HPC Analytics for Extreme Scale Computing

While detailed measurements about system components and applications could be collected via various monitoring tools, gaining knowledge from these data on a petascale and beyond system is a daunting problem. The goal of this project is twofold: (1) to provide multilevel analysis of fault models, workload characteristics, and performance-reliability-power tradeoffs from various system data by exploring advanced data mining and statistical learning technologies, and (2) to develop runtime strategies to improve power-performance efficiency of scientific applications on Argonne's leadership systems.

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Publications:
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