ID5130, Parallel Scientific computing

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Abstract

Support vector machine (SVM) is a state of the art Machine learning algorithm for classification and regression tasks, for both linear and non-linear data.

Training an SVM model for a large dataset is computationally intensive in the scale of $O(n^2.d)$. Where the problem is presented as a convex optimization problem, We intend to explore parallelization capability in training SVM models.

We are planning to use only OpenMP libraries at this point, but if we think it would be better if we use hybrid parallelization we will try to do that.

We will be testing our algorithms on our Windows/Linux PCs, we intend to report the speedup or any new tricks that we use in the final report.