

Motivation:

The paper provides an introduction to the review of the paper, 'Parallel and Distributed Computing Techniques for High Performance Applications'. This paper gives an overview of parallel computing for high performance applications that need significant computational resources briefly and clearly.

Contribution:

This paper offers an in-depth understanding of some basic concepts. Some of the fundamental concepts are distributed computational models, parallel algorithms, scalability, fault tolerance as well as its impact on hardware advancements and some relative case studies.

Methodology:

Some fundamental concepts of distributed computing are discussed briefly in this paper which includes load balancing, task partitioning, communication protocols and so on. This paper also gives a relative comparison between shared memory programming and distributed memory programming. Some techniques such as pipelining, and distributed computing methods like load balancing are also discussed in brief.

Limitations:

In this paper, the quantitative metrics and benchmarks are lacking in case of demonstrating the performance improvements. There are limited discussions on real-world implementation. Some latest distributed computing paradigms like serverless computing, distributed ledgers/blockchain are not covered.

Synthesis:

The concepts and techniques that are discussed in this paper, will be highly useful for building scalable systems, leveraging parallelism and distributed computing for the future to meet the growing computational demands across the globe.

Conclusion:

The parallel and distributed computing provide an essential scalability and efficiency with the rising of data and computational complexity. Distributive

computation can play an important role in the sector of modern high-performance applications and analytics, AI/ML, data science.