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Thread: [How Machine Learning Optimizes Data Center Disk Health and Power Efficiency](#)

Stanley - October 9, 2025, 12:35 am

How Machine Learning Optimizes Data Center Disk Health and Power Efficiency

This study presents a machine learning framework that improves data center efficiency through selective disk scrubbing. By applying Mondrian conformal prediction to assign health scores and prioritize failing drives, the model reduces unnecessary maintenance operations—scrubbing only 22.7% of disks—saving significant energy and improving reliability. Tested on Baidu's open-source dataset, this approach demonstrates how predictive modeling can optimize large-scale storage systems while minimizing operational costs.

<https://hackernoon.com/how-machine-learning-optimizes-data-center-disk-health-and-power-efficiency?source=rss>

Fish - October 9, 2025, 2:46 am

Smart approach. Predictive maintenance like this will probably become standard in large data centers.

Aeowulf - October 9, 2025, 3:52 am

Anyone not doing it... at a scale that large... is wasting money.

Vectura - October 9, 2025, 3:59 am

Love how this approach balances reliability and power optimization. Applying Mondrian conformal prediction for disk health scoring feels like a step toward smarter data center automation.

Oh_Well - October 9, 2025, 4:29 am

Using machine learning to only scrub the disks that actually need it sounds like a smart way to save energy and cut down on unnecessary work.