Prediction of Uterine Fibroids from Ultrasound Images

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Abstract:
Uterine fibroids are generally benign in nature and are present in the muscular walls of female reproductive system. They affect approximately 20-25% of women during thei... **View more**

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Abstract:
Uterine fibroids are generally benign in nature and are present in the muscular walls of female reproductive system. They affect approximately 20-25% of women during their childbearing years when estrogen hormone secretion is high. The fibroids which are present in the muscular walls can create infertility and serious health issues in females, making it a significant health concern. Ultrasonic imaging, which uses non-ionizing radiation, is the preferred method for diagnosing and monitoring pregnant women. This imaging technique has been successfully used for detecting liver cancer, prostate cancer, and other medical conditions. A new study proposes an automated detection method for uterine fibroids using a neural network classifier and different image features. The proposed method uses a convolutional neural network (CNN) classifier to diagnose between fibroid uterus images and normal images. The input image passes through multiple layers of the CNN, which identifies features and recognizes the image to produce a classification result. The accuracy of the method is validated by normality, abnormality, and accuracy. However, it is important to note that automated detection methods should not be used as the sole diagnostic tool for uterine fibroids. Medical expertise and additional diagnostic tools are necessary for proper diagnosis and treatment. Further research is needed to improve the accuracy and reliability of the proposed method.

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Contents

Uterine fibroids are generally benign in nature and are present in the muscular walls of female reproductive system also known as myomas or leiomyomas. These tumors can occur singly or in clusters, and vary in size from as small as a seed to as large as a grapefruit. Treatment options for uterine fibroids include surgery, radiation therapy, hormone therapy, and chemotherapy.