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Soggetti	Computer engineering Computer networks Artificial intelligence Operating systems (Computers) Microprogramming Computer input-output equipment Logic design Computer Engineering and Networks Artificial Intelligence Operating Systems Control Structures and Microprogramming Input/Output and Data Communications Logic Design
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Nota di contenuto	-- High-performance and Parallel Computing. -- A Novel Consensus Mechanism Based on Dynamic Sharding. -- AsymFB: Accelerating LLM Training through Asymmetric Model Parallelism. -- DaCP: Accelerating Synchronization-free SpTRSV via GPU-friendly Data Communication and Parallelism Strategies. -- Diagnosability of the lexicographic product of paths and complete bipartite graphs under PMC model. -- DTuner: a Construction-based Optimization Method for Dynamic

Tensor Operators Accelerating. -- Efficient Implementation of the LOBPCG Algorithm on a CPU-GPU Cluster. -- HP-CSF: An GPU optimization method for CP decomposition of incomplete tensors. -- JediGAN: A Fully Decentralized Training of GAN with Adaptive Discriminator Averaging and Generator Selection. -- Optimizing Vo-Viso: a Modified Methodology to Parallel Computing with Isolating Data in Memristor Arrays. -- Parallel computation of the combination of two point operations in conic curves cryptosystem over GF(2<sup>n</sup>) using tile self-assembly. -- Parallel Construction of Independent Spanning Trees on 3-ary n-cube Networks. -- SpecInF: Exploiting Idle GPU Resources in Distributed DL Training via Speculative Inference Filling. -- swDarknet: A Heterogeneous Parallel Deep Learning Framework Suitable for SW26010 Pro Processor. -- VConv: Autotiling convolution algorithm based on MLIR for multi-core vector accelerators. -- Novel Memory and Storage Systems. -- ACH-Code: An Efficient Erasure Code to Reduce Average Repair Cost in Cloud Storage Systems of Multiple Availability Zones. -- CMS: A Computility Resource Status Management and Storage Framework. -- Fast Memory Disaggregation with SwiftSwap. -- HASLB: Huge Page Allocation Strategy Optimized for Load-Balance in Parallel Computing Programs. -- LightFinder: Finding Persistent Items with Small Memory. -- MiDedup: A Restore-friendly Deduplication Method on Docker Image Storage Systems. -- SPLR: A Selective Packet Loss Recovery for Improved RDMA Performance. -- Emerging Architectures and Systems. -- A Cluster-based Platoon Formation Scheme for Realistic Automated Vehicle Platooning. -- AnaNET: Anatomical Network for Aggregated Time Series Forecasting in Multi-Layered Architecture. -- Deep Reinforcement Learning for Large-scale Scientific Workflow Scheduling with Improved Structure Feature Extraction and Sampling. -- Global Color-aware Arbitrary Style Transfer with Discrete Wavelet Transform. -- Incentivizing Crowdsensing for DT-Enabled Metaverse. -- Intelligent Telemetry: P4-Driven Network Telemetry and Service Flow Intelligent Aviation Platform. -- L 2SCD: Low-Latency Serverless Computing Dispatcher via Programmable Network Hardware. -- LBoDSN: An In-network Load Balancing Mechanism for Lossless Data Center Networks Based on Direct Switch Notification. -- LDChain: A Lightweight and Scalable Blockchain System for Dynamic IoT Scenarios. -- MEGA: Mesh-Aligned 3DGS Towards Geometry-Preserving Online Reconstruction. -- MTEE: Multiscale Temporal Entropy Evaluation Paradigm for Heterogeneous Complex Datasets. -- nHAS: Neural-Compensated Hybrid Adaptive Scheduling for Cloud Gaming. -- QDPformer: Quantum-Driven Workload Prediction Model Based on Transformer. -- RFaaS: Function Scheduling Across Heterogeneous Clusters. -- RV-CVP: A Flexible Variable Precision RISC-V ISA Extension for Convolutional Neural Network. -- Understanding the Inference Performance of Spatial Temporal Diffusion Transformer.

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#### Sommario/riassunto

This two part LNCS 15227 and 15528 volumes constitutes the proceedings of the 20th IFIP WG 10.3 International Conference on Network and Parallel Computing, NPC 2024, which was held in Haikou, China, during December 7–8, 2024. The 76 full papers presented in this volume were carefully reviewed and selected from 200 submissions. They are organized according to the following topics: Part-I : High-performance and Parallel Computing; Novel Memory and Storage Systems; and Emerging Architectures and Systems. Part-II : Edge Computing and Intelligence; Federated Learning Algorithms and Systems; Emerging Networks; and In-network Computing and Processing.

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