

Big Data Analytics and Data Security in the Cloud via Fully Homomorphic Encryption Scheme

Authors : Victor Onomza Waziri, John K. Alhassan, Idris Ismaila, Noel Dogonyara

Abstract : This paper describes the problem of building secure computational services for encrypted information in the Cloud. Computing without decrypting the encrypted data; therefore, it meets the yearning of computational encryption algorithmic aspiration model that could enhance the security of big data for privacy or confidentiality, availability and integrity of the data and user's security. The cryptographic model applied for the computational process of the encrypted data is the Fully Homomorphic Encryption Scheme. We contribute a theoretical presentations in a high-level computational processes that are based on number theory that is derivable from abstract algebra which can easily be integrated and leveraged in the Cloud computing interface with detail theoretic mathematical concepts to the fully homomorphic encryption models. This contribution enhances the full implementation of big data analytics based on cryptographic security algorithm.

Keywords : big data analytics, security, privacy, bootstrapping, Fully Homomorphic Encryption Scheme

Conference Title : ICGHOST 2020 : International Conference on Ghost Conference

Conference Location : ghost city, Other

Conference Dates : December 12-13, 2020