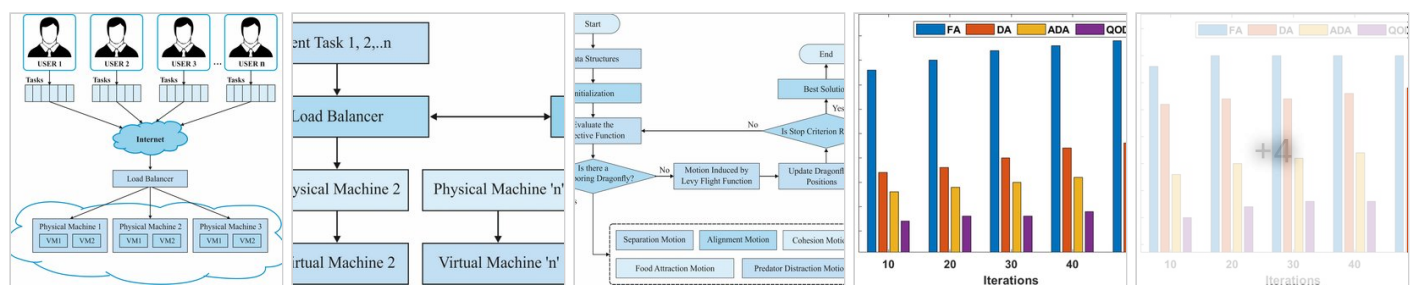
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