Multi-core Programming
Assignment 2

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Abstract

A tree has many analogies in real life, and turns out that it has influenced a wide area of machine learning, covering both classification and regression. In decision analysis, a decision tree can be used to visually and explicitly represent decisions and decision making. As the name goes, it uses a tree-like model of decisions. Though a commonly used tool in data mining for deriving a strategy to reach a particular goal, its also widely used in machine learning, which will be the main focus of this article.

Keywords. *Heterogeneous Programming, OpenMP, C Programming, C++ Programming, Parallelization, Multi-thread Programming.*

1 Matrix Multiplication

This is the a new cpp code.

```
void multiply(DataSet dataSet){
        int i, j, k, sum;
        for(i = 0; i < dataSet.n; i++){
                for(j = 0; j < dataSet.p; j++){
                        sum = 0;
                        for(k = 0; k < dataSet.m; k++){
                                sum += dataSet.A[i * dataSet.m + k] * dataSet.B[k * dataSet.p + j];
                        }
                        dataSet.C[i * dataSet.p + j] = sum;
                }
        }
}
```

References

[1] Prashant Gupta, *Cross-Validation in Machine Learning*. Towards Data Science, Jun 5, 2017.