**A Study of Adopting Hyperledger Fabric Smart Contract for Biomedical Applications**

Traditional centralized server systems have been used to store biomedical data for decades. Such systems may be vulnerable to attacks due to the presence of single-point-of-failure and the centralized control (i.e., only a single authoritative role exists). To address this issue, our research focuses on investigating blockchain-based distributed systems that allows users to access biomedical data while maintaining the privacy of sensitive information at the same time. Specifically, we examined the possibility of adopting Hyperledger Fabric blockchain and the smart contracts (i.e., the program running on the blockchain that can manage digital objects) for biomedical applications. We conducted a literature survey for the applications such as insurance claiming using Hyperledger Fabric, and constructed a Hyperledger Fabric network to test the smart contracts. Based on our study, the two main advantages of Hyperledger Fabric are well-designed access control framework that can prevent sensitive data to be made public in the network, and the simplicity of modifying or access the data through smart contracts. As a new way to store/access biomedical data in a efficient and secured manner, Hyperledger Fabric could allow the hospitals, researchers, doctors, patients and payers to all working in the same blockchain network and executing different smart contracts, significantly increasing the overall efficiency of the whole system while preserving the privacy and security.