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Erratum: Artificial Neural Networks Based Techniques for Anomaly Detection in Apache Spark

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Table 4 in [1] shows a list of performance metrics associated to the DSM1, DSM2, DSM3, and DSM4 methods proposed in the paper. Due to a production problem, this table does not display the necessary vertical dividing lines required to distinguish the four methods. The original table intended for publication is given in this erratum.

References

1. Alnafessah, A., Casale, G.: Artificial neural networks based techniques for anomaly detection in apache spark. Cluster Computing (2019). DOI 10.1007/s10586-019-02998-y. URL `https://doi.org/10.1007/s10586-019-02998-y`

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Table 4 List of performance metrics for the DSM1, DSM2, DSM3, and DSM4 methods

Methods		Metrics
DSM2	DSM1	CPU utilization
		Percentage of time that the CPUs were idle during outstanding disk I/O request
		Percentage of time spent in involuntary wait by the virtual CPU
		Percentage of time that the CPUs were idle
		kbmemfree: free memory in KB on hostname
		kbmemused: used memory in KB on hostname
		X.memused: used memory in % on hostname
		kbbuffers: buffer memory in KB on hostname
		kbcached: cached memory in KB on hostname
		kbcommit: committed memory in KB on hostname
		X.commit: committed memory in % on hostname
		kbactive: active memory in KB on hostname
		kbinact: inactive memory in KB on hostname
		kbdirty: dirty memory in KB on hostname
DSM4	DSM3	Task spill: Disk Bytes Spilled
		Executor Deserialize Time
		Executor Run Time
		Bytes Read: Total input size
		Bytes Written: total output size
		Garbage Collection: JVM GC Time
		Memory Bytes Spilled: Number of bytes spilled to disk
		Task Result Size
		Task Shuffle Read Metrics: Fetch Wait Time, Local Blocks Fetched, Local Bytes Read, Remote Blocks Fetched, and Remote Bytes Read
		Task Shuffle write Metrics: Shuffle Bytes Written and Shuffle Write Time
		Stage ID
		Task info: Launch Time, Finish Time, Executor CPU Time, Executor Deserialize CPU Time, Input Records Read, Output Records Written, Result Serialization Time, Total Records Read for Shuffle, and Total Shuffle Records Written