SMC Protocol for Naïve Bayes Classification over Grid Partitioned Data using Multiple UTPs

Abstract

The case where data is distributed horizontally as well as vertically, it refers as grid partitioned data. SMC protocol for Naïve Bayes classification over grid partitioned data is offered in this paper. Also present a solution of the Secure Multi-party Computation (SMC) problem in the form of a protocol that preserves privacy. In this system, a protocol with several Un-trusted Third Parties (UTPs) is used, where there is almost impossible of privacy leakage. Multiple UTPs will calculate the model parameters for integrating the horizontally partitioned data. After that secure multiplication protocol will apply on vertical partitioned data (multiple UTPs) to classify the new tuple. The main contribution of this paper is that it shows a simple and easy calculation for developing Naïve Bayes classifier for grid partitioned data. The evaluation method is simple and more efficient.

References

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**Index Terms**

Computer Science  
Software Engineering

**Keywords**
Privacy preserving probability secure multiplication protocol grid partitioned UTP