Abstract

This work suggests a parallel algorithm for Hermite interpolation on Extended Fibonacci Cube $E_{FC}^{(n)}$. The proposed algorithm has 3 phases: initialization, main and final. The main phase of the algorithm involves $2N+3$ multiplications, $N$ additions, $2N$ subtractions and $N$ divisions. In final phase we propose an efficient algorithm to accumulate the partial sums of Hermite interpolation in
$O(\log_2 N) \leq n-2$ steps as oppose to the earlier algorithm in the literature that involves $n-2$ steps, where $N$ is the number of nodes, $n$ the degree of $EFC_1(n)$.

References


Index Terms

Computer Science

Algorithms
Keywords
Hermite Interpolation  Extended Fibonacci Cubes  Parallel algorithm