Abstract

Cluster Computing is based on the concept that an application can be divided into smaller subtasks which when distributed to different nodes on a cluster (using MPI) will enhance the performance of the application. We can further enhance the performance of that application
using a shared programming interface like OpenMP. The Self-Organizing Maps which are extensively used in domains like speech recognition and data classification require considerable amount of time in the training process. This paper proposes a parallel algorithm on a MPI - OpenMP based cluster to reduce the time taken in training and enhance the performance of Self-Organizing Maps (SOM). The results of the algorithm demonstrated a speed-up of 15.316 as compared to the sequential training of the SOM.

References

- Message Passing Interface: MPI http://www.mpi-forum.org?
- MPICH http://www.mpich.org
- OpenMP http://www.openmp.org/
Keywords
Self-organizing Maps  Mpi  Openmp  Hybrid Programming.