ABNORMAL DETECTION OF CHEST X- RAY IMAGES USING FEDERATED LEARNING

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ABSTRACT

Nowadays, data has become a valuable asset to the world. Even though the values of these data can help people to analyse information with accuracy and precision, it may lead to privacy concerns for sensitive information such as patient's chest X-rays (CXR) images. This study is focusing on maintaining the privacy of users by applying the Federated Learning system using the TensorFlow library as a method of developing machine learning algorithms that can detect any abnormalities in the CXR images without requiring any client to share their CXR images outside of the hospitals. This method showed a better score in the precision-recall curve graph compared to the conventional methods that used locally trained machine learning.

Keywords: Machine Learning, Federated Learning, Chest X-ray Images, Data Privacy.