Document details - Classification of ultrasound breast cancer image using tuning up the hyper-parameter of convolutional neural network

Onkologia i Radioterapia

Volume 17, Issue 7, 2023, Pages 264-269

Classification of ultrasound breast cancer image using tuning up the hyper-parameter of convolutional neural network(Article)

Bansal, S., Jadon, R.S., Gupta, S.K.

[a]Prestige Institute of Management & Research, Gwalior, India
[b]Department of Computer Engineering, MITS, Gwalior, India
[c]SOS in Computer Science & Applications, Jiwaji University, Gwalior, India

Abstract

Breast cancer in women is a significant public health concern worldwide, with many cases going undiagnosed until the advanced stages. Early detection is crucial for proper treatment and improved outcomes. There are some pre-trained models used by authors for the detection of breast tumour, but these models require extensive computation power due to their many layers and parameters. To address this issue, it is required to proposed Convolutional Neural Network (CNN) model with fewer training parameters for classification of ultrasound images dataset to determine that a particular image is either benign or malignant. In this paper, CNN model is proposed with changes in some hyper parameters like the number of filters, filter size, batch normalization, learning rate, epoch, and batch size, to achieve better accuracy with less computational power. The proposed