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Collana	Lecture Notes in Computer Science, , 1611-3349 ; ; 13289
Disciplina	004.11 004.35
Soggetti	Computer engineering Computer networks Software engineering Computer systems Logic design Computer Engineering and Networks Software Engineering Computer Communication Networks Computer System Implementation Logic Design
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Architecture, Networks, and Storage. Accelerating MPI All-to-All Communication with Online Compression on Modern GPU Clusters -- NVIDIA's Quantum InfiniBand Network Congestion Control Technology and Its Impact on Application Performance -- LLM: Realizing Low-Latency Memory by Exploiting Embedded Silicon Photonics for Irregular Workloads -- SU3_Bench on a Programmable Integrated Unified Memory Architecture (PIUMA) and How that Differs from Standard NUMA CPUs -- Machine Learning, AI, and Emerging Technologies -- "Hey CAI" - Conversational AI Enabled User Interface for HPC Tools -- Hy-Fi: Hybrid Five-Dimensional Parallel DNN Training on High-

Performance GPU Clusters -- HPC Algorithms and Applications --  
Efficient Application of Hanging-Node Constraints for Matrix-Free  
High-Order FEM Computations on CPU and GPU -- Dynamic Task  
Fusion for a Block-Structured Finite Volume Solver over a Dynamically  
Adaptive Mesh with Local Time Stepping -- Accelerating Simulated  
Quantum Annealing with GPU and Tensor Cores -- m-Cubes: An  
Efficient and Portable Implementation of Multi-dimensional Integration  
for GPUs -- Performance Modeling, Evaluation, and Analysis --  
Comparative Evaluation of Call Graph Generation by Profiling Tools --  
MAPredict: Static Analysis Driven Memory Access Prediction Framework  
for Modern CPUs -- Rapid Execution Time Estimation for  
Heterogeneous Memory Systems Through Differential Tracing --  
Understanding Distributed Deep Learning Performance by Correlating  
HPC and Machine Learning Measurements -- A Motivating Case Study  
on Code Variant Selection by Reinforcement Learning -- Programming  
Environments and System Software -- Remote OpenMP Offloading --  
Hybrid Parallel ILU Preconditioner in Linear Solver Library GaspiLS -- A  
Subset of the CERN Virtual Machine File System: Fast Delivering of  
Complex Software Stacks for Supercomputing Resources. .

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### Sommario/riassunto

This book constitutes the refereed proceedings of the 37th  
International Conference on High Performance Computing, ISC High  
Performance 2022, held in Hamburg, Germany, during May 29 – June 2,  
2022. The 18 full papers presented were carefully reviewed and  
selected from 53 submissions. The papers are categorized into the  
following topical sub-headings: Architecture, Networks, and Storage;  
Machine Learning, AI, Emerging Technologies; HPC Algorithms and  
Applications; Performance Modeling, Evaluation and Analysis; and  
Programming Environments and Systems Software.

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