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Title: How to Harness the Power of High-Performance Computing for Machine Learning and Artificial Intelligence

Abstract:

Machine learning and artificial intelligence are rapidly evolving fields that require high performance computing (HPC) to tackle complex and large-scale problems. We will explore the challenges and opportunities of applying ML/AI to HPC, covering topics such as parallel/distributed architectures, enabling technologies, performance issues, tools and environments, and numerical methods. We will also showcase some of the latest developments and applications of ML/AI for HPC in various domains, such as computer vision, natural language processing and bioinformatics. We explore how these workloads are impacting the design of the system and how optimization on the hardware architecture such as GPU Direct are impacting application efficiency and performance.