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(57) Abstract :
Deep Learning has shown promising results in the domain of Medical Image Analysis and Image Processing. Proposed is a secure image retrieval and classification framework for IoT based healthcare systems using Deep Neural Networks. The problem of solving the error introduced by adversarial noise is considered. Back Propagation Algorithm is employed for Segmentation (localization) as well as error prediction and detection. Multiple Share Creation Scheme and Double Chaotic Logistic Map method of encryption ensure security of medical images that is employed in several areas of oncology including genomic characterization, grading prediction, tumour detection, tumour subtyping, chest X-ray analysis and retinal fundus imaging. Anonymization and pseudonymization methods of securing medical data greatly helps in maintaining the authenticity during secure multiparty computation. Image is secured using federated learning to be in compliance with United States Health Insurance Portability and Accountability Act (HIPAA)24 and the European General Data Protection Regulation (GDPR).

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